

# ANNUAL REPORT 2017



# We deliver unique geoscience insight

CGG is a leader in cutting-edge geoscience. We have achieved leadership through a strong focus on innovation and a sustained commitment to delivering the best products and services in our industry.

We capitalize on our valuable multi-client studies, diverse consulting services and powerful software workflows to offer our clients integrated and customized solutions for every geologic setting.

By combining our extensive geological and seismic data with our unique expertise we deliver unrivalled geoscience insight to better support the E&P workflows of our clients.

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**350** STAFF DEDICATED TO R&D

**87** YEARS OF PIONEERING

AROUND  
**5 300**  
EMPLOYEES

AMONG THE WORLD'S

**TOP 15**

FOR COMPUTING CAPACITY  
(ALL SECTORS)

**29**

SUBSURFACE IMAGING CENTERS

**980 000** SQ KM  
OF OFFSHORE MULTI-CLIENT DATA  
IN KEY SEDIMENTARY BASINS

## KEY FIGURES

CGG Group revenue in 2017 totalled 1,320 million dollars, up 10% compared to 2016 and after a decline over the last three years.

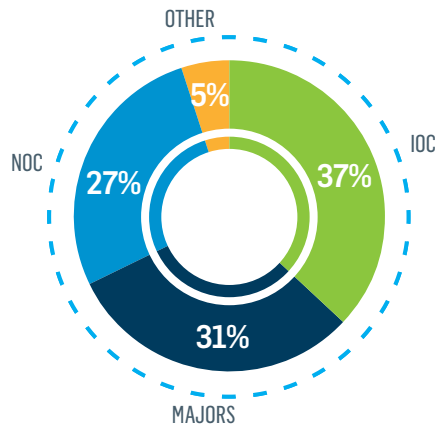
This revenue figure breaks down to 62% from our Geology, Geophysics & Reservoir (GGR) business segment, 16% from our Equipment business segment, and 22% from our Contractual Data Acquisition business segment.

Since the launch of our industrial transformation plan at the end of 2013, we have swiftly adapted to the deterioration in market conditions by halving the Group's headcount, by reducing our capital expenditures by c. 60% and cutting overheads by c. 60%.

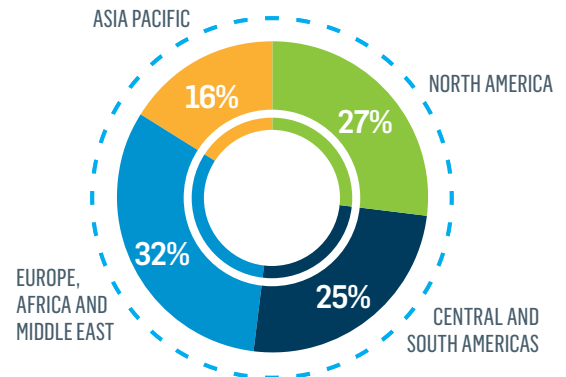
We further conducted the financial restructuring process in 2017 to adapt the Group balance sheet to the still challenging geoscience market.



**CONSOLIDATED OPERATING REVENUE**  
(million dollars)

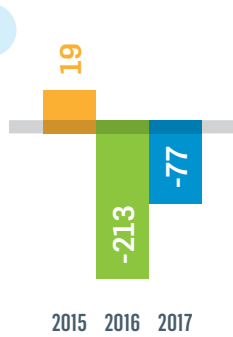


**OPERATING REVENUE BY CLIENT TYPE**



**OPERATING REVENUE BY REGION**

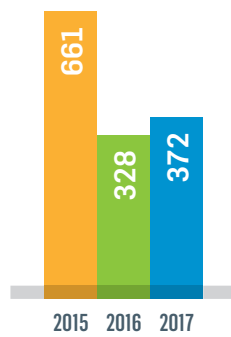




**OPERATING INCOME\***

(million dollars)

\* Before non recurring charges



**EBITDAS\***

(million dollars)

\* Before non recurring charges



**NET INCOME\***

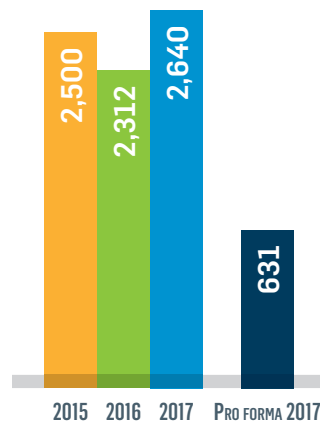
(million dollars)

\* Before non recurring charges



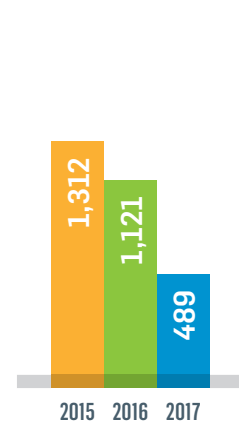
**INDUSTRIAL CAPITAL EXPENDITURE**

(million dollars)



**NET DEBT**

(million dollars)



**EQUITY**

(million dollars)

# MESSAGES FROM THE CHAIRMAN AND THE CEO

## GOVERNANCE

When we embarked on our Financial Restructuring process at the beginning of 2017, we knew we were undertaking a necessary but very complicated task that would determine the future of our company. Reducing the debt and related interest costs to align them with current market conditions was a critical step to secure the future of our Group and enable us to compete and grow as market conditions improved.

I am delighted to report that this Financial Restructuring, with both the Chapter 11 process in the US and the Safeguard process in France, has allowed CGG to achieve these goals and we are now able to fully focus on the challenges of doing business.

The complexity of what has been undertaken over the last few months has been enormous and we have achieved this in less than one year. On February 21, 2018, after finalizing the implementation of our financial restructuring plan and the payment and issues of new shares, CGG emerged from its financial restructuring and the Chapter 11 process.

As demonstrated by our 2017 financial results, our financial restructuring was achieved with minimum disruption to our business and day-to-day operations as our people continued to deliver the highest standards of quality, service, and operational and technical excellence in market conditions that remained challenging.



CHAIRMAN  
Rémi Dorval

“ We knew we were undertaking a necessary but very complicated task that would determine the future of our company”



CEO  
Jean-Georges  
Malcor

The oil services industry has experienced an unprecedented crisis. Business volumes collapsed and were divided by nearly four in under three years. Like our competitors, CGG has felt the full force of this crisis, the deepest and longest our industry has ever known.

Faced with this situation, the Group was quick to react and launched an ambitious industrial transformation plan at the end of 2013 which we completed in 2017. This plan enabled us to adapt to market conditions and also reposition our activity portfolio. In 2017 our Geology, Geophysics & Reservoir activity represented 62% of the Group's overall activity while our equipment activity represented 16% and our data acquisition activity 22%. During the year, while our corporate teams focused on completing the CGG Group's financial restructuring, our operating teams served our clients with their usual professionalism and commitment while continuing with their efforts to expand our business. As a result, in 2017 the CGG Group registered growth in both its revenue (1.320 billion USD), up by 10% over the previous year, and in its EBITDA (373 million USD), up by 14%.

The CGG Group has started 2018 with a repositioned portfolio of activities and a balance sheet that puts it in a sound financial position. Our worldwide teams are fully mobilized to serve our clients. The Group can now focus fully on its activities and growth to make the most of the future market recovery.

“ In 2017, the CGG Group registered growth in both its revenue and EBITDA”

## C-COM / E-COM MANAGEMENT

### CORPORATE COMMITTEE



CHIEF  
EXECUTIVE  
OFFICER

**Jean-Georges  
Malcor**



CHIEF  
OPERATING  
OFFICER

**Sophie  
Zurquiyah**



CHIEF  
OPERATING  
OFFICER

**Pascal  
Rouiller**



CHIEF  
FINANCIAL  
OFFICER

**Stéphane-Paul  
Frydman**

### EXECUTIVE COMMITTEE

The E-Com is formed by the Corporate Committee and the EVPs of the Business Lines and Group Functions. The E-Com meets monthly and acts as a support structure for the C-Com. Its principal function is to serve as the Group's platform for discussion and proposals between the Business Lines and the Group Functions. It also serves as the validating body for all projects and decisions with cross-division or cross-function impact.



GENERAL  
SECRETARY

**Béatrice  
Place-Faget**



MARINE DATA  
ACQUISITION

**Eva  
Rudin**



GEOMARKETS,  
SALES & MARKETING  
AND GROUP COMMUNICATIONS

**Christophe  
Barnini**



HUMAN  
RESOURCES

**Jérôme  
Denigot**



R&D AND  
TECHNOLOGY

**Dom  
Pham**



GOE, INTERNAL  
AUDIT, RISK MANAGEMENT,  
HSE AND SD

**Olivier  
Gourand**



SUBSURFACE  
IMAGING

**Colin  
Murdoch**



MULTI-CLIENT  
& NEW VENTURES

**Luc  
Schlumberger**



# WE DELIVER UNIQUE GEOSCIENCE INSIGHT ACTIVITIES

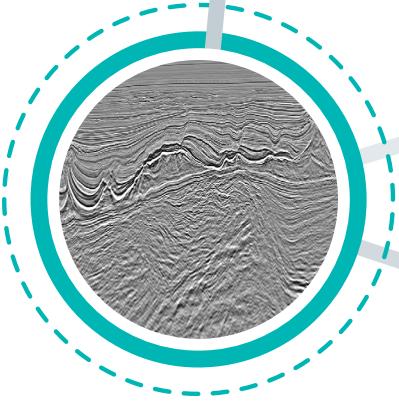
## Equipment

Established leader in geophysical equipment.  
Founded over 50 years ago, Sercel designs, manufactures and supports a full range of onshore, offshore and downhole products.



## Subsurface Imaging

Exceptional people, remarkable technology and outstanding service.  
Industry-recognized technical leaders in advanced imaging, we exceed our clients' expectations to resolve their challenges.



## Data Acquisition

High-end geophysical data acquisition services. Trusted by our clients to acquire the best data with our marine, land and airborne operations.



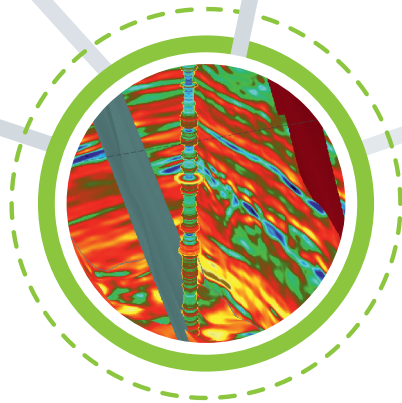
## Consulting

Recognized leader in geoscience consulting services and studies.

We support our clients for all their geochemical, geospatial, sedimentological, stratigraphic, geomechanical, reservoir engineering, petroleum economics and data management needs.

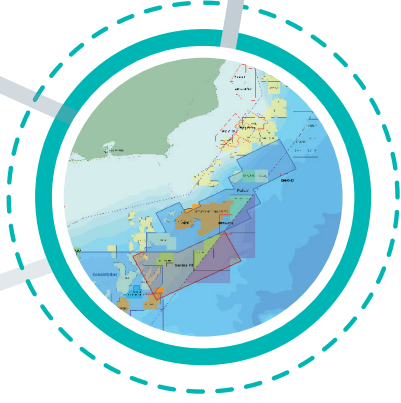


# Our Offer



## Software

A unique portfolio for reducing risks and optimizing production. Our powerful reservoir characterization workflows span all disciplines and stages in the E&P cycle.



## Multi-Client Data

The right data in the right place, at the right time. An extensive multi-client library offering the industry's most technically advanced seismic images and rich geological and geospatial data in the world's key locations.

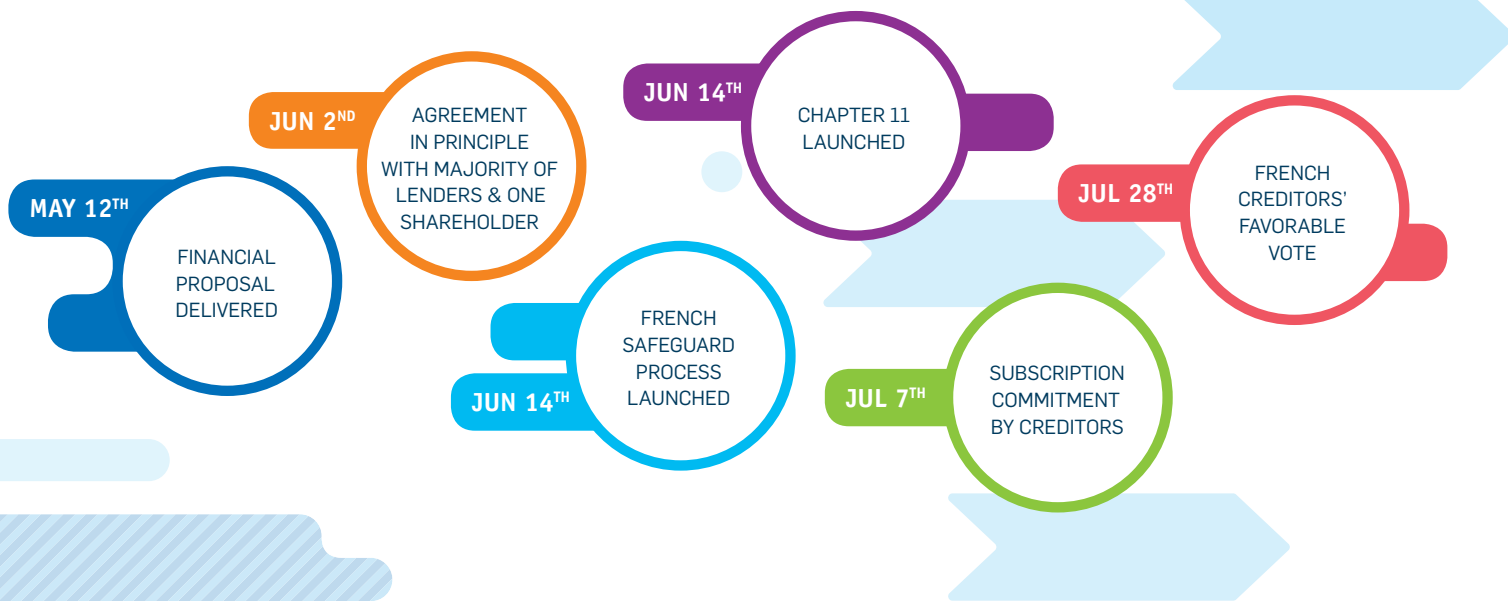


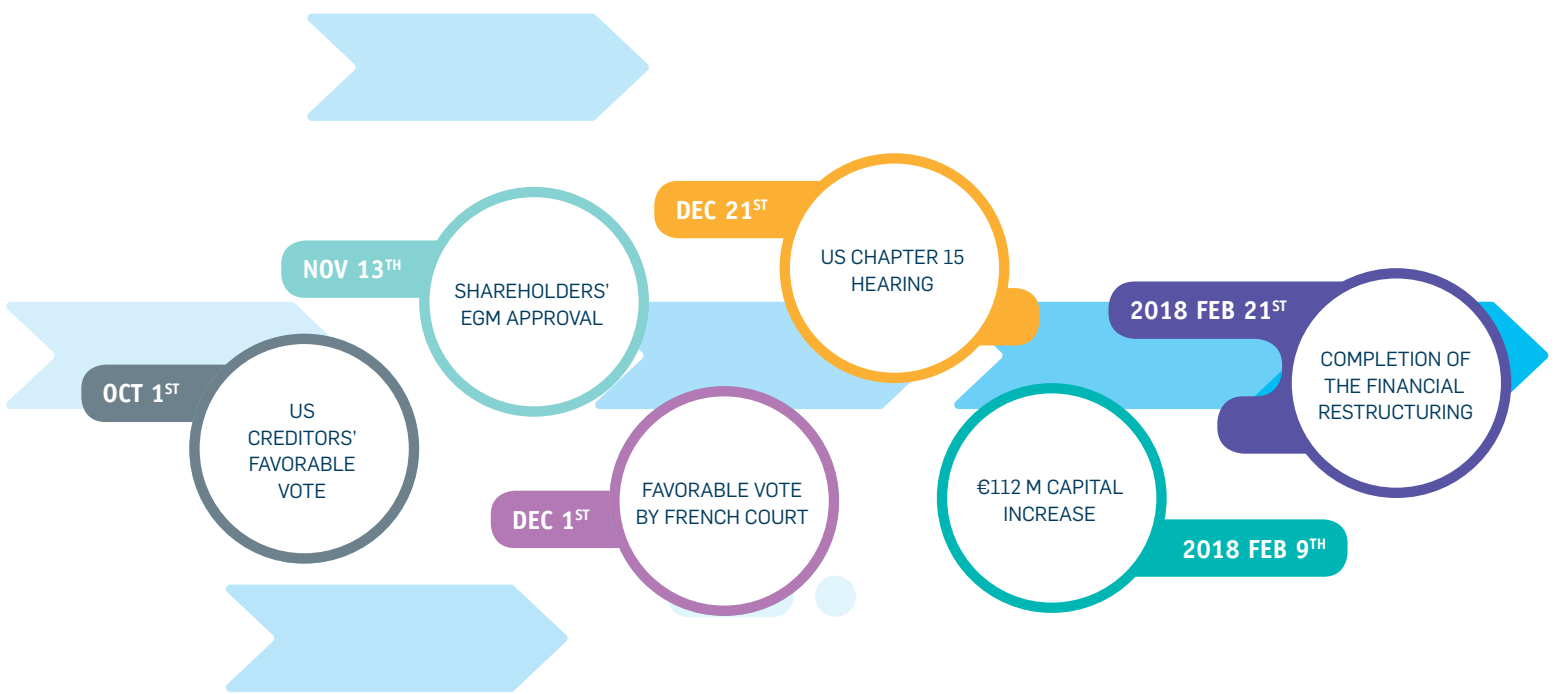
## WHERE WE ARE

### FINANCIAL RESTRUCTURING

CGG had to take action due to the level of debt on our company balance sheet no longer being sustainable. From the agreement-in-principle we struck with our key financial stakeholders after several months of discussions to the final completion on February 21st 2018, we had to go through many validation steps with all our stakeholders.

Given the dual legal process we faced in both France and the US, moving forward with the implementation of our financial restructuring plan was a real challenge. We commenced the Safeguard proceedings in France on June 12 and filed for recognition of the U.S. Chapter 11 proceedings under the Companies' Creditors Arrangement Act in Canada. The Safeguard and Chapter 11 proceedings are legal processes designed specifically to help companies make a recovery and be successful.





COMPLETED ON **2018, FEBRUARY 21<sup>ST</sup>**

- GROUP INTEGRITY MAINTAINED
- PROFORMA 2017/12/31 NET DEBT AT **\$ 631M**
- PROFORMA 2017/12/31 LIQUIDITY AT **\$ 575M**

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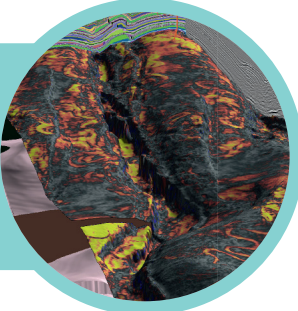
# 2017 HIGHLIGHTS



**40**  
LOCATIONS  
WORLDWIDE

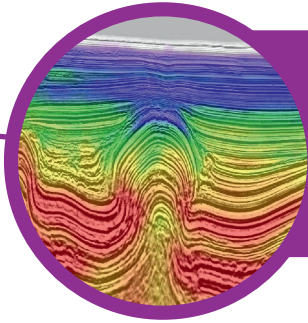


## USA



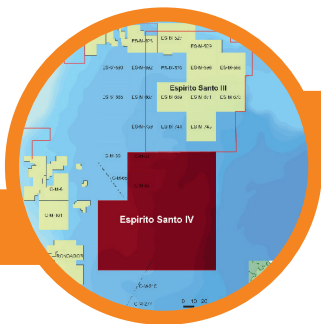
CGG launches JumpStart™ multi-client geoscience programs designed to accelerate industry understanding of petroleum systems and support exploration efforts.

## GULF OF MEXICO



CGG delivers the final products from its vast 38,000 sq km Encontrado multi-client reprocessing project across the prolific Perdido fold belt. The significant uplift in imaging will enable an enhanced assessment of prospectivity in this emerging exploration frontier.

## BRAZIL

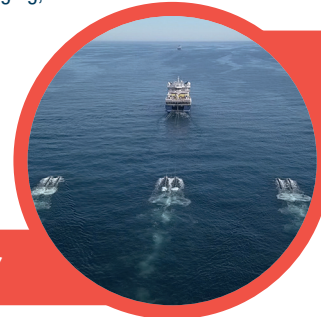


CGG's Oceanic Champion starts acquiring Espírito Santo IV, a large 10,300 sq km BroadSeis™ 3D multi-client survey in the deep and ultra-deep waters of the Espírito

Santo Basin offshore Brazil. The survey will expand our high-quality data coverage and support the development of Brazil's oil and gas resources.

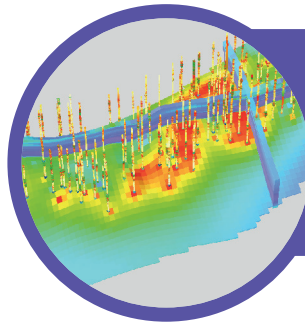
## 2017 HIGHLIGHTS

CGG takes the next step in broadband marine seismic imaging, introducing TopSeis™, its latest tailored acquisition and processing solution. This innovative new source-over-spread technique was developed in collaboration with Lundin Norway AS and deployed over the Loppa High, offshore Norway, to solve imaging challenges associated with complex shallow reservoirs in this area.

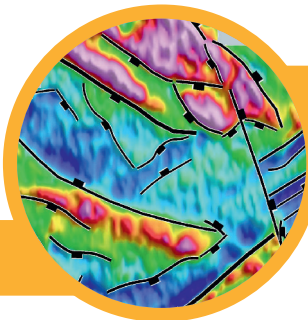


### NORWAY

Kuwait Gulf Oil Company (KGOC) selects CGG for a multi-year integrated geoscience study. A combined project team of GeoConsulting and KGOC geoscience experts are already working together to identify resource growth potential in the onshore Partitioned Zone (PZ).



### KUWAIT



### BAHRAIN

CGG completes the acquisition and processing of the first ever airborne gravity gradiometry (AGG) survey of the Kingdom of Bahrain. This was the first commercial

survey to be acquired worldwide using Falcon®Plus, the newest release in CGG's highly successful suite of Falcon airborne gravity gradiometer (AGG) systems.

### BRUNEI & OMAN



CGG wins several high-profile dedicated processing center (DPC) awards in 2017. These include a new contract from Brunei Shell Petroleum to operate a DPC in Brunei Darussalam from 2017 to 2022 and an extension of its longstanding contract with Petroleum Development Oman (PDO) to continue providing subsurface imaging technology and services at its DPC in Muscat.

40  
LOCATIONS  
WORLDWIDE



## TECHNOLOGIES



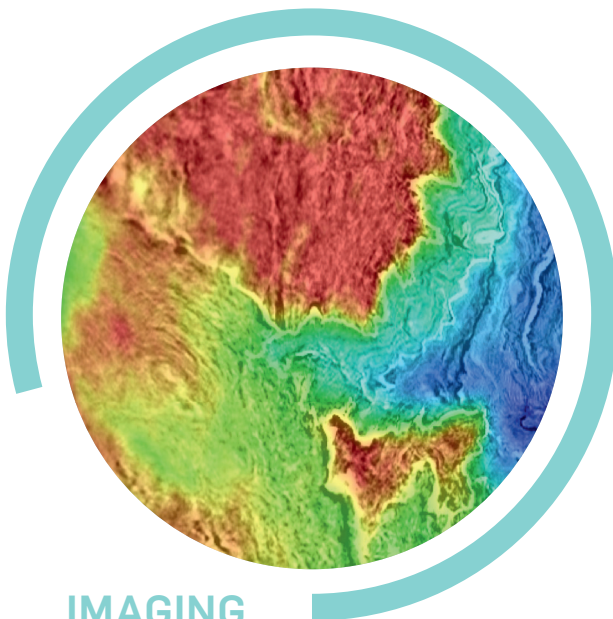
TOPSEIS

TopSeis™ is the latest outcome of eight years of collaboration between Lundin and CGG. Its dual-vessel acquisition design places CGG's broadband source over a customized receiver spread to provide valuable zero-offset and near-offset coverage that is missing from conventional 3D towed-streamer seismic. The inaugural TopSeis survey in 2017 was commissioned by Lundin in the Barents Sea to better image a complex carbonate reservoir located at depths of between 400 to 2000 m below the seabed.



AGG

CGG's Falcon® Airborne Gravity Gradiometry technology is specifically designed to deal with the rigors of high-resolution data collection in a dynamic airborne environment and is the only AGG system to be used commercially in a helicopter. Continuing its history of innovation CGG's FalconPlus system has less than half the noise content of any competing system, accessing large areas of land quickly, safely, and efficiently to help make exploration decisions with confidence.



## IMAGING TECHNOLOGIES

Many areas across the world feature complex geological features which challenge seismic imaging. These include near-surface features such as unconsolidated channels, shallow gas anomalies and permafrost as well as deeper features such as salt carapace, volcanic intrusions and complex salt bodies. Full Waveform Inversion (FWI) is well suited to handling these challenges. It has evolved rapidly from providing shallow high-resolution velocity models using refracted seismic waves only, to incorporating seismic reflection information to enhance deep velocity model resolution.



## SENTINEL HR

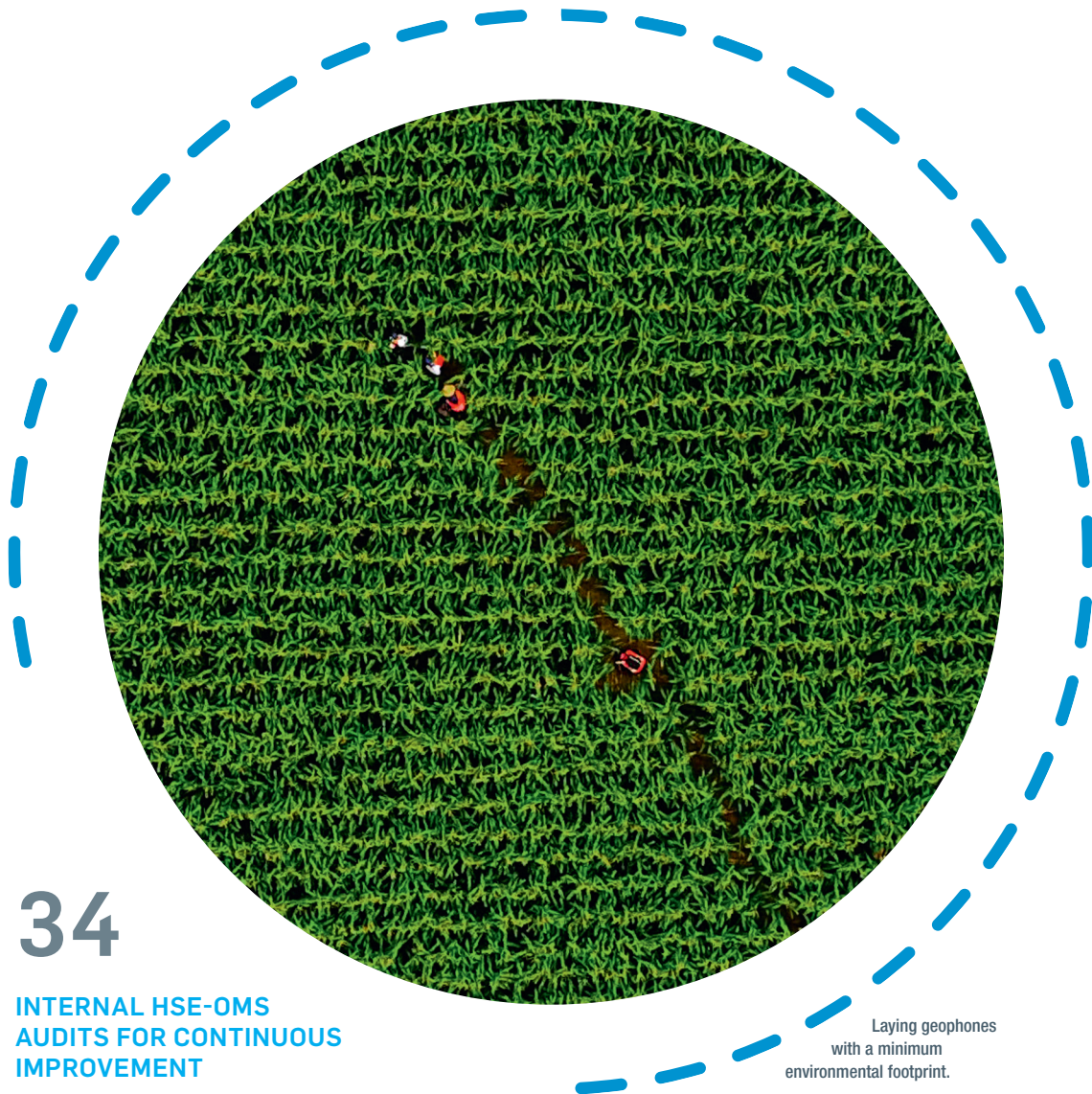
Sercel's Sentinel® HR is the latest member of its well-established solid streamer family. This high-resolution streamer has been developed with a close channel separation of 3.125 m to meet the specific imaging needs of a wide range of shallow-target market applications. These include oceanology, civil engineering and reservoir characterization, as well as high-resolution 3D (HR3D) seismic surveys for detailed mapping of geological features.





# OPERATING SAFELY AND WITH INTEGRITY

## SUSTAINABLE DEVELOPMENT



34

INTERNAL HSE-OMS  
AUDITS FOR CONTINUOUS  
IMPROVEMENT

Laying geophones  
with a minimum  
environmental footprint.

116

UNIVERSITIES BENEFIT  
FROM GEOSOFTWARE  
DONATIONS



“ At CGG sustainable development means the ability to successfully deliver geoscience services and products to the market while protecting the environment and caring for our employees and the communities in which we have the privilege to operate.

## A deeply rooted commitment to Health, Safety, Security, Environment and Social Responsibility

CGG's structured approach to Health, Safety, Security, Environment and Social Responsibility is based on our HSE-Operating Management System (HSE-OMS), which complies with guidelines issued by the International Association of Oil & Gas Producers (IOGP). Our HSE-OMS is implemented globally, across all our operations, with a focus on high risks and the relentless pursuit of improvement through learning from incidents and near-misses. Our HSE-OMS is supported by behavioral programs which emphasize line management responsibility, engagement, intervention and team communication.

The CGG HSE-OMS has a wide scope, encompassing not only safety but also security, health, wellness, environment and social responsibility. Our global performance reporting is also verified annually by a certified third-party auditor.

### Care+Protect

Our Care+Protect program has as an overall objective the promotion of excellence in HSE &

Sustainable Development. The program seeks to strengthen specific cornerstones of our HSE-OMS such as leadership and management visibility, risk management, subcontractor management and competence and training. In support of the Care+Protect program, each year CGG recognizes employees and subcontractors for HSE and Sustainable Development initiative and excellence through an award program.

### Ethics and Compliance

CGG defines its ethical standards, core values and commitments in its Group Values and its Business Code of Conduct. The CGG Ethics Committee supports and oversees the implementation of the Business Code of Conduct. CGG has also developed a robust anti-corruption program which includes due diligence for intermediaries and suppliers and worldwide anti-corruption training and communications. This anti-corruption program has been audited and certified against the Mazars-ADIT Anti-Corruption Framework®.



Discover our HSE and Social Responsibility case studies: [www.cgg.com/en/Sustainability/Case-Studies](http://www.cgg.com/en/Sustainability/Case-Studies)

# SHAREHOLDER INFORMATION

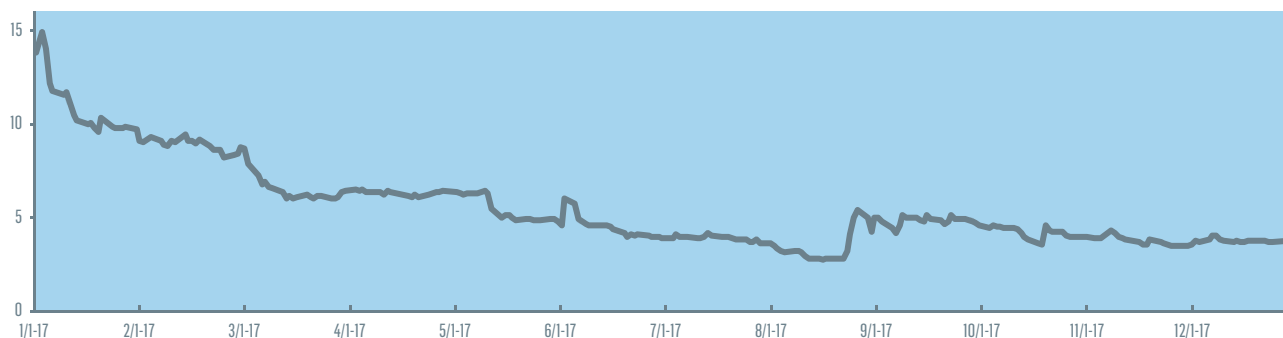
## Paris Stock Exchange (Euronext)

- Minimum 2017 share price: €2.83
- Maximum 2017 share price: €15.24
- Closing price, 12/31/2017: €3.80

- Minimum 2017 share price: \$3.26
- Maximum 2017 share price: \$15.60
- Closing price, 12/31/2017: \$4.47

## New York Stock Exchange (NYSE)

### CGG 2017 share price



### Stock Exchange Listing

CGG stock is listed on Euronext Paris (code ISIN FR0013181864), and on the New York Stock Exchange in the form of American Depository Shares (ADS), where one ADS represents one ordinary share. ADS are issued by the Bank of New York Mellon and are listed under the ticker symbol 'CGG'. As of 31 December 2017, CGG stock was trading at €3.80 and one ADS was worth US\$4.47.

### Share Capital

As of December 31, 2017, the Group's share capital totaled €17,706,519 comprising 22,133,149 shares with a face value of €0.80.

### Dividends

There are no plans to propose the payment of a dividend for the 2017 fiscal year at the Annual Shareholders' Meeting.

### Socially Responsible Investment

CGG is committed to Sustainable Development (SD) and Corporate Social Responsibility (CSR).



In 2017, the Group renewed its presence in the Ethibel Excellence Investment Register index.



CGG is also a member of the United Nations Global Compact since 2007.

### Investor Relations

A copy of the 2017 annual report filed with the Autorité des Marchés Financiers (AMF) and Form 20F as filed with the Securities and Exchange Commission (SEC) and other available company documents will be sent free of charge to any investor on written application to the CGG Investor Relations Department. Group financial information is also available on our website at [www.cgg.com](http://www.cgg.com).

### 2018 Annual Shareholders' Meeting

The Annual Shareholders' Meeting will take place on 26 April 2018 at 10:00 am at the Centre de conférences Etoile Saint Honoré - 21/25 rue Blazac Paris 75008 - France.

### CGG Investor Relations

Tour Maine-Montparnasse - 33, avenue du Maine  
BP 191, 75755 Paris Cedex 15 - France  
Tel. : +33 1 64 47 45 00 - e-mail : [invrel@cgg.com](mailto:invrel@cgg.com)

### Statutory Auditors

#### ERNST & YOUNG

Tour First - 1, place des Saisons  
92037 Paris La Défense Cedex  
France

#### MAZARS

61, rue Henri-Regnault  
92400 Courbevoie  
France

This document has been drawn up for the general information of shareholders and its content shall in no way be seen as an offer to purchase or an incentive to acquire Company shares. Nor does it constitute a Company guarantee of the value of its shares.





**CGG**  
**Annual Report 2017**  
**Form 20-F**

SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 20-F

- REGISTRATION STATEMENT PURSUANT TO SECTION 12(B) OR (G) OF THE SECURITIES EXCHANGE ACT OF 1934  
OR  
 ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934  
For the Fiscal Year Ended December 31, 2017  
OR  
 TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934  
OR  
 SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934  
Date of Event Requiring this Shell Company Report

Commission File Number 001-14622

CGG

(Exact name of registrant as specified in its charter)

CGG

(Translation of registrant's name into English)

Republic of France

(Jurisdiction of incorporation or organization)

Tour Maine Montparnasse  
33, avenue du Maine  
75015 Paris France

(Address of principal executive offices)

Stephane-Paul Frydman  
Chief Financial Officer  
CGG

Tour Maine Montparnasse  
33, avenue du Maine  
75015 Paris France  
tel: +33 (0) 16467 4500  
fax: +33 (0) 16447 3429

(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

Securities registered or to be registered pursuant to Section 12(b) of the Act.

Title of each class

Name of each exchange on which registered

American Depositary Shares representing  
Ordinary Shares, nominal value €0.80 per share

New York Stock Exchange

Securities registered or to be registered pursuant to Section 12(g) of the Act.

None

(Title of class)

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act.

None

(Title of class)

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report.

22,133,149 Ordinary Shares, nominal value €0.80 per share

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes  No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. Yes  No

Note — checking the box above will not relieve any registrant required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 from their obligations under those sections.

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).\*\* Yes  No

\*\* This requirement is not currently applicable to the registrant.

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or an emerging growth company. See definition of "accelerated filer," "large accelerated filer," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer  Accelerated filer  Non-accelerated filer  Emerging growth company

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards† provided pursuant to Section 13(a) of the Exchange Act.

† The term "new or revised financial accounting standard" refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing: US GAAP

International Financial Reporting Standards as issued by the International Accounting Standards Board  Other

If "other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow: Item 17  Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes  No

## PRESENTATION OF INFORMATION

Unless the context otherwise requires, “CGG” refers to CGG S.A., and “we”, “us”, “our” and “Group” refers to CGG S.A. and its subsidiaries.

References to the “financial restructuring” are to the balance sheet restructuring transactions of CGG S.A. and certain of its subsidiaries, effective February 21, 2018. References to the “Safeguard Plan” are to the plan prepared in the course of, and implemented as a result of, the safeguard proceeding of CGG S.A., as approved by the Commercial Court of Paris on December 1, 2017. References to the “Chapter 11 Plan” are to the “Joint Chapter 11 Plan of Reorganization of CGG Holding (U.S.) Inc. and Certain Affiliates” as confirmed by the United States Bankruptcy Court for the Southern District of New York on October 16, 2017. References to the “Financial Restructuring Plan” are to the Safeguard Plan and the Chapter 11 Plan, collectively. References to the “first lien notes” are to our senior first lien secured notes due 2023 issued through our wholly-owned subsidiary, CGG Holding (U.S.) Inc., on February 21, 2018 as part of the financial restructuring. References to the “second lien notes” are to our senior second lien secured notes due 2024 issued on February 21, 2018 as part of the financial restructuring.

References to “Senior Notes” are to our 5.875% Senior Notes due 2020, our 6.50% Senior Notes due 2021 and our 6.875% Senior Notes due 2022, which have been extinguished as part of the financial restructuring. References to “convertible bonds” are to our 1.75% convertible bonds due 2019 and our 1.25% convertible bonds due 2020, which have been extinguished as part of the financial restructuring. References to the “US revolving facility” are to the US\$165 million revolving credit facility under our senior secured New York-law credit agreement dated July 15, 2013, as amended from time to time, which has been extinguished as part of the financial restructuring. References to the “French revolving facility” are to the US\$325 million revolving credit facility under our senior secured French-law revolving facility agreement dated July 31, 2013, as amended from time to time, which has been extinguished as part of the financial restructuring. References to the “Nordic credit facility” are to the US\$250 million Norwegian-law agreement split into US\$150 million term loan and US\$100 million revolving facility dated July 1, 2013, which are no longer within our perimeter of consolidation following the Marine Fleet Restructuring (as defined herein). References to the “2019 secured term loans” are to the US\$342 million term loan facility under our New York-law term loan credit agreement dated November 19, 2015, as amended from time to time, which has been extinguished as part of the financial restructuring. References to the “Credit Facilities” are to the French revolving facility, the US revolving facility and the 2019 secured term loans, collectively.

References to the “Seabed JV” are to Seabed GeoSolutions BV, a joint venture between us and Fugro N.V (“Fugro”) specializing in shallow water and ocean bottom systems. References to the “Transformation Plan” are to our ongoing transformation plan intended to transform CGG from a seismic acquisition company into an integrated geosciences group.

In this annual report, references to “United States” or “US” are to the United States of America, references to “US dollars”, “\$” or “US\$” are to United States dollars, references to “France” are to the Republic of France, references to “Norway” are to the Kingdom of Norway and references to “euro” or “€” are to the single currency introduced at the start of the third stage of European Economic and Monetary Union pursuant to the Treaty establishing the European Union.

As our shares are listed on the New York Stock Exchange (in the form of American Depositary Shares), we are required to file an annual report on Form 20-F with the SEC. Our annual report includes our annual financial statements prepared in accordance with International Financial Reporting Standards (“IFRS”) and its interpretations as issued by the International Accounting Standards Board (IASB). These consolidated financial statements were also prepared in accordance with IFRS as adopted by the European Union.

Unless otherwise indicated, statements in this annual report relating to market share, ranking and data are derived from management estimates based, in part, on independent industry publications, reports by market

research firms or other published independent sources. Any discrepancies in any table between totals and the sums of the amounts listed in such table are due to rounding.

## FORWARD-LOOKING STATEMENTS

This annual report includes “forward-looking statements” within the meaning of the federal securities laws, which involve risks and uncertainties, including, without limitation, certain statements made in the sections entitled “Information on the Company” and “Operating and Financial Review and Prospects”. You can identify forward-looking statements because they contain words such as “believes”, “expects”, “may”, “should”, “seeks”, “approximately”, “intends”, “plans”, “estimates”, or “anticipates” or similar expressions that relate to our strategy, plans or intentions. These forward-looking statements are subject to risks and uncertainties that may change at any time, and, therefore, our actual results may differ materially from those that we expected. We have based these forward-looking statements on our current views and assumptions about future events. While we believe that our assumptions are reasonable, we caution that it is very difficult to predict the impact of known factors, and, of course, it is impossible for us to anticipate all factors that could affect our actual results. All forward-looking statements are based upon information available to us on the date of this annual report.

Important factors that could cause actual results to differ materially from our expectations (“cautionary statements”) are disclosed under “Item 3: Key Information — Risk Factors” and elsewhere in this annual report, including, without limitation, in conjunction with the forward-looking statements included in this annual report. Some of the factors that we believe could affect our actual results include:

- risks associated with third-party motions, recourses or other pleadings in any safeguard, chapter 11 or bankruptcy case, which, if approved, may lead to the retroactive cancellation of the implementation of the financial restructuring;
- our ability to comply with the terms and conditions of the Safeguard Plan and the new financing agreements;
- the impact of the current uncertain economic environment and the volatility of oil and natural gas prices;
- the social, political and economic risks and other risks of our global operations;
- our ability to integrate successfully the businesses or assets we acquire;
- any write-downs of goodwill on our balance sheet;
- our ability to sell our seismic data library;
- exposure to foreign exchange rate risk and risks related to equities and financial instruments;
- our ability to finance our operations on acceptable terms;
- the weight of intra-group production on our results of operations;
- the timely development and acceptance of our new products and services;
- difficulties and costs in protecting intellectual property rights and exposure to infringement claims by others;
- our ability to attract and retain qualified employees;
- exposure to counter-party risk;
- our ability to maintain our relationship with creditors, customers, vendors, employees and other personnel and counterparties in light of the recent French and U.S. procedures of safeguard and Chapter 11;
- ongoing operational risks and our ability to have adequate insurance against such risks;

- our liquidity and outlook;
- the level of capital expenditures by the oil and gas industry and changes in demand for seismic products and services;
- our clients' ability to unilaterally delay or terminate certain contracts in our backlog;
- the effects of competition;
- difficulties in adapting our fleet to changes in the seismic market;
- our high level of fixed costs regardless of the level of business activity;
- the seasonal nature of our revenues from marine seismic data acquisitions;
- the costs of compliance with, or liabilities under, laws, governmental regulations, including for environmental, health and safety and taxation;
- the risks related to our information technology, including cyber security risks and risks of hardware and software failures;
- our indebtedness and the restrictive covenants in our debt agreements;
- our ability to access the debt and equity markets during the periods covered by the forward-looking statements, which will depend on general market conditions and on our credit ratings for our debt obligations;
- disruptions in our supply chain and third-party suppliers;
- exposure to interest rate risk; and
- our success at managing the foregoing risks.

We undertake no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. We caution you that the foregoing list of important factors may not contain all of the material factors that are important to you. In addition, in light of these risks, uncertainties and assumptions, the forward-looking events discussed in this annual report might not occur. When considering forward-looking statements, you should keep in mind the risk factors and other cautionary statements included in this annual report, including those described in "Item 3: Key Information — Risk Factors" of this annual report.

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## PART I

### Item 1: IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS

Not applicable.

### Item 2: OFFER STATISTICS AND EXPECTED TIMETABLE

Not applicable.

### Item 3: KEY INFORMATION

#### Selected Financial Data

The selected financial data included below should be read in conjunction with, and are qualified in their entirety by reference to, our consolidated financial statements and “Item 5: Operating and Financial Review and Prospects” included elsewhere in this annual report. The selected financial data for each of the years in the five-year period ended December 31, 2017 have been derived from our audited consolidated financial statements prepared in accordance with IFRS.

	At December 31,				
	2017	2016	2015	2014	2013
	(In millions of US\$ except per share data)				
<i>Statement of operations data:</i>					
Operating revenues	1,320.0	1,195.5	2,100.9	3,095.4	3,765.8
Other revenues from ordinary activities	0.8	1.4	1.4	1.5	2.1
Cost of operations	(1,239.4)	(1,250.4)	(1,817.2)	(2,510.8)	(2,977.2)
Gross profit	81.4	(53.5)	285.1	586.1	790.7
Research and development expenses, net	(28.8)	(13.6)	(68.7)	(101.2)	(105.9)
Marketing and selling expenses	(55.5)	(62.2)	(87.2)	(113.9)	(118.6)
General and administrative expenses	(81.7)	(84.3)	(98.5)	(146.6)	(215.9)
Other revenues (expenses)	(178.9)	(182.9)	(384.5)	(506.9)	(105.2)
Impairment of goodwill	—	—	(803.8)	(415.0)	(640.0)
Operating income	(263.5)	(396.5)	(1,157.6)	(697.5)	(394.9)
Cost of financial debt, net	(211.0)	(174.2)	(178.5)	(200.6)	(191.7)
Other financial income (loss)	4.2	(11.4)	(54.5)	(43.0)	(22.3)
Income taxes	(23.7)	13.7	(77.0)	(123.8)	(82.9)
Net income (loss) from consolidated companies	(494.0)	(568.4)	(1,467.6)	(1,064.9)	(691.8)
Equity in income of affiliates	(20.1)	(8.2)	21.4	(81.7)	0.6
Net income (loss)	(514.1)	(576.6)	(1,446.2)	(1,146.6)	(691.2)
Attributable to owners of CGG S.A.	\$ (514.9)	(573.4)	(1,450.2)	(1,154.4)	(698.8)
Attributable to owners of CGG S.A. <sup>(1)</sup>	€ (458.6)	(518.6)	(1,302.0)	(866.1)	(527.2)
Attributable to non-controlling interests	\$ 0.8	(3.2)	4.0	7.8	7.6
<i>Net income (loss) per share:</i>					
Basic <sup>(2)</sup>	\$ (11.18)	(13.26)	(114.66)	(91.31)	(55.35)
Basic <sup>(1)</sup>	€ (9.96)	(11.99)	(102.94)	(68.51)	(41.76)
Diluted <sup>(2)</sup>	\$ (11.18)	(13.26)	(114.66)	(91.31)	(55.35)
Diluted <sup>(1)</sup>	€ (9.96)	(11.99)	(102.94)	(68.51)	(41.76)

(1) Converted at the average exchange rate of US\$1.1227, US\$1.1057, US\$1.1138, US\$1.3328 and US\$1.3254 per € for 2017, 2016, 2015, 2014 and 2013 respectively.

(2) Basic and diluted per share amounts have been calculated on the basis of 46,038,287, 43,255,753, 12,647,881, 12,642,174 and 12,624,294 weighted average outstanding shares in 2017, 2016, 2015, 2014 and 2013 respectively.

As a result of the February 5, 2016 CGG S.A. capital increase via an offering of preferential subscription rights to existing shareholders, the calculation of basic and diluted earnings per shares for 2015, 2014 and 2013 has been adjusted retrospectively. Number of ordinary shares outstanding has been adjusted to reflect the proportionate change in the number of shares.

As a result of the July 20, 2016 reverse stock split the calculation of basic and diluted earnings per share for 2015, 2014 and 2013 has been adjusted retrospectively. Number of ordinary shares outstanding has been adjusted to reflect the proportionate change in the number of shares.

As a result of the February 21, 2018 CGG S.A. capital increase via an offering of preferential subscription rights to existing shareholders, the calculation of basic and diluted earnings per share for 2017, 2016, 2015, 2014 and 2013 has been adjusted retrospectively. Number of ordinary shares outstanding has been adjusted to reflect the proportionate change in the number of shares.

	At December 31,				
	2017	2016	2015	2014	2013
	(In millions of US\$)				
<i>Balance sheet data:</i>					
Cash and cash equivalents	315.4	538.8	385.3	359.1	530.0
Working capital <sup>(1)</sup>	375.8	334.6	428.5	539.4	532.0
Property, plant & equipment, net	330.3	708.6	885.2	1,238.2	1,557.8
Multi-client surveys	831.4	847.9	927.1	947.4	818.0
Goodwill	1,234.0	1,223.3	1,228.7	2,041.7	2,483.2
Total assets	4,264.2	4,861.5	5,513.0	7,061.0	8,262.8
Gross financial debt <sup>(2)</sup>	2,955.3	2,850.4	2,884.8	2,778.9	2,747.6
Equity attributable to owners of CGG S.A.	489.1	1,120.7	1,312.2	2,693.0	3,799.9

- (1) "Working capital" is defined as net trade accounts and notes receivable, net inventories and work-in-progress, tax assets, other current assets and assets held for sale less trade accounts and notes payable, accrued payroll costs, income tax payable, advance billings to customers, deferred income, current provisions and other current liabilities.
- (2) "Gross financial debt" is defined as financial debt, including current maturities and bank overdrafts.

	At December 31,				
	2017	2016	2015	2014	2013
	(In millions of US\$ except per ratios)				
<b>Other financial historical data and other ratios:</b>					
EBIT <sup>(1)</sup> before RC <sup>(6)</sup>	(97.3)	(220.9)	82.3	160.2	423.1
EBIT <sup>(1)</sup> after RC <sup>(6)</sup>	(283.6)	(404.7)	(1,136.2)	(779.2)	(394.3)
EBITDAS <sup>(2)</sup> before RC <sup>(6)</sup>	372.4	327.9	660.6	993.7	1,187.0
EBITDAS <sup>(2)</sup> after RC <sup>(6)</sup>	186.1	273.6	452.8	775.7	1,139.7
Operating income before RC <sup>(6)</sup>	(77.2)	(212.7)	60.9	241.9	422.5
Operating income after RC <sup>(6)</sup>	(263.5)	(396.5)	(1,157.6)	(697.5)	(394.9)
Free-cash flow before RC <sup>(6)</sup>	(95.7)	(6.7)	(8.9)	(76.4)	5.0
Free-cash flow after RC <sup>(6)</sup>	(197.0)	(174.0)	(129.7)	(137.2)	(55.8)
Capital expenditures <sup>(3)</sup>	81.2	104.5	145.6	281.9	347.2
Investments in multi-client surveys, net cash	251.0	295.1	284.6	583.3	479.4
Net financial debt <sup>(4)</sup>	2,639.9	2,311.6	2,499.5	2,419.8	2,217.7
Gross financial debt <sup>(5)</sup> / EBITDAS <sup>(2)</sup>	15.9x	10.4x	6.4x	3.6x	2.4x
Net financial debt <sup>(4)</sup> / EBITDAS <sup>(2)</sup>	14.2x	8.4x	5.5x	3.1x	1.9x
EBITDAS <sup>(2)</sup> / Cost of financial debt, net	0.9x	1.6x	2.5x	3.9x	5.9x

- (1) Earnings before interest and tax ("EBIT") is defined as operating income plus our share of income in companies accounted for under the equity method. As a complement to Operating Income EBIT may be used by management as a performance indicator for segments because it captures the contribution to our results of the significant businesses that we manage through our joint ventures. However, other companies may present EBIT and related measures differently than we do. EBIT is not a measure of financial performance under IFRS and should not be considered as an alternative to cash flow from operating activities or as a measure of liquidity or an alternative to net income as indicators of our operating performance or any other measures of performance derived in accordance with IFRS. See "Item 5: Operating and Financial Review and Prospects — Liquidity and Capital Resources — EBIT and EBITDAS" for a reconciliation of EBIT to operating income.
- (2) "EBITDAS" is defined as earnings before interest, tax, income from equity affiliates, depreciation, amortization net of amortization costs capitalized to multi-client surveys and share-based compensation cost. Share-based compensation includes both stock options and shares issued under our share allocation plans. EBITDAS is presented as additional information because we understand that it is one measure used by certain investors to determine our operating cash flow and historical ability to meet debt service and capital expenditure requirements. However, other companies may present EBITDAS and similar measures differently than we do. EBITDAS is not a measure of financial performance under IFRS and should not be considered as an alternative to cash flow from operating activities or as a measure of liquidity or an alternative to net income as indicators of our operating performance or any other measures of performance derived in accordance with IFRS. See "Item 5: Operating and Financial Review and Prospects — Liquidity and Capital Resources — EBIT and EBITDAS" for a reconciliation of EBITDAS to net cash provided by operating activities.
- (3) "Capital expenditures" is defined as "total capital expenditures (including variation of fixed assets suppliers, excluding multi-client surveys)" from our statement of cash flows.
- (4) "Net financial debt" is defined as gross financial debt less cash and cash equivalents. Net financial debt is presented as additional information because we understand that certain investors believe that netting cash against debt provides a clearer picture of the financial liability exposure. However, other companies may present net financial debt differently than we do. Net financial debt is not a measure of financial performance under IFRS and should not be considered as an alternative to any other measures of performance derived in accordance with IFRS. See "Item 5: Operating and Financial Review and Prospects — Liquidity and Capital Resources — Financial Debt" for a reconciliation of net financial debt to certain financing items on our balance sheet.
- (5) "Gross financial debt" is defined as financial debt, including current maturities and bank overdrafts.
- (6) "RC" is defined as restructuring costs related to the Transformation Plan. In 2017, 2016, 2015 and 2014, the restructuring costs correspond to the costs related to the industrial transformation of the Group and the Financial Restructuring, including the cost of downsizing the Group's fleet, changes of ownership and renegotiation of the vessel chartering contracts, personnel costs, site closure costs and fees and expenses related to the Financial Restructuring. The restructuring costs for 2013 relate to our acquisition of most of the Geoscience Division of Fugro.

## Capitalization and Indebtedness

Not applicable

## Reasons for the Offer and Use of Proceeds

Not applicable

## Capitalization and Indebtedness

Not applicable

## Reasons for the Offer and Use of Proceeds

Not applicable

## Risk Factors

## RISKS RELATED TO OUR FINANCIAL RESTRUCTURING

*Certain of our creditors have appealed the judgment approving the Safeguard Plan.*

The Company's draft Safeguard Plan was approved by the bank and financial institutions' committee and the general meeting of bondholders on July 28, 2017, and the resolutions necessary for its implementation were



approved by the shareholders of CGG S.A. during the extraordinary general meeting convened on second notice on November 13, 2017.

The Commercial Court of Paris approved the Company's Safeguard Plan by a ruling on December 1, 2017.

Articles L. 661-1 I(6), R. 661-3 and R. 662-1 of the French Commercial Code provide for the possibility of appealing a judgment approving a safeguard plan within 10 days of the publication of the judgment, which may be potentially extended to two months, taking into account the distance (which period, in the case of our safeguard proceedings, has expired), provided by Article 643 of the French Civil Procedure Code (except in the case of the public prosecutor, for whom the 10-day period runs from the date of receipt of a notification of the judgment). Judgments may be appealed by the obligor, the trustee, the receiver (*mandataire judiciaire*), the works council (*comité d'entreprise*) or, in its absence, the staff representatives, and the public prosecutor. Appeals may also be filed by individual creditors, provided they have voiced an objection to the voting procedure at the bank and financial institutions' committee or at the general meeting of bondholders. Only an appeal by the public prosecutor automatically causes the proceeding to be suspended.

Also, articles L. 661-3 and R. 661-2 of the French Commercial Code govern how third parties may object to a judgment approving a safeguard plan. Third parties may only challenge a decision approving the safeguard plan, but not a decision rejecting it. Such recourse may be filed by any person with an interest in the matter, provided that they were not a party to and were not represented in the judgment they challenge and that they rely on specific remedies or on the fact that they were fraudulently deprived of their rights. Challenges by third parties must be filed with the clerk of the court no later than ten days after the publication of the judgment in the *Bulletin officiel des annonces civiles et commerciales* (BODACC), which period may be extended up to two months, taking into account the distance (which period, in the case of our safeguard proceedings, expired on March 2, 2018), as provided for in article 643 of the French Code of Civil Procedure.

On August 4, 2017, certain holders of convertible bonds (Keren Finance, Delta Alternative Management, Schelcher Prince Gestion, La Financière de l'Europe, Ellipsis Asset Management and HMG Finance) filed a claim against the Safeguard Plan approved by the bank and financial institutions committee and the general meeting of bondholders on July 28, 2017.

Without disputing the results of the general meeting of bondholders' vote, these holders of convertible bonds challenged the treatment of their claims under the Safeguard Plan, arguing that the differences in treatment between the holders of convertible bonds and the holders of Senior Notes were not justified by the differences in their situations and would be, in any event, disproportionate.

On December 1, 2017, the Commercial Court of Paris declared that the claims filed by the holders of convertible bonds were inadmissible and approved the Safeguard Plan.

Four of these holders of convertible bonds (Delta Alternative Management, Schelcher Prince Gestion, La Financière de l'Europe and HMG Finance) have appealed against the judgment that rejected the admissibility of their claims, which appeal shall be examined by the Court of Appeal of Paris during the hearing of pleadings on March 29, 2018.

As this appeal does not stay implementation, the restructuring transactions provided for under the Safeguard Plan have been implemented in accordance with the expected time table.

If the Court of Appeal of Paris were to approve the appellants' requests and reverse the judgment approving the Safeguard Plan, this decision could theoretically lead to the cancellation of the implementation of the Safeguard Plan with retroactive effect. However, such a cancellation may be impossible to implement in the context of a transaction which has involved a public offering.

As of the date of this annual report, no assurance can be given concerning the decision of Court of Appeal of Paris regarding the aforementioned appeal.

***We remain subject to the terms and conditions of the Safeguard Plan and our new financing agreements.***

Until November 30, 2027, we must comply with the terms and conditions of the Safeguard Plan, including, among others, debt maturities and, more generally, the terms and conditions of the new financing agreements. For more details on these new financing agreements, please refer to risk factor entitled “— Risks related to our indebtedness” below and “Item 4 — Information on the Company — History and development of the Company — Financial restructuring process”.

In case of our non-compliance with the terms and conditions of the Safeguard Plan, the Commercial Court of Paris may decide to cancel the Safeguard Plan after having obtained the opinion of the public prosecutor and the trustee (*commissaires à l'exécution*) upon presentation of its report. If we were to be insolvent (*cessation des paiements*) at that time or during the implementation of the Safeguard Plan, the Commercial Court of Paris would open a judicial reorganization proceeding (*redressement judiciaire*), or if such reorganization was obviously impossible, a judicial liquidation proceeding (*liquidation judiciaire*) (after, as the case may be, having cancelled the Safeguard Plan).

Taking into account the undertakings we made pursuant to the letters exchanged with the *Direction Générale des Entreprises*, which were acknowledged in the judgment approving the Safeguard Plan and described in “Item 4 — Information on the Company — History and development of the Company — Financial restructuring process”, we could be limited in our ability to adapt to market developments and, more generally, may have less flexibility in our operational management. In addition, certain amendments to the Safeguard Plan may be necessary.

To the extent the contemplated amendments to the Safeguard Plan would not be considered material for the purposes and means of the plan within the meaning of article L.626-26 of the French Commercial Code, we may be able to make such amendments, although any amendment to the new financing agreements would require the consent of the contractually required majority creditors who are parties to those agreements.

Nevertheless, any material amendment within the meaning of article L.626-26 of the French Commercial Code would first require the prior authorization of the banks and financial institutions committee and the general meeting of bondholders, and the subsequent approval of the Commercial Court of Paris.

## **RISKS RELATED TO OUR BUSINESS**

***Current economic uncertainty and the volatility of oil and natural gas prices could have a significant adverse effect on us.***

Global market and economic conditions are uncertain and volatile. In recent periods, economic contractions and uncertainty have weakened demand for oil and natural gas while the introduction of new production capacities have increased supply, resulting in lower prices, and consequently a reduction in the levels of exploration for hydrocarbons and demand for our products and services. These developments have had a significant adverse effect on our business, revenue and liquidity resulting not only in a decline in activity levels but also in the prices we can charge. The price of Brent decreased from US\$110.80 per barrel as of December 31, 2013 to US\$37.28 per barrel as of December 31, 2015 and US\$56.82 as of December 31, 2016 to reach US\$66.87 as of December 31, 2017. It is difficult to predict how long the current economic conditions and imbalance between supply and demand will persist, whether oil prices will remain at a low level, whether the current market conditions will deteriorate further, and which of our products and services may be adversely affected. The reduction in demand for our products and services and the resulting pressure on pricing in our industry could continue to negatively affect our business, results of operations, financial condition and cash flows.

Uncertainty about the general economic situation and/or the mid-term level of hydrocarbons prices has had and is likely to continue to have a significant adverse impact on the commercial performance and financial condition of many companies, which may affect some of our customers and suppliers. The current economic and oil industry climate may lead customers to cancel, delay or choose not to renew orders or leave suppliers unable to provide goods and services as agreed. Our governmental clients may face budget deficits that prohibit them from funding proposed and existing projects or that cause them to exercise their right to terminate our contracts with little or no prior notice. If our suppliers, vendors, subcontractors or other counterparties are unable to perform their obligations to us or our customers, we may be required to provide additional services or make alternate arrangements on less favorable terms with other parties to ensure adequate performance and delivery of service to our customers. These circumstances could also lead to disputes and litigation with our partners or customers, which could have a material adverse impact on our reputation, business, financial condition and results of operations.

Turmoil in the credit markets, such as has been experienced in prior periods, could also adversely affect us and our customers. Limited access to external funding has in the past caused some companies to reduce their capital spending to levels supported by their internal cash flow. Some companies have found their access to liquidity constrained or subject to more onerous terms. In this context, our customers may not be able to borrow money on reasonable terms or at all, which could have a negative impact on their demand for our products, and impair their ability to pay us for our products and services on a timely basis, or at all.

In addition, the potential impact on the liquidity of major financial institutions may limit our ability to fund our business strategy through borrowings under either existing or new debt facilities in the public or private markets and on terms we believe to be reasonable. Persistent volatility in the financial markets could have a material adverse effect on our ability to refinance all or a portion of our indebtedness and to otherwise fund our operational requirements. We cannot be certain that additional funds will be available if needed to make future investments in certain projects, take advantage of acquisitions or other opportunities or respond to competitive pressures. If additional funds are not available, or are not available on terms satisfactory to us, there could be a material adverse impact on our business, financial condition and results of operations.

***We are subject to risks related to our international operations.***

With operations worldwide, including in emerging markets, our business and results of operations are subject to various risks inherent in international operations. These risks include:

- instability of foreign economies and governments, which can cause investment in capital projects by our potential clients to be withdrawn or delayed, reducing or eliminating the viability of some markets for our services;
- risks of war, terrorism, riots and uprisings, which can make it unsafe to continue operations, adversely affect budgets and schedules and expose us to losses;
- risk of piracy, which may result in delays carrying out customer contracts in affected areas or their termination;
- difficulties in protection and enforcement of intellectual property rights;
- increased risk of fraud and political corruption;
- changes in legal and regulatory requirements;
- seizure, expropriation, nationalization or detention of assets, or renegotiation or nullification of existing contracts;
- foreign exchange restrictions, import/export quotas, sanctions, boycotts and embargoes and other laws and policies affecting taxation, trade and investment; and

- availability of suitable personnel and equipment, which can be affected by government policy, or changes in policy, that limit the movement of qualified crew members or specialized equipment to areas where local resources are insufficient.

We are exposed to these risks in all of our international operations to some degree, particularly in emerging markets where the political, economic and legal environment is less stable. Our risk management procedures, internal controls and policies may not be adequate to identify, evaluate and effectively manage all the risks that we may encounter. Any failure of these systems could materially adversely impact our business, results of operations and financial conditions. We are subject to the risk of adverse developments with respect to certain international operations and any insurance coverage we have may not be adequate to compensate us for any losses arising from such risks.

Revenue generating activities in certain foreign countries may require prior United States government and/or European Union authorities' approval in the form of an export license and may otherwise be subject to tariffs and import/export restrictions. These laws can change over time and may result in limitations on our ability to compete globally. Thus, in the case of U.S. legislation, non-U.S. persons employed by our separately incorporated non-U.S. entities may conduct business in some foreign jurisdictions that are subject to U.S. trade embargoes and sanctions by the U.S. Office of Foreign Assets Control ("OFAC"), including countries that have been designated by the U.S. government as state sponsors of terrorism. We have typically generated revenue in some of these countries through the performance of marine surveys, the provision of data processing and reservoir consulting services, the sale of software licenses and software maintenance and the sale of Sercel equipment. We have current and ongoing relationships with customers in these countries.

We have procedures in place to conduct these operations in compliance with applicable U.S. and European laws. However, failure to comply with U.S. or European laws on equipment and services exports could result in material fines and penalties, damage our reputation, and negatively affect the market price of our securities. In addition, our presence in these countries could reduce demand for our securities among certain investors.

Certain of our clients and suppliers, and certain tax, social security or customs authorities may request us or certain of our subsidiaries or affiliates to post performance bonds or guarantees issued by financial institutions, including in the form of standby letters of credit, in order to guarantee our or their legal or contractual obligations. As of December 31, 2017, the amount of bank guarantees or guarantees granted by us amounted to approximately US\$597 million (excluding the guarantees granted to financial institutions and the guarantees related to the bareboat charters undertakings). Our financial position has led financial institutions to revise their policies by phasing out existing guarantees and requiring the establishment of cash collateral (or its equivalent in the relevant jurisdiction) for any new guarantee or renewal of existing guarantees. As of December 31, 2017, the amount of the guarantees granted by financial institutions in favor of our clients amounted to approximately US\$69 million. As of the same date, the amount of the cash collateral (or its equivalent) we had implemented amounted to approximately US\$21 million (reported in the financial statements as fixed assets and financial investments).

However, there is a risk that we will not be able to provide these performance bonds or guarantees in the amounts or durations required or for the benefit of the necessary parties. Failure to comply with these requests could reduce our capacity to conduct business or perform our contracts. In addition, if we provide these bonds or guarantees, our clients or the relevant authorities may call them under circumstances that we believe to be improper, and we may not be able to challenge such actions effectively in local courts.

We and certain of our subsidiaries and affiliated entities also conduct business in countries where there is government corruption. We are committed to doing business in accordance with all applicable laws and codes of ethics, but there is a risk that we, our subsidiaries or affiliates or our or their respective officers, directors, employees or agents may act in violation of such codes and applicable laws, including the Foreign Corrupt Practices Act of 1977. We cannot always prevent or detect corrupt or unethical practices by third parties, such as

subcontractors, agents, partners or customers, which may result in substantial fines and penalties, in addition to reputational damage to us. Any such violations could result in substantial civil and criminal penalties and might materially adversely affect our business, results of operations, financial condition or reputation.

Further, operations in developing countries are subject to decrees, laws, regulations and court decisions that may change frequently or be retroactively applied and could cause us to incur unanticipated or unrecoverable costs or delays. The legal systems in developing countries may not always be fully developed and courts or other governmental agencies in these countries may interpret laws, regulations or court decisions in a manner which might be considered inconsistent or inequitable in developed countries, and may be influenced by factors other than legal merits, which could have a material adverse effect on our business, financial condition and results of operations.

***We are subject to certain risks related to acquisitions.***

In the past we have grown by acquisitions, some of which, such as the merger with Veritas in 2007, the acquisition of Wavefield in 2008 or the acquisition of Fugro Geoscience Division in 2013, were quite significant. If similar transactions were to be contemplated or completed in the future, they could present various financial and management-related risks that could be material, such as acquisition costs and delays or inability to close acquisitions, including as a result of third-party consents or approvals, integration of the acquired businesses in a cost-effective manner, implementation of a combined business strategy, diversion of management's attention; outstanding or unforeseen legal, regulatory, contractual, labor or other issues arising from the acquisitions; additional capital expenditure requirements, retention of customers, combination of different company and management cultures, operations in new geographic markets, the need for more extensive management coordination, and retention, hiring and training of key personnel. Should any of these risks associated with acquisitions materialize, they could have a material adverse effect on our business, financial condition and results of operations.

***We may need to write down goodwill from our balance sheet.***

We have been involved in a number of business combinations in the past, leading to the recognition of large amounts of goodwill on our balance sheet. Goodwill on our balance sheet totaled US\$1,223 million as of December 31, 2016 and US\$1,234 million as of December 31, 2017 due to exchange rate variations (see note 19 to our consolidated financial statements). Goodwill is allocated to cash generating units ("CGUs") as described in note 11 to our consolidated financial statements. The recoverable amount of a CGU is estimated at each balance sheet date and is generally determined on the basis of a group-wide estimate of future cash flows expected from the CGU in question. The estimate takes into account, in particular, the removal from service of certain assets used in our business (such as decommissioning or cold-stacking vessels), or change in purpose of a given asset (such as the use of a seismic vessel as a source-vessel), or any significant underperformance in cash generation relative to previously expected results, which may arise, for example, from the underperformance of certain assets, a deterioration in industry conditions or a decline in the economic environment. At each balance sheet date, if we expect that a CGU's recoverable amount will fall below the amount of capital employed recorded on the balance sheet, we may write down some value on given assets and/or the goodwill in part or in whole. Such a write-down would not in itself have an impact on cash flow, but could have a substantial negative impact on our operating income and net income, and as a result, on our shareholders' equity and net debt/equity ratio. As of December 31, 2015, in response to the continuing deterioration of market conditions and the drastic reduction of our fleet, we wrote down US\$365 million of goodwill in our marine acquisition activity and US\$439 million of goodwill in our Geology, Geophysics & Reservoir ("GGR") activity, for a total of US\$804 million for 2015. In 2016 and 2017, we did not write down any goodwill and the only movement in goodwill was linked to exchange rate variations. Particularly in light of our financial condition and difficult market dynamics, no assurance can be given that we will not be required to make future potentially significant goodwill write downs.



***We invest significant amounts of money in acquiring and processing seismic data for multi-client surveys without knowing precisely how much of the data we will be able to sell or when and at what price we will be able to sell the data.***

We invest significant amounts of money in acquiring and processing the seismic data that we own. See note 10 to our consolidated financial statements. By making such investments, we are exposed to the following risks:

- We may not fully recover the costs of acquiring and processing the data through future sales. The amounts of these data sales are uncertain and depend on a variety of factors, many of which are beyond our control, including the market prices of oil and gas, customer demand for seismic data in our library and the availability of similar data from competitors. In addition, the timing of these sales is unpredictable, and sales can vary greatly from period to period. Each of our individual surveys has a limited book life based on its location, so a particular survey may be subject to significant amortization even though sales of licenses associated with that survey are weak or non-existent, thus reducing our net income.
- Technological or regulatory changes or other developments could also materially adversely affect the value of the data. For example, regulatory changes such as limitations on drilling could affect the ability of our customers to develop exploration programs, either generally or in a specific location where we have acquired seismic data, and technological changes could make existing data obsolete.
- The value of our multi-client data could be significantly adversely affected if any adverse change occurs in the general prospects for oil and gas exploration, development and production activities in the areas where we acquire multi-client data or more generally.
- Any reduction in the economic value of such data will require us to write down its recorded value, which could have a material adverse effect on our results of operations. We wrote down the value of our multi-client data library by US\$23 million in the year 2017.

In addition, there are a number of geoscience companies that create, market and license seismic data and maintain seismic libraries. Competition for acquisition of new seismic data among geoscience service providers has been historically intense and we expect this competition will continue to be intense. The above risks could have a material adverse effect on our business, results of operations or financial condition, in particular in the competitive data acquisition environment in which we operate.

***Our results of operations may be significantly affected by currency fluctuations.***

We derive a substantial portion of our revenues from international sales, subjecting us to risks relating to fluctuations in currency exchange rates. Our revenues and expenses are mainly denominated in US dollars, and to a significantly lesser extent, in euros, Canadian dollars, Mexican pesos, Brazilian reais, Australian dollars, Norwegian kroner, British pounds and Chinese renminbi-yuan. Historically, a significant portion of our revenues that were invoiced in currencies other than US dollars related to contracts that were effectively priced in US dollars, as the US dollar often serves as the reference currency when bidding for contracts to provide geophysical services.

Fluctuations in the exchange rate of other currencies, particularly the euro, against the U.S. dollar, have had in the past and will have in the future a significant effect upon our results of operations. We attempt to reduce the risks associated with such exchange rate fluctuations through our hedging policy. We cannot assure you that fluctuations in the values of the currencies in which we operate will not materially adversely affect our future results of operations. As of December 31, 2017, we estimate our annual recurring expenses in euros to be approximately €350 million and as a result, an unfavorable variation of US\$0.10 in the average yearly exchange rate between the US dollar and the euro would reduce our profit before tax and our shareholders' equity by approximately US\$35 million. See "*— Market and Other Risks — We are exposed to exchange rates fluctuations.*"

***Our working capital needs are difficult to forecast and may vary significantly, which could result in additional financing requirements that we may not be able to meet on satisfactory terms, or at all.***

It is difficult for us to predict with certainty our working capital needs. This difficulty is due primarily to working capital requirements related to the marine seismic acquisition business, multi-client projects and the development and introduction of new lines of geophysical equipment products. For example, under specific circumstances, we may have to extend the length of payment terms we grant to customers or may increase our inventories substantially. We may therefore be subject to significant and rapid increases in our working capital needs that we may have difficulty financing on satisfactory terms, or at all, due notably to limitations in our debt agreements or market conditions.

***Our results of operations may be affected by the weight of intra-group production.***

We dedicate a significant part of our production capacity to intra-group sales. For example, the Marine, Land and Multi-Physics Acquisition business lines may purchase Sercel equipment as well as acquire multi-client data, to be processed by the Subsurface Imaging business line. The relative size of our intra-group sales and our external sales has a significant impact both on our revenues and our operating results. With respect to intra-group sales, we capitalize only the direct production costs, and we treat the corresponding general and administrative costs as expenses in our income statement, which decreases operating profit for the period when the sales occur.

***Technological changes and new products and services are frequently introduced in the market, and our technology could be rendered obsolete by these introductions or by evolving industry and regulatory standards, or we may not be able to develop and produce new and enhanced products on a cost-effective and timely basis.***

Technology changes rapidly in the seismic industry and new and enhanced products are frequently introduced in the market in which we operate, particularly in the equipment manufacturing and data processing and geoscience sectors. Our success depends to a significant extent upon our ability to develop and produce new and enhanced products and services on a cost-effective and timely basis in accordance with industry demands. While we commit substantial resources to research and development, we may encounter resource constraints or technical or other difficulties that could delay the introduction of new and enhanced products and services in the future. In addition, the continuing development of new products risks making our older products obsolete. Currently accepted industry and regulatory standards are also subject to change, which may contribute to the obsolescence of our products or services. New and enhanced products and services, if introduced, may not gain market acceptance or correctly address new industry standards and may be materially adversely affected by technological changes or introductions of other new products or services by one of our competitors.

***We depend on proprietary technology and are exposed to risks associated with the misappropriation or infringement of that technology.***

Our ability to maintain or increase prices for our products (such as Sercel equipment and GGR software) and services depends in part on our ability to differentiate the value delivered by our products and services from those delivered by our competitors. Our proprietary technology plays an important role in this differentiation. We rely on a combination of patents, trademarks and trade secret laws to establish and protect our proprietary technology. Patents last up to 20 years, depending on the date of filing and the protection accorded by each country. In addition, we enter into confidentiality and license agreements with our employees, customers and potential customers which limit access to and distribution of our technology. Our customer data license and acquisition agreements also identify our proprietary, confidential information and require that such proprietary information be kept confidential. While these steps are taken to strictly maintain the confidentiality of our proprietary and trade secret information, it is difficult to ensure that unauthorized use, misappropriation or disclosure will not occur. However, actions that we take to protect our proprietary rights may not be adequate to deter the misappropriation or independent third-party development of our technology. In addition, we may have

lawsuits filed against us claiming that certain of our products, services, and technologies infringe the intellectual property rights of others. Although we do not have any current litigation involving our intellectual property rights or the intellectual rights of others which may have an impact on us, such litigation may take place in the future. In addition, the laws of certain foreign countries do not protect proprietary rights to the same extent as, in particular, the laws of France or the United States, which may limit our ability to pursue third parties that misappropriate our proprietary technology.

***Our failure to attract and retain qualified employees may adversely affect our future business and operations.***

Our future results of operations will depend in part upon the continued service of our executive officers and other key management personnel, as well as our ability to retain certain of our highly skilled employees and to attract new ones. A number of our employees are highly skilled scientists and technicians. A limited number of such skilled personnel is available, and demand from other companies may limit our ability to fill our human resources needs. If we are unable to hire and retain a sufficient number of qualified employees, this could impair our ability to compete in the geophysical services industry and to develop and protect our know-how. Our success also depends to a significant extent upon the abilities and efforts of our executive officers and members of our senior management, the loss of whom could materially adversely affect our business, financial condition and results of operations.

***We have had losses in the past and there is no assurance we will be able to restore profitability in the coming years.***

We have experienced losses in the past. In 2015, 2016 and 2017, we recorded a net loss attributable to shareholders of US\$1,146.2 million, US\$576.6 million and US\$514.1 million, respectively. There is no assurance that we will be able to restore profitability in the coming years.

In addition, we have had in the past and may have in the future impairment losses as events or changes in circumstances occur that reduce the fair value of an asset below its book value. We may also have write-offs and non-recurring charges or restructuring costs. For 2015, 2016 and 2017, such asset impairments, write-offs and restructuring costs net of gains on sales of assets related to our Transformation Plan totaled US\$1,218 million, US\$184 million and US\$186 million (not including the acceleration of historical issuing fees amortization for US\$23 million), respectively. These losses and changes could have a material adverse effect on our business, results of operations and financial condition.

***The recent French and U.S. procedures of safeguard and Chapter 11 may have affected our ability to maintain our relationships with creditors, customers, vendors, employees and other personnel and counterparties which could adversely affect our business, financial condition and results of operations.***

Notwithstanding the implementation of the financial restructuring, the recent French and U.S. procedures of safeguard and Chapter 11 may have affected our relationships and our ability to negotiate favorable terms with creditors, customers, vendors, employees and other personnel and counterparties and our ability to maintain normal credit conditions with our suppliers. Moreover, public perception of our continued viability may lead to new and existing customers choosing not to enter into or continue their agreements or arrangements with us. The failure to maintain any of these important relationships could adversely affect our business, financial condition and results of operations.

***We are exposed to commercial risk and counter-party risk.***

Our receivables and investments do not represent a significant concentration of credit risk due to the wide variety of customers and markets in which we sell our services and products and our presence in many



geographic areas. While we seek to reduce commercial risk by monitoring our customer credit profile in 2017, our two most significant customers accounted for 10.4% and 8.6% of our consolidated revenues, compared with 6.7% and 6.4% in 2016 and 5.0% and 4.9% in 2015. The loss of any of our significant customers or deterioration in our relations with any of them could materially and adversely affect our business, results of operations and financial condition.

## **RISKS RELATED TO OUR INDUSTRY**

*The volume of our business depends on the level of capital expenditures by the oil and gas industry, and reductions in such expenditures may have a material adverse effect on our business.*

Demand for our products and services has historically been dependent upon the level of capital expenditures by oil and gas companies for exploration, production and development activities. These expenditures are discretionary in nature and are significantly influenced by oil and gas prices and by expectations regarding future hydrocarbon prices, which may fluctuate based on relatively minor changes in the supply of and demand for oil and gas, expectations regarding such changes and other factors beyond our control. Lower or volatile hydrocarbon prices tend to limit the demand for seismic services and products. In 2015 and 2016, oil and gas companies reduced their planned exploration and production spending due notably to falling oil prices, affecting demand for our products and services. Exploration and production spending remained at a low level in 2017, in light of uncertainties concerning the oil price recovery.

Factors affecting prices and, consequently, demand for our products and services, include:

- change in supply and demand for hydrocarbons;
- worldwide political, military and economic conditions, including political developments in the Middle East and North Africa, the Ukraine crisis, economic sanctions and economic growth levels;
- the ability of non-OPEC countries to increase their oil and gas production;
- actions by the members of the Organization of the Petroleum Exporting Countries (OPEC) with respect to oil production levels and announcements of potential changes in such levels, including the failure of such countries to comply with production cuts;
- the ability of oil and gas companies to raise equity and debt financing;
- technical advances affecting energy consumption;
- laws or regulations restricting the use of fossil fuels or taxing such fuels and governmental policies regarding atmospheric emissions and use of alternative energy;
- technological developments increasing oil and gas extraction capacity or reducing costs;
- levels of oil and gas production, changes in those levels and the estimated current and future level of excess production capacity;
- the rate of depletion of existing oil and gas reserves and delays in the development of new reserves;
- more appetite for onshore activities given that offshore activities usually have a higher break-even level;
- the pressure imposed by equity markets on oil and gas companies to maintain a dividend distribution policy which could lead them to significantly reduce their capital expenditure plans in the short term;
- available pipeline, storage and other transportation capacity;
- the price and availability of alternative fuels;
- policies of governments regarding the exploration for and production and development of oil and gas reserves in their territories;

- shareholder activism or activities by non-governmental organizations to restrict the exploration, development and production of oil and natural gas; and
- general weather conditions, with warmer temperatures decreasing demand for products such as heating oil and extreme weather events potentially disrupting oil and gas exploration or production operations over a wide area.

Increases in oil and natural gas prices may not increase demand for our products and services or otherwise have a positive effect on our financial condition or results of operations. Forecasted trends in oil and gas exploration and development activities may not materialize and demand for our products and services may not reflect the level of activity in the industry. In particular, with respect to the marine acquisition market, prices remain very dependent upon the balance between supply and demand. They can thus fluctuate only slightly or even decline, despite demand increases if, at the same time, the available production capacity in the market increases to a greater degree.

***Our backlog includes contracts that can be unilaterally delayed or terminated at the client's option.***

In accordance with industry practice, contracts for the provision of seismic services typically can be delayed or terminated at the sole discretion of the client without payment of significant cancellation costs to the service provider. As a result, even if contracts are recorded in backlog, there can be no assurance that such contracts will be wholly executed by us and generate actual revenue, or even that the total costs already borne by us in connection with the contract would be covered in full pursuant to any cancellation clause. Furthermore, there can be no assurance that contracts in backlog will be performed in line with their original timetable and any possible delay could result in operating losses as most of our costs are fixed.

***We are subject to intense competition in the markets where we carry out our operations, which could limit our ability to maintain or increase our market share or maintain our prices at profitable levels.***

Most of our contracts are obtained through a competitive bidding process, which is standard for our industry. Competitive factors in recent years have included price, crew availability, technological expertise and reputation for quality, safety and dependability. The recent low oil price environment has resulted in increased pricing pressure, with certain of our competitors aggressively bidding lower prices in an effort to maintain volumes. While no single company competes with us in all of our segments, we are subject to intense competition in each of our segments. We compete with large, international companies as well as smaller, local companies. In addition, we compete with major service providers and government-sponsored enterprises and affiliates. Some of our competitors operate more crews than we do and have greater financial and other resources than we do. These and other competitors may be better positioned to withstand and adjust more quickly to volatile market conditions, such as fluctuations in oil and gas prices and production levels, as well as changes in government regulations. In addition, if geophysical service competitors increase their capacity (or do not reduce capacity if demand decreases), the excess supply in the seismic services market could apply further downward pressure on prices. The negative effects of the competitive environment in which we operate could have a material adverse effect on our business, financial condition and results of operations.

***We have taken significant measures to adapt our fleet to changes in the seismic market, and depending on the seismic market in the future, we may make further adjustments that could impose exceptional charges.***

Our fleet of marine seismic acquisition vessels has evolved in the past mainly in reaction to changes in the seismic contractual market and our marine strategy. In February 2014, we announced our intention to reduce the fleet from 18 to 13 3D high-end vessels before the end of 2016 and decided in mid-2014 to accelerate the implementation of this plan to have it completed by the end of 2014. Consequently, we stopped operating the *Symphony*, the *Princess*, the *Viking II* and the *Vantage* in 2014. The *Viking II* and the *Vantage* were returned to their owner at the end of their leasing period. The *Viking* and the *Geowave Voyager* were converted into source vessels.

In February 2015, as the market environment deteriorated further, we announced our intention to reduce our operated fleet from 13 to 11 3D high-end vessels. Then in November 2015, when we announced the next step of our Transformation Plan, we stated our objective to reduce our operated fleet to five vessels, principally dedicated to multi-client production. As of December 31, 2015, our operational fleet was composed of eight 3D high-capacity vessels (12 or more streamers), one source vessel and one 3D/2D lower capacity vessel. We ceased operating the *CGG Alizé* and the *Geo Celtic* in early 2016 and the *Viking Vision* in fall 2016, which has since been returned to her owner. As of December 31, 2016, the seismic fleet operated five high-end vessels as targeted. In March 2017, we re-delivered the *Pacific Finder* to its owner and halted the operations of the *Geo Caspian* as a seismic vessel at the expiration of the charter agreement. In April 2017, we carried out certain transactions in order to change the ownership structure of our marine fleet and restructure the related financial obligations under the Nordic credit facility related thereto, and re-introduced the *Geo Coral* on April 1, 2017, as per the plan to keep the fleet at five seismic vessels. See “Item 4: Information on the Company — Contractual Data Acquisition — Marine Data Acquisition Business Line — Group’s fleet of seismic vessels” for more information.

Past fleet reductions have generated, and we expect that the current and any future reductions will generate, non-recurring charges and could hinder our operational scope in marine acquisition activity. Restructuring charges and fixed assets impairments related to fleet reduction amounted to US\$288 million in 2015, US\$34 million in 2016 and US\$87 million in 2017 (including net income impact of US\$69.4 million linked to Global Seismic Shipping AS (“GSS”) and US\$12.1 million linked to the proactive management of maritime liabilities). See note 2 to our consolidated financial statements.

***We have high levels of fixed costs that are incurred regardless of our level of business activity, including in relation to bareboat charters.***

We have high fixed costs and seismic data acquisition activities that require substantial capital expenditures and long-term contractual commitments. As a result, downtime or decreased productivity due to reduced demand, weather interruptions, equipment failures, permit delays or other circumstances that affect our ability to generate revenue could result in significant operating losses.

We have implemented our Transformation Plan in an effort to reduce our high fixed costs in light of the difficult market environment, with a focus on high value-added activities and a reduction of our fleet to five vessels principally dedicated to multi-client activity, as well as cost saving actions and a reduction in investments. However, we cannot assure you that this plan will be sufficient to respond to market pressures, which could have a material adverse effect on our business, financial condition and results of operations.

After the implementation of the Transformation Plan, we continue to operate certain of our marine acquisition vessels under long-term bareboat charters, which generate significant fixed costs that cannot easily be reduced during the term of the charters. In 2017, we took steps to reduce our annual charter costs, as described in “Item 4: Information on the Company — Contractual Data Acquisition — Marine Data Acquisition Business Line — Group’s fleet of seismic vessels”. As a result of these measures, and as of December 31, 2017, the aggregate amount of our off-balance sheet commitment for bareboat charters for our fleet was US\$460.2 million. Of this amount, US\$397.0 million corresponded to vessels operated by GSS, US\$13.8 million corresponded to vessels that have already been cold-stacked and US\$49.4 million corresponded to other vessels we operate. These costs cannot be reduced further before the charters expire. The charters of the vessels operated by GSS expire in 2027, the last charter of the cold-stacked vessels expires in 2020 and the last charter of the other operated vessels expires in 2020. While we believe that these steps will make our marine acquisition activity more competitive, we will continue to have high levels of fixed costs in a market with historically low levels of demand and pricing, which could have a material adverse effect on our business, financial condition and results of operations.

***The revenues we derive from marine seismic data acquisition vary significantly during the year.***

Our seismic data acquisition revenues, in particular in the marine market, are partially seasonal in nature. In the marine market notably, certain basins can be very active and absorb higher capacity during a limited period

of the year (such as the North Sea between April and September), triggering significant volatility in demand and price in their geographical markets throughout the year. The marine data acquisition business is, by its nature, exposed to unproductive interim periods due to vessel maintenance and repairs or transit time from one operational zone to another during which revenue is not recognized. Other factors that cause variations from quarter to quarter include the effects of weather conditions in a given operating area, the internal budgeting process of some important clients for their exploration expenses, and the time needed to mobilize production means or obtain the administrative authorizations necessary to commence data acquisition contracts.

***Our business and that of our customers are subject to complex laws and governmental regulations, which may adversely affect our operations or demand for our products and services in the future.***

Our operations are subject to a variety of international, federal, regional, national, foreign and local laws and regulations, including for flight clearances (for airborne activities), environmental, health and safety and labor laws. We invest financial and managerial resources to comply with these laws and related permit requirements. Our failure to comply could result in fines, enforcement actions, claims for personal injury or property damages, or obligations to investigate and/or remediate contamination. Failure to obtain the required permits on a timely basis may in some cases also prevent us from operating, resulting in increased crew downtime and operating losses. Further, changes in such laws and regulations could affect the demand for our products or services or result in the need to modify our services and products, which may involve substantial costs or delays in sales and could have an adverse effect on our results. Moreover, if applicable laws and regulations, including environmental, health and safety requirements, or the interpretation or enforcement thereof become more stringent in the future, we could incur capital or operating costs beyond those currently anticipated. The adoption of laws and regulations that directly or indirectly curtail exploration by oil and gas companies could also adversely affect our operations by reducing the demand for our geophysical products and services. In addition, our customers' operations are also significantly impacted by laws and regulations concerning the protection of the environment. To the extent that our customers' operations are disrupted by future laws and regulations, our business, financial condition and results of operations may be materially and adversely affected.

In the United States, new regulations governing oil and gas exploration were put in place following the Deepwater Horizon platform disaster in the Gulf of Mexico in 2010. These new regulations have had a significant financial and operational impact on oil and gas companies that carry out exploration projects in deep-water Gulf of Mexico. Our client mix could be altered in the event of a disappearance of small and medium-sized players that may not be able to bear the increased cost of compliance with complex regulations, which could decrease our sales of multi-client data.

***We are exposed to environmental risks.***

We are subject to various laws and regulations in the countries where we operate, particularly with respect to the environment. These laws and regulations may require Group companies to obtain licenses or permits prior to signing a contract or beginning our operations. Our management believes that we comply in all material respects with applicable environmental laws; however, frequent changes in such laws and regulations make it difficult to predict their cost or impact on our future operations. We are not involved in any legal proceedings relating to environmental matters, and are not aware of any claim or any potential liability in this area, that could have a significant effect on our business or financial position.

Furthermore, laws or regulations intended to limit or reduce emissions of gases, such as carbon dioxide and methane, which may be contributing to climate change, or nitrogen oxides, may affect our operations or, more generally, the production and demand for fossil fuels such as oil and gas. The European Union has already established greenhouse gas regulations, and many other countries, including the United States, may do so in the future. This could impose additional direct or indirect costs on us as our suppliers incur additional costs that get passed on to us. In addition, because our business depends on the level of activity in the oil and gas industry, existing or future laws and regulations related to emissions of gases and climate change, including incentives to

conserve energy or use alternative energy sources, could have a negative impact on our business if such laws or regulations reduce demand for oil and gas.

***We are subject to risks related to our information technology, including cyber security risks and risks of hardware and software failures.***

The oil and natural gas and geothermal industries have become increasingly dependent on digital technologies to conduct certain processing activities. For example, we depend on digital technologies to perform many of our services and to process and record financial and operating data. At the same time, cyber incidents, including deliberate attacks, have increased. The U.S. government has issued public warnings that indicate that energy assets might be specific targets of cyber security threats. Our technologies, systems and networks, and those of our vendors, suppliers and other business partners, may become the target of cyberattacks or information security breaches that could result in the unauthorized release, gathering, monitoring, misuse, loss or destruction of proprietary and other information, or other disruption of business operations. In addition, certain cyber incidents, such as surveillance, may remain undetected for an extended period. Our systems for protecting against cyber security risks may not be sufficient and we have no insurance policy in place to provide coverage for cyberattacks. As cyber incidents continue to evolve, we will likely be required to expend additional resources to continue to modify or enhance our protective measures or to investigate and remediate any vulnerability to cyber incidents.

In addition, any our success depends on the efficient and uninterrupted operation of our computer and communications systems. A failure of our network or data gathering procedures could impede the processing of data, delivery of databases and services, client orders and day-to-day management of our business and could result in the corruption or loss of data. Despite any precautions we may take, damage from fire, floods, hurricanes, power loss, telecommunications failures and similar events at our computer facilities could result in interruptions in the flow of data to our servers and from our servers to our clients.

Similarly, failure by our computer environment to provide our required data communications capacity could result in interruptions in our service. In the event of a delay in the delivery of data, we could be required to transfer our data collection operations to an alternative provider of server hosting services. Such a transfer could result in significant delays in our ability to deliver our products and services to our clients and could be costly to implement. Additionally, significant delays in the planned delivery of system enhancements and improvements, or inadequate performance of the systems once they are completed, could damage our reputation and harm our business, results of operations and financial condition.

## **RISKS RELATED TO OUR INDEBTEDNESS**

***Our new debt agreements entered into in the context of the financial restructuring contain restrictive covenants that may limit our ability to respond to changes in market conditions or pursue business opportunities.***

Following the completion of our financial restructuring, our borrowings are subject to the provisions of the indentures governing the first lien notes and the second lien notes, which contain restrictive covenants that limit our ability to, among others:

- incur or guarantee additional indebtedness or issue preferred shares;
- pay dividends or make other distributions;
- purchase equity interests or reimburse subordinated debt prior to its maturity;
- create or incur certain liens;
- enter into transactions with affiliates;

- issue or sell capital stock of subsidiaries;
- engage in sale-and-leaseback transactions;
- sell assets or merge or consolidate with another company; and
- proceed with acquisitions or joint venture transactions.

Complying with the restrictions contained in the indenture governing the first lien notes requires us to maintain our aggregate amount of cash and cash equivalents at no less than US\$185 million at the end of each financial quarter.

The requirement to comply with these provisions may adversely affect our ability to react to changes in market conditions, take advantage of business opportunities we believe to be desirable, obtain future financing, sell assets, fund capital expenditures, or withstand a continuing or future downturn in our business.

***If we are unable to comply with the restrictions and covenants in the indentures governing the first lien notes and the second lien notes and other current and future debt agreements, we could be in default under the terms of these indentures and agreements, which could result in an acceleration of repayment.***

If we are unable to comply with the restrictions and covenants in the indentures governing the first lien notes and the second lien notes or in other current or future debt agreements, there could be a default under the terms of these indentures and agreements.

Our ability to comply with these restrictions and covenants, including meeting financial ratios and tests, may be affected by events beyond our control. As a result, we cannot assure you that we will be able to comply with these restrictions and covenants or meet such financial ratios and tests. In certain events of default under these agreements, lenders could terminate their commitments to lend or accelerate the loans or bonds and declare all amounts outstanding due and payable. Borrowings under other debt instruments that contain cross-acceleration or cross-default provisions may also be accelerated and become due and payable. If any of these events occur, our assets might not be sufficient to repay in full all of our outstanding indebtedness and we may be unable to find alternative financing. Even if we could obtain alternative financing, it might not be on terms that are favorable or acceptable to us.

***We and our subsidiaries may incur additional debt.***

We and our subsidiaries may incur additional debt (including secured debt) in the future. The terms of the indentures governing our first lien notes and second lien notes limit, but do not prohibit, us and our subsidiaries from doing so.

If new debt is added to our current debt levels, the related risks for us could intensify. See “Our debt adversely affects our financial health and poses risks to our liquidity”.

As of December 31, 2017, we had no long term confirmed and undrawn credit lines.

***Our debt may adversely affect our financial health and pose risks to our liquidity.***

As of December 31, 2017, our net financial debt (defined as gross financial debt less cash and cash equivalents) amounted to US\$2,640 million out of the total capital employed of US\$3,190 million. Our gross financial debt, as of December 31, 2017, amounted to US\$2,955 million (including €330 million related to the debt component of the convertible bonds, according to IFRS, and US\$115 million of bank overdrafts and accrued interest). As of December 31, 2017, our available financial resources amounted to US\$217 million (including cash, cash equivalents and marketable securities and excluding trapped cash). As of the same date, we had debt redeemable in cash or shares in the amount of US\$2,620 million (defined as net financial debt less financial leases, and before IFRS accounting adjustments related to convertible bonds and issuing fees).



In the context of a difficult market environment for the seismic industry, which started during the second half of 2013 with a significant decrease in investments by our clients outside North America and intensified with the sharp decline in oil prices since the fall of 2014, we confronted a reduction in the demand for our products and services and significant downward pressure on pricing, which ultimately led to heavy losses in our activities.

In light of the delay in market recovery and the persisting deterioration in the economic environment and our results and in order to address our high level of debt, on February 21, 2018, we finalized the implementation of our Financial Restructuring Plan, which meets our objectives of strengthening our balance sheet and providing financial flexibility to continue investing in the future. See “Item 4: Information on the Company — History and development of the Company — Financial restructuring process” and note 2 to our consolidated financial statements. However, continued difficult conditions in the markets where we operate or volatility in the financial markets could have a material adverse effect on our ability to service or refinance all or a portion of our indebtedness or otherwise fund our operational requirements. We cannot be certain that additional funds will be available if needed to make future investments in certain projects, take advantage of acquisitions or other opportunities or respond to competitive pressures. If additional funds are not available, or are not available on terms satisfactory to us, there could be a material adverse impact on our business, financial condition and results of operation.

***We are exposed to interest rate risk.***

Following the financial restructuring effective as of February 21, 2018, the total amount of our first lien notes and second lien notes are subject to variable interest rates. On a pro forma basis as of December 31, 2017, we had US\$1,135 million of debt bearing variable interest, and an increase of 1% in the applicable three-month interest rate would have had a negative impact on our net results before taxes of US\$11.4 million.

***Following the financial restructuring, we have a new debt structure. Our ability to manage our new debt structure, finance our working capital and make capital expenditures depends on certain factors beyond our control.***

Following the implementation of the financial restructuring, our indebtedness is composed of the first lien notes and the second lien notes. The first lien notes have been issued by CGG Holding (U.S.) Inc. and the second lien notes have been issued by CGG S.A., in each case, with security interests granted over certain collateral and guarantees provided by certain other Group entities.

Our ability to manage our indebtedness and fund our working capital needs and planned capital expenditures depends, among other things, on our future operating results, which will be partly the result of economic, financial, competitive and other factors beyond our control.

We may not be able to generate sufficient cash flows to service our debt, finance our working capital and make research and development and other capital expenditures. If we are unable to satisfy our debt obligations, we may have to seek alternative financing plans, such as refinancing or restructuring our indebtedness, selling assets, reducing or delaying capital investments or seeking to raise additional capital. Our ability and the conditions under which we may borrow funds to refinance existing debt or finance our operations depend on many factors, including conditions in credit markets, perceptions of our business and the ratings attributed to us by rating agencies.

We cannot assure you that any refinancing or debt restructuring would be possible, that any assets could be sold or that, if sold, the timing of the sales and the amount of proceeds realized from those sales would be favorable to us or that additional financing could be obtained on acceptable terms. Any disruptions in the capital and credit markets could adversely affect our ability to meet our liquidity needs or to refinance our indebtedness. Furthermore, changes in the monetary policies of the US Federal Reserve and the European Central Bank may increase our financing costs and consequently adversely impact our ability to refinance our indebtedness, which could have a negative impact on our ability to grow our business and restore profitability.



## MARKET AND OTHER RISKS

### *We are exposed to exchange rates fluctuations.*

Our financial debt is partly denominated in euro and converted in US dollars at the closing exchange rate. As of December 31, 2017, our US\$2,640 million of net debt included euro-denominated debt of €917 million based on the closing exchange rate of US\$1.1993.

From one year end closing to another, a variation of US\$0.10 in the closing exchange rate between the US dollar and the euro would impact our net debt by approximately US\$92 million.

Following the financial restructuring, the euro-denominated portion of our gross debt would have amounted to approximately €128 million on a pro forma basis as of December 31, 2017. After including cash denominated in euros and net proceeds from our capital increase, we would have had net surplus euros of around €61 million on a pro forma basis as of December 31, 2017. Therefore, from one year end closing to another, a variation of US\$0.10 in the closing exchange rate between the US dollar and the euro would impact our net debt, on a pro forma basis as of December 31, 2017, by approximately US\$6 million.

Our policy is to manage our balance sheet exposures by maintaining our monetary assets and liabilities in the same currency to the extent practicable and adjust imbalances through spot currency sales or equity purchases or transactions. This policy could not be enforced during our Safeguard and Chapter 11 processes, but will be progressively reinstated.

The following table shows our exchange rate exposure as of December 31, 2017:

	As of December 31, 2017					
	Assets	Liabilities	Currency commitments	Net position before hedging	Off-balance sheet positions	Net position after hedging
<i>(Converted in millions of US\$)</i>	(a)	(b)	(c)	(d) = (a) - (b) ± (c)	(e)	(f) = (d) + (e)
US\$ <sup>(1)</sup> .....	1,469.6	1,869.9	—	(400.3)	0.0	(400.3)

<sup>(1)</sup> US\$-denominated assets and liabilities in the entities whose functional currency is the euro.

	As of December 31, 2017					
	Assets	Liabilities	Currency commitments	Net position before hedging	Off-balance sheet positions	Net position after hedging
<i>(In millions of US\$)</i>	(a)	(b)	(c)	(d) = (a) - (b) ± (c)	(e)	(f) = (d) + (e)
EUR <sup>(1)</sup> .....	71.9	170.5	—	(98.6)		(98.6)

<sup>(1)</sup> Euro-denominated assets and liabilities in the entities whose functional currency is the US\$.

Our net foreign exchange exposure is principally linked to the euro. We seek to reduce our foreign-exchange position by selling the future receivables surplus over euro costs of our Equipment division as soon as they enter the backlog and taking out dollar-denominated loans supported by long-term assets. Although we attempt to reduce the risks associated with exchange rate fluctuations, we cannot assure you that fluctuations in the values of the currencies in which we operate will not materially adversely affect our future results of operations. Our annual recurring expenses in euros are equal to approximately €350 million and as a consequence, an unfavorable variation of US\$0.10 in the average yearly exchange rate between the US dollar and the euro would reduce our profit before tax and our shareholders' equity by approximately US\$35 million.

## Sensitivity Analysis Table

### Impact of US\$ variation in expenses in euros

<u>As of December 31, 2017</u>	<u>Impact on result before taxes</u>		<u>Impact on shareholders' equity before taxes</u>	
	<u>Increase of 10 cents</u>	<u>Decrease of 10 cents</u>	<u>Increase of 10 cents</u>	<u>Decrease of 10 cents</u>
In millions of US\$ .....	35	(35)	35	(35)
<b>Total</b> .....	<u>35</u>	<u>(35)</u>	<u>35</u>	<u>(35)</u>

With respect to exchange rate risk related to investments in operating subsidiaries, we consider such risk to be low, since the functional currency of the majority of operating entities is the US dollar.

#### *We are exposed to risk related to equities and financial instruments.*

We are exposed to risk of fluctuations in the value of equities and other financial instruments we may hold.

Any transactions involving our own shares are decided by management in accordance with applicable regulations.

As of December 31, 2017, we owned 24,996 of our own shares with a balance sheet value at CGG S.A.'s level of €0.2 million (US\$0.3 million). Those shares are not valued in our consolidated financial statements.

Our investment policy does not authorize short term investment in the equities of other companies.

The fair value of our own shares as of December 31, 2017 is as follows:

<u>As of December 31, 2017</u>	<u>At fair value</u>	<u>Available for sales</u>	<u>Held to maturity</u>	<u>Derivatives</u>	<u>Total</u>
Shares .....	US\$ 0.3 million	—	—	—	US\$ 0.3 million
<b>Total</b> .....	<u>US\$ 0.3 million</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>US\$ 0.3 million</u>

#### *We are subject to risks that are not fully insured.*

The nature of our business involves ongoing and significant operating risks for which we are not always insured, and in respect of which we may not be able to obtain adequate insurance at commercially reasonable rates, if at all.

- Our seismic data acquisition activities, particularly in deepwater marine areas, are often conducted under harsh weather and other hazardous operating conditions, including the detonation of dynamite. These operations are subject to the risk of downtime or reduced productivity, as well as to the risks of loss to property and injury to personnel resulting from fires, accidental explosions, mechanical failures, spills, collisions, stranding, ice floes, high seas and natural disasters. In addition to losses caused by human errors or accidents, we may also be subject to losses resulting from, among other things, war, terrorist activities, piracy, political instability, business interruption, strikes and severe weather events.
- Our extensive range of seismic products and services expose us to the risk of litigation and legal proceedings, including those related to product liability, personal injury and contract liability.
- We produce and sell highly complex products. Our extensive product development, manufacturing controls and testing may not be adequate and sufficient to detect all defects, errors, failures, and quality issues that could affect our customers, which could result in claims against us, order cancellations or delays in market acceptance.

We have put in place insurance coverage against certain operating hazards, including product liability claims and personal injury claims, damage, destruction or business interruption of data processing centers, manufacturing centers and other facilities, in amounts we consider appropriate in accordance with industry practice. Our risk coverage policy reflects our objective of covering major claims that could affect our facilities and equipment, as well as third-party liability claims that we may be exposed to as a result of our activities. We review the adequacy of insurance coverage for risks we face periodically.

Whenever possible, we obtain agreements from customers that limit our liability.

However, our insurance coverage may not be sufficient to fully indemnify us against liabilities arising from pending and future claims or our insurance coverage may not be adequate in all circumstances or against all hazards. We may not be able to maintain adequate insurance coverage in the future at commercially reasonable rates or on acceptable terms.

***We are subject to disruptions in our supply chain and third party suppliers.***

Disruptions to our supply chain and other outsourcing risks may adversely affect our ability to deliver our products and services to our customers.

Our supply chain is a complex network of internal and external organizations responsible for the supply, manufacture and logistics supporting our products and services around the world. We are vulnerable to disruptions in this supply chain from changes in government regulations, tax and currency changes, strikes, boycotts and other disruptive events as well as from unavailability of critical resources. These disruptions may have an adverse impact on our ability to deliver products and services to our customers.

Within our Group, Sercel makes particular use of subcontracting. Our French manufacturing sites outsource part of their production to local third-party companies selected according to certain criteria, including quality and financial soundness. Outsourced operations are distributed among several entities, each having a small proportion of aggregate outsourced activity in order to limit risk related to the failure of any one of our subcontractors. For our services business, our policy is not to rely on outsourcing for any of our activities, except in special cases where there is a lack of available capacity.

If our suppliers, vendors, subcontractors or other counterparties are unable to perform their obligations to us or our customers, we may be required to provide additional services or make alternate arrangements on less favorable terms with other parties to ensure adequate performance and delivery of service to our customers. These circumstances could also lead to disputes and litigation with our partners or customers, which could have a material adverse impact on our reputation, business, financial condition and results of operations.

**RISK RELATING TO THE IMPLEMENTATION OF IFRS 15**

***The application of IFRS 15 will change our recognition of certain revenues from contracts with customers.***

Generally, we obtain commitments from a limited number of customers before a seismic project is completed. These pre-commitments cover part or all of the survey area blocks. In return for the commitment, the customer typically gains the right to direct or influence the project specifications, advance access to data as it is being acquired, and favorable pricing terms. Until the application of IFRS 15, we recognized pre-commitments as revenue when production started based on the physical progress of the project, as services were rendered.

In light of the introduction of IFRS 15, a new revenue recognition standard by IASB, revenue recognition for multi-clients original participants contracts (formerly ‘pre-commitments’) has been subject to an in-depth analysis of the industry practice and of the multi-client business model with our auditors. In line with what was disclosed recently by other seismic players, a preliminary analysis, based purely on the text of IFRS 15 and applied to the written terms of present contracts, is showing that there is a high risk that all the revenues related to multi-clients original participants contracts would, under the new norm, have to be recognized only at delivery

of the final processed data, which may be more than one year after acquisition of the data. Subject to certain contractual documentation improvements and clarifications and consistent with former accounting applied throughout the seismic industry that differentiates original participants from after sales revenue recognition, we concluded that original participants contracts contain two different performance obligations. The first is an obligation to provide services for which revenue should be recognized over time based on the data acquisition and processing progress of the survey. The second obligation is to deliver the license for the final processed data, for which revenue should be recognized at final delivery. The value of the license delivery would represent 10% of the total contract on average, potentially rising to 20% or falling to 5% depending on the complexity level of the survey. This conclusion has been shared and discussed with other seismic companies. However, this conclusion has not yet been endorsed by our auditors and the regulators of the financial markets where our securities are publicly listed.

Our revenues related to multi-client original participants amounted to US\$269 million in 2017. The implementation of IFRS 15 could have a material effect on our results of operations and financial condition by delaying recognition of revenue from multi-client original participants in 2018 and future years and by applying the impact of delayed recognition during prior periods with limited retrospective effect. Furthermore, the description of the application of IFRS 15 above is subject to change as a result of exchanges with auditors, regulators or other relevant stakeholders. See note 1 to our consolidated financial statements for more information.

## **RISKS RELATED TO TAXATION**

***We are subject to complex tax rules in various jurisdictions, and our interpretation and application of these rules may differ from those of relevant tax authorities, which could result in additional tax liabilities.***

We operate in a number of countries, and will accordingly be subject to the tax laws of several jurisdictions. The tax rules to which the Group is subject are complex, and we must make judgements (including based on external advice) as to the interpretation and application of these rules. Our total tax expense could be affected by changes in tax rates in various jurisdictions, changes in the valuation of deferred tax assets and liabilities or changes in tax laws or their interpretation. Additionally, our tax affairs will in the ordinary course be reviewed by tax authorities. Those tax authorities may disagree with our interpretation and/or application of relevant tax rules. There can be no assurance as to the outcome of these examinations. If a taxing authority disagrees with the positions we have taken, we could face additional tax liability, including interest and penalties, which could adversely affect our financial results.

### ***U.S. federal income tax reform could adversely affect us.***

On December 22, 2017, the United States enacted new tax legislation, the “Tax Cuts and Jobs Act of 2017” (“U.S. Tax Reform”) which provides for substantial changes to the U.S. taxation of businesses and individuals. U.S. Tax Reform, among other things, significantly reduces the U.S. federal tax rate applicable to corporations, imposes significant additional limitations on the deductibility of interest, imposes a new base erosion anti-abuse tax (intended to prevent international groups from ‘earnings stripping’ through certain payments to non-U.S. affiliates), temporarily allows for the expensing of certain capital expenditures, and limits the deduction for net operating losses and net operating loss carryforwards (“U.S. NOLs”) to 80% of current year taxable income and eliminates net operating loss carrybacks, in each case, for losses arising in taxable years beginning after December 31, 2017 (though any such U.S. NOLs may be carried forward indefinitely).

We do not expect, for the time being, U.S. Tax Reform to have a material adverse impact on our projected cash taxes payable or on our net operating losses. However, since the legislation is new and unclear in many respects, we expect additional rules and regulations to be issued in the medium term. This could entail risks that cannot be fully assessed at this point in time. We continue to examine the impact U.S. Tax Reform may have on our business. For additional information on the impact of U.S. Tax Reform on the Group for 2017, see note 24 to our consolidated financial statements. The impact of U.S. Tax Reform on holders of our shares is uncertain and could be adverse. We urge investors to consult with their legal and tax advisors with respect to such legislation and the potential tax consequences of investing in our shares.

***Our ability to use U.S. NOLs to offset future income may be limited.***

We have generated significant U.S. NOLs. We generally are able to carry U.S. NOLs forward to reduce our tax liability in future years. Federal U.S. NOLs generated on or before December 31, 2017 can generally be carried back two years and carried forward for up to twenty years and can be applied to offset 100% of taxable income in such years. Under U.S. Tax Reform, however, federal U.S. NOLs incurred in 2018 and in future years may be carried forward indefinitely, but may not be carried back and the deductibility of such federal U.S. NOLs is limited to 80% of taxable income in such years. It is uncertain whether state and local laws governing the treatment of NOLs will follow the federal treatment under U.S. Tax Reform.

In addition, our ability to use existing U.S. NOLs generated is subject to the rules of Section 382 of the U.S. Internal Revenue Code of 1986, as amended (the “IRC”). This section generally restricts the use of U.S. NOLs for corporations that experience an “ownership change” as defined under Section 382 of the IRC. In general, an “ownership change” occurs if a corporation’s “5-percent shareholders,” as defined under Section 382 of the IRC, collectively increased their ownership in us by more than 50 percentage points over a rolling three-year period. CGG Holding (US) Inc. and its subsidiaries (the “Holding U.S. Group”) likely underwent a change of ownership on the effective date of CGG’s financial restructuring. A corporation that experiences an ownership change generally will be subject to an annual limitation on the use of its pre-ownership change U.S. NOLs equal to the equity value of the corporation immediately before the ownership change, multiplied by the long-term tax-exempt rate for the month in which the ownership change occurs, and increased by a certain portion of any “built-in-gains.”

The application of IRC Section 382 will be materially different from that described above if Holding U.S. Group is subject to special rules provided under IRC Section 382(l)(5) that apply to certain corporations who undergo an ownership change while under the jurisdiction of a bankruptcy court. Holding U.S. Group generally would qualify for these special rules if the historic holders of CGG common stock and certain holders of Holding U.S. Group’s debt, taken together, own equity interests representing at least 50% of the voting power and equity value of Holding U.S. Group following CGG’s financial restructuring. In that case, the Holding U.S. Group’s ability to use its pre-effective date U.S. NOLs would not be limited as described in the preceding paragraph. However, several other limitations would apply to the Holding U.S. Group under IRC Section 382(l)(5), including (a) the Holding U.S. Group’s U.S. NOLs would be calculated without taking into account deductions for interest paid or accrued in the portion of the current tax year ending on the effective date and all other tax years ending during the three-year period prior to the current tax year with respect to the debt securities that are exchanged pursuant to the financial restructuring, and (b) if the Holding U.S. Group undergoes another ownership change within two years after the effective date, the Holding U.S. Group’s Section 382 limitation following that ownership change will be zero. It is uncertain whether the provisions of Section 382(l)(5) are available and, if available, how they would apply to the Holding U.S. Group. If the Holding U.S. Group qualifies for the special rule under Section 382(l)(5), the use of the Holding U.S. Group’s U.S. NOLs will be subject to Section 382(l)(5) of the IRC unless the Holding U.S. Group affirmatively elects for the provisions not to apply. The Holding U.S. Group has not yet determined whether, if it qualifies for the special rules under Section 382(l)(5), it would be advantageous for Section 382(l)(5) to apply to the ownership change resulting from consummation of the financial restructuring, or whether the Holding U.S. Group will elect not to have the provisions of Section 382(l)(5) apply to the ownership change arising from the consummation of the financial restructuring.

If the Holding U.S. Group does not qualify for, or elects not to apply, the special rule under Section 382(l)(5) of the IRC described above, the provisions of IRC Section 382(l)(6) applicable to corporations under the jurisdiction of a bankruptcy court may apply in calculating the annual Section 382 limitation. Under this rule, the limitation will be calculated by reference to the lesser of the value of the Holding U.S. Group’s equity (with certain adjustments) immediately after the ownership change or the value of the Holding U.S. Group’s assets (determined without regard to liabilities) immediately before the ownership change. Although such calculation may increase the annual Section 382 limitation, the Holding U.S. Group’s use of any U.S. NOLs or other tax attributes, including tax credits, remaining after implementation of the financial restructuring may still be substantially limited after an ownership change.

## **Item 4: INFORMATION ON THE COMPANY**

### **Introduction**

We are a global participant in the geoscience industry, as a manufacturer of geophysical equipment, as a provider of marine, land and airborne data acquisition services, and as a provider of a wide range of other geoscience services, including data imaging, seismic data characterization, geoscience and petroleum engineering consulting services, and collecting, developing and licensing geological data. Our clients are principally in the oil and gas exploration and production industry.

We have more than 100 years of combined operating experience (through CGG, Veritas and Fugro Geoscience) and a recognized track record of technological leadership in the science of geophysics and geology. We believe we are well placed to capitalize on the growing importance of seismic and geoscience technologies to enhance the exploration and production performance of our broad base of clients, which includes independent, international and national oil companies.

CGG S.A. is the parent company of the Group. We are a *société anonyme* incorporated under the laws of the Republic of France and operating under the French Commercial Code. Our registered office is at Tour Maine Montparnasse, 33, avenue du Maine, 75015 Paris, France. Our telephone number is (33) 1 64 47 45 00.

### **Organization**

As of December, 31, 2017, CGG was organized in eight business lines, as follows:

- Equipment (which includes all the Sercel business entities or trademarks, such as Metrolog, GRC and De Regt);
- Marine Acquisition;
- Land Acquisition (including Land Electromagnetics and General Geophysics);
- Multi-Physics;
- Multi-Client and New Ventures (“MCNV”);
- Subsurface Imaging;
- GeoSoftware (including the software sales and development of Jason and Hampson-Russell); and
- GeoConsulting (including the consulting activities of Jason and Hampson-Russell combined with the consulting and geologic library business of Robertson, as well as data management services).

These activities are organized into three active segments for financial reporting purposes since September 1, 2015: (i) Equipment, (ii) Contractual Data Acquisition (which includes Marine Acquisition, Land Acquisition and Multi-Physics) and (iii) GGR (which includes MCNV, Subsurface Imaging, GeoSoftware and GeoConsulting). In addition, we have a fourth segment for financial reporting purposes, Non-Operated Resources, which comprises the costs of our non-operated marine resources as well as all the costs of our Transformation Plan (mainly restructuring provisions and provision for onerous contracts).

We believe that these eight business lines allow us to cover the spectrum from exploration to production, giving us more opportunities to create value for our shareholders, customers and partners.

Our six Corporate functions, at the Group level, ensure a global transverse approach and provide support across all activities: (i) the Finance Function, (ii) the Human Resources Function, (iii) the Global Operational Excellence/Internal Audit/Risk Management, Health, Safety and Environment & Sustainable Development



Function, (iv) the General Secretary, (v) the Geomarkets, Sales and Marketing Function and (vi) the Technology Function.

Our two Group Departments are, respectively, in charge of (i) Communication and (ii) Investor Relations.

### **Recent developments**

On February 21, 2018, we finalized the implementation of our Financial Restructuring Plan, which meets our objectives of strengthening our balance sheet and providing financial flexibility to continue investing in the future. This plan comprised (i) the equitization of nearly all of our unsecured debt, (ii) the extension of the maturities of our secured debt and (iii) the provision of additional liquidity to meet various business scenarios. For more detailed information, see “Item 4 — Information on the Company — History and development of the Company — Financial restructuring process” and note 2 to our consolidated financial statements.

### **Our Strategy**

We intend to continue to provide leading geological, geophysical and reservoir solutions and services to our broad base of customers primarily from the global oil and gas industry. Our goal is to capitalize on innovative opportunities resulting from the application of new technologies in every sector of the oil and gas business — from exploration to production and reservoir management — and from the worldwide presence of our three complementary business segments: Equipment, Contractual Data Acquisition, and GGR.

To achieve this objective, we have adopted the following strategies:

#### ***Rebalance our profile towards more profitable and less capital intensive businesses***

Our Contractual Data Acquisition businesses, which are cyclical, highly capital-intensive and have generated lower profitability in recent years, have been very significantly downsized with respect to marine operations. We position the Acquisition businesses more on the high-end of the market, where technological differentiation is a critical factor, in order to increase profitability. This also increases the relative weight of the Equipment and GGR segments’ contributions to Group results, which we believe will increase our overall profitability, reduce the volatility of our earnings and improve our cash generation.

The capacity of our Marine Data Acquisition business was reduced as our operated fleet decreased from eleven to five 3D mid/high capacity vessels at the end of the first quarter of 2016, which led to a further reduction in fixed costs and capital expenditure. We have mostly repositioned our fleet towards the production of multi-client studies that are sufficiently pre-funded (at above 70%), which means operating five 3D vessels for the next years. The marine seismic acquisition activity and its high-end broadband capabilities will therefore be mainly a high technological tool for the acquisition of multi-client high-quality data.

In the Land Acquisition business, we intend to focus and concentrate our presence on high-end niche markets, adopting a technology provider business model to the extent possible. In the Multi-Physics Acquisition business, our plan is to focus on higher-margin market segments. In both businesses, we intend to achieve the expected results under the implemented cost savings and restructuring plans.

#### ***Improve our operational efficiency, profitability and cash generation***

In line with what has been achieved over the last four years as a result of the performance plan that we launched at the end of 2013, we intend to continue our tight cost control, maintain a low level of general and administrative expenses and, more generally, reduce our fixed cost base. We expect notably to reduce our break-even point in line with the right-sizing of our Contractual Data Acquisition businesses and particularly our marine assets.



We will also continue to maintain a strong focus on operational performance and on cash generation through tight monitoring of working capital and capital expenditure.

***Focus on growth areas***

We intend to focus on developing our technological capabilities in emerging markets for geoscience-related services, including reservoir appraisal and production monitoring. We also believe that we have unique experience and expertise in very dense and productive seismic acquisition projects, such as high channel count land crews in the Middle East and full azimuth high resolution offshore surveys in the Gulf of Mexico, and have unique capabilities to partner with customers to develop customized solutions to address specific geophysical & geological challenges, as demonstrated by the recent development of our TopSeis acquisition technology. Furthermore, we believe our geographic footprint in various different geologies will allow us to respond to the growing demand for all kinds of seismic imaging and reservoir solutions.

We also intend to maintain our position in the onshore and offshore seismic multi-client markets by developing our multi-client data library. We believe that a strong position in this market segment enhances our global competitive position and may provide opportunities for continuing future sales. In developing our multi-client data library, we carefully select survey opportunities in order to maximize our return on investment. We also intend to apply the latest advances in depth imaging and wide azimuth technologies to a selected part of our existing library.

Given the growing importance of geophysics in reservoir characterization, and the strong reputation of Jason and Robertson, we intend to further develop the synergies between our leading network of 28 data processing centers. We pursue continuous innovation to allow for increased integration of data processing into reservoir studies, which will provide enhanced reservoir knowledge and allow for improved exploitation. This approach places us in a better position to meet the requirements of our clients with an extensive range of integrated solutions.

With the increasing use of wide-azimuth and high-resolution surveys and the growing demand for advanced imaging capabilities, we also intend to increase our processing capability in developing disciplines, such as reservoir description and monitoring, including wide-azimuth, multi-component and 4D studies. We also plan to continue promoting and developing our dedicated subsurface imaging centers within our clients' offices and developing our regional centers.

We plan as well to develop reservoir interpretative solutions, notably through our two business lines, GeoSoftware and GeoConsulting, within our GGR segment. GeoSoftware is the worldwide leader in advanced seismic reservoir characterization technology. It brings together CGG's commercial software, including Jason and Hampson-Russell, and the associated sales, marketing and product services, such as training, product support and product mentoring. GeoConsulting is a full-spectrum geological and geophysical consulting services organization. In addition to our seismic reservoir characterization services, GeoConsulting offers our unique line of Robertson geoscience consulting services and multi-client products, including a full range of geological, petroleum engineering and economic disciplines. It also contains NPA Satellite Mapping, a full range of data management services such as Diskos (Norwegian petroleum database), and the global training services relating to GeoConsulting.

We expect to extend cross-divisional strengths within our organization and to leverage our relationships with external partners. We signed a technology alliance with Halliburton to develop next-generation geoscience workflows and we set up a joint venture with Wood Mackenzie (EV<sup>2</sup>) to provide a value modelling tool for undiscovered reserves, both in 2015.

***Develop technological synergies for products and capitalize on new generation equipment***

We believe Sercel is the leading manufacturer of land, marine and subsea geophysical equipment. We plan to continue developing synergies among the technologies portfolio and to capitalize fully on our position as a

market leader. Through our research and development, we seek to improve existing products and maintain an active new product development program in all segments of the geophysical equipment market (land, marine and ocean-bottom).

### ***Develop and utilize innovative technology***

The significant technological developments in seismic services over the last decade have produced a marked change in the sector. The development of 4D and wide-azimuth techniques (providing time lapse views and enhanced illumination of the reservoir as well as improved image resolution) now allows operators to better locate and monitor reservoir performance. This possibility broadens the use of seismic techniques from pure exploration (early cycle) into a tool for reservoir development, management and production (late cycle).

Over the last few years, our Marine business line has developed a portfolio of broadband technologies: CGG's BroadSeis solution delivers the most detailed high-resolution subsurface images with the best low frequencies from a combination of advanced equipment, proprietary variable-depth streamer profiles and innovative deghosting and imaging technology. As a consequence of the unique, streamer configuration, BroadSeis is able to deliver the deepest tow in the industry, up to 50 meters. Combining this with the exceptional low-noise characteristics of Sentinel solid streamers delivers the lowest frequencies with the best signal to noise ratio available. BroadSource, our synchronized multi-level broadband source complements BroadSeis by removing the source ghost notch and extending the high frequencies so that over 6 octaves of data (2.5-200Hz) are recorded.

TopSeis is a next-generation marine towed-streamer acquisition solution, delivering a step-change in imaging for shallow to intermediate depth targets by providing massively increased near-offset coverage from a split spread with zero offsets. It is the latest addition to our broadband portfolio and is the most recent outcome from over eight years of technical collaboration between CGG and Lundin Norway AS.

We believe that demand for geophysical services will continue to be driven in part by the development of new technologies. The industry is increasingly demanding clearer seismic imaging and better visibility, particularly in complex geologies. We expect multi-azimuth, wide azimuth, multi-component (3C/4C) surveys and time-lapse (4D) surveys to become increasingly important for new production-related applications, particularly in the marine sector, and expect specialized recording equipment for difficult terrain to become more important in land seismic data acquisition, particularly in transition zones, shallow water and arctic areas. We believe that to remain competitive, geophysical services companies will need to combine advanced data acquisition technology with consistently improving processing capacity in order to further reduce delivery times for seismic services.

Our strategy is to continue our high level of investment in research and development to reinforce our technological leadership. We also intend to take advantage of our full range of integrated geoscience services to enhance our position as a market leader in:

- manufacturing of land, marine and subsea data acquisition equipment;
- innovative acquisition systems and services (Marine, Land, Airborne); and
- seismic imaging and reservoir services.

### ***Emphasize client service***

We believe it is important to operate in close proximity to our clients to develop a better understanding of their individual needs and to add measurable value to their business processes. We respond to these needs by creating new products or product enhancements that improve the quality of data and reduce the data delivery time to clients. We believe that our regional multi-client and dedicated data processing centers in our clients'

offices provide us with an advantage in identifying contract opportunities, optimizing service to clients and developing products responsive to new market demands, such as seismic techniques applied to reservoir management. We believe that we are well positioned to benefit from the industry trend towards increased outsourcing. This trend is leading oil and gas companies to place greater emphasis on relationships and service quality (including health, safety and protection of the environment) in their selection of third party service providers, including geophysical services providers.

#### ***Provide integrated services***

We are committed to providing clients with a full array of seismic data services, from acquisition and processing to data interpretation and management. We believe that integration of compatible technology and equipment increases the accuracy of data acquisition and processing, enhances the quality of our client service and thereby improves productivity in oil and gas exploration and production. Our clients increasingly seek integrated solutions to better evaluate known reserves and improve the ratio of recoverable hydrocarbons from producing fields. We are continuing to develop our ability to provide geoscience solutions through a combination of various exploration and production services, including reservoir characterization and interpretation of well information.

#### ***Develop well-positioned data libraries***

We strive to develop large contiguous multi-client libraries located in key basins leveraging the Group technology portfolio. Historically, our libraries have been focused in the Deepwater US Gulf of Mexico, pre-salt Brazil and the Central Graben of the UK North Sea. We look for opportunities to design new libraries in areas where we can apply geologically appropriate advanced technology to develop a large position, such as our recent entry in Norway's North Viking Graben. In the US Gulf of Mexico, our StagSeis multi-client coverage of more than 20,000 square kilometers, provides unrivalled full wide-azimuth and long offsets, designed to illuminate complex subsalt geologies. CGG's multi-client business is uniquely advantaged due to the advanced processing and reservoir analysis capabilities of our SIR business when designing new surveys. A prime example is our 38,000 square kilometers survey in the newly opened Deepwater Perdido area of Mexico, where we are using the latest SIR technology to reprocess recent vintage seismic data into a state of the art product. In keeping with our strategy to expand our current libraries, this product is a large seamless extension of our US Gulf of Mexico footprint. In Brazil, which is an area with high potential, we have a total of almost 16,000 square kilometers of newly acquired and imaged pre-salt coverage. We also enlarged our high-quality coverage across the Espirito Santo Basin (approximately 10,000 square kilometers), enhancing the industry understanding of exploration potential in this promising region with the committed lease rounds (2017, 2018 and 2019).

Onshore, our land library business offers excellent potential in North America, particularly in the new oil plays of West Texas (Permian and Delaware basins) and Oklahoma (SCOOP and STACK plays) where we have invested significantly during 2016. There is also significant customer interest in our recent large surveys aimed toward unconventional gas plays in the Haynesville (Louisiana) and the Marcellus (Pennsylvania) and we expect those to contribute to our revenue growth.

#### ***Develop reservoir applications***

While seismic data was historically used primarily by oil and gas companies for exploration purposes, it has become a recognized tool for field development and reservoir management. We are progressively extending our core business towards compiling and analyzing seismic data of existing reservoirs in response to this trend. Through high-resolution images and our expertise in 4D seismic and permanent monitoring, we aim to assist hydrocarbon producers in better characterizing and predicting the static properties and dynamic behavior of their reservoirs.

Following the acquisition of the Geoscience Division of Fugro, we are now organized in three operational segments, including the GGR segment, which is fully dedicated to the development of reservoir software, services and applications. Through GeoSoftware, we intend to further improve our products and services, provide our customers with a better understanding of their reservoirs and deliver unsurpassed expertise to optimize our customers' decision-making. Through GeoConsulting, we intend to further enhance our geological and geophysical multi-client products and reports, and expand our high-end consulting services across the exploration and production value chain.

## Industry conditions

2013 was a contrasting year with the first half of the year seeing growth in the oil services segment and, hence, the seismic sector, followed by a significant slowdown during the second half of the year, chiefly due to the majors deciding to cut investments in exploration and production projects to improve cash generation on a short-term basis. This trend should be considered in the global exploration and production context: projects were becoming increasingly costly due to their complexity; oil and gas prices remained relatively stable; and oil and gas companies were under constant pressure to maintain the expected level of dividends for their shareholders.

This situation escalated during 2014 with oil and gas companies pursuing their efforts to reduce costs in order to preserve their ability to maintain shareholder returns. Global exploration and production spending in 2014 was steady but fell by 10% in seismic.

During the second half of 2014, after Saudi Arabia decided to maintain its market share and let supply and demand set the market price, oil prices fell sharply and quickly. In the space of six months, the Brent oil price fell by 59% from US\$115 per barrel to US\$47 per barrel. This severe reduction had a large impact on the 2015 budgets that oil and gas companies were in the process of preparing, and consequently exploration and production spending for 2015 decreased by 23%, with a similar trend for seismic. In 2016, the fall in crude oil prices in the second half of 2015 led the oil companies to reduce by 23% exploration and production investments. Despite the increase in crude oil prices by 22% in 2017 (Brent oil average price of US\$54 per barrel in 2017), oil companies remain very cautious in their spending. Although these investments increased by 4% in 2017, driven by the 35% increase in North American spending, international spending decreased slightly by 3%. In 2018, an 8% increase is expected for global spending, with North American spending once again driving the global growth with an expected increase of 21% and international spending turning the corner with an expected increase of 4% after four years of decline (*Source: Barclays "Global 2018 E&P spending outlook" dated December 14, 2017*).

Longer term, we believe that the outlook for a fully integrated geoscience company is fundamentally positive for a number of reasons:

- First, oil and gas companies (including both international and national oil companies) and the large oil and gas consuming nations have perceived a growing and potentially lasting imbalance between reserves and future demand for hydrocarbons. A rapid rise in world consumption requirements, particularly in China and India, has resulted in a growth in demand for hydrocarbons that is expected to continue in the long term despite being slowed down in the short term. In response to this future growth, we expect oil and gas companies to restart their exploration and production investments in the future in order to improve existing reservoirs and regularly replace reserves.
- Client demand is changing as clients use geophysical data in new ways. The geological and geophysical challenges they face require new geoscience solutions. From the very early exploration phase to the optimization of existing reservoirs, and throughout the entire development and production cycle, the demand for improved understanding of complex subsurface structure is increasing. This requires higher technology content, higher resolution, better illumination, and overall better imaging. In such a market environment, the Group, with its assets, expertise, people and track record, is now firmly established on the three solid technological pillars represented by its Equipment, high-end Contractual

Data Acquisition and GGR business segments. We benefit from the unique scope of our geoscience activities, the unrivalled expertise of our imaging teams, our modern worldwide fleet of recently built, high-capacity vessels, the cutting-edge leadership of Sercel on the equipment market, and our strong commercial positions in key multi-client areas. We believe we are therefore well positioned to capitalize on our unique integrated portfolio and to meet our customers' needs for innovative products and services and for global solutions, as achieved recently with BroadSeis and StagSeis, with Sercel's 508<sup>XT</sup> land acquisition system and now with TopSeis unique marine acquisition solution.

- Each year, three to four million barrels of new oil per day have to be produced in order to offset the declining rates of the existing reserves. Gas and oil production from shale rocks, where seismic studies are used to enhance the yield, has developed remarkably well in North America, and may expand to other continents. We expect these fundamental trends to continue to drive increased demand for high-end seismic equipment and services in the medium-term. We believe that we are in a strong position to benefit from these long term trends.

### **History and development of the Company**

CGG was established on July 23, 1931 under the name 'Compagnie Générale de Géophysique', to develop and market geophysical techniques for appraising underground geological resources. Since that time, CGG gradually specialized in seismic techniques adapted to oil and gas exploration and production, while continuing to develop a broad range of other geophysical and geological activities. In 2007, CGG acquired Veritas DGC Inc. and was renamed "Compagnie Générale de Géophysique — Veritas". In 2013, CGG acquired Fugro's Geoscience Division and changed its name to "CGG". CGG is a *société anonyme* incorporated under the laws of the Republic of France and operating under the French Code de commerce, with a duration until 2030.

### ***Financial restructuring process***

#### *Financial difficulties relating to the unprecedented crisis affecting the oil and oil-services industries*

We have been severely hit by the unprecedented crisis impacting the oil and oil-services industries since 2013. Our business volume is dependent on the level of investments made by our customers in the field of exploration and production (oil and gas), which is directly impacted by the fluctuations in the price of a barrel of crude oil. The price of a barrel has continued to drop since 2013 to reach levels below those anticipated by analysts. Between 2014 and 2015, the price of Brent dropped by 45%. The market conditions remained difficult in 2016 and the first half of 2017, with no prospect of a short-term recovery. Our annual consolidated revenues in 2016 fell to a third of what was recorded in 2012.

Given this crisis, we began implementing the Transformation Plan starting in 2014. The implementation of this operational restructuring plan, which was completed at the end of 2017, resulted in, in particular, (i) the reshaping of the fleet of vessels operated by us, (ii) the repositioning of our business in high value-added market segments, such as the GGR or Equipment division, (iii) a reduction of our workforce by 50%, (iv) an enhanced cost control through rigorous cash management, which resulted in a reduction by close to 80% of our monthly marine costs and a reduction by close to 60% of overhead costs, and (v) a reduction of our annual investments by close to 60%. This operational restructuring plan was financed in part by the capital increase completed in February 2016 for a gross amount of approximately €350,000,000.

Despite these operational efforts, in a stagnant market that continued to weigh on business volume and prices, our debt level was no longer in line with our financial capacities. We announced at the beginning of 2017 that our financial performance would not enable us to generate sufficient cash flows to service our then-current level of debt in the years to come.

In this context, we began discussions with the various stakeholders in order to establish a financial restructuring plan and requested the appointment of a *mandataire ad hoc* to assist us in our negotiations. By a



court order dated February 27, 2017, SELARL FHB, acting through Ms. H el ene Bourbouloux, was appointed as *mandataire ad hoc* for a period of five months.

Discussions with the stakeholders resulting in the draft Safeguard Plan

Numerous meetings were held under the aegis of the *mandataire ad hoc* and in the presence of the main stakeholders, namely:

- the Company;
- representatives of several secured lenders under the Credit Facilities (the “Secured Lenders”) which formed an *ad hoc* committee directly or indirectly representing 52.7% of the total principal amount due under the Credit Facilities (including funds or assets managed by Goldman Sachs, Makuria, Och Ziff and T. Rowe Price (with T. Rowe Price having left the committee since then));
- representatives of a group of holders of Senior Notes which formed an *ad hoc* committee representing approximately 52.4% of the total principal amount of the Senior Notes (including funds managed by the companies Alden Global Capital, LLC, Attestor Capital LLP, Aurelius Capital Management, LP, Bousard & Gavaudan Asset Management, LP, Contrarian Capital Management, L.L.C. and Third Point LLC, respectively);
- one of the representatives of each series of the convertible bonds (*repr esentant de chacune des masses*); and
- on the one hand, the representatives of the then two largest shareholders of the Company, Bpifrance Participations and AMS  nergie, holding approximately at the time 9.4% and 8.3%, respectively, of the Company’s total share capital and approximately 10.8% and 8.1%, respectively, of the Company’s voting rights (by a letter dated August 31, 2017, AMS  nergie declared that it had since crossed below the threshold of 1% for both the share capital and voting rights), and on the other hand, DNCA Finance and DNCA Invest (together “DNCA”), our long-term institutional partners holding approximately 5.5% of the total principal amount of the Senior Notes, approximately 20.7% of the total principal amount of the convertible bonds, approximately 7.9% of the share capital and 7.7% of the voting rights of the Company.

Following long negotiations, on June 1, 2017, we, the *ad hoc* committee of the Secured Lenders, the *ad hoc* committee of the holders of Senior Notes and DNCA reached an agreement in principle regarding a financial restructuring plan. On June 13, 2017, the agreement in principle was confirmed by legally binding documents (the lock-up agreement and the restructuring support agreement) whereby the parties thereto committed to undertake any action reasonably required to implement and carry out the financial restructuring. The terms and conditions of the lock-up agreement were relatively customary and included, in particular, the requirement for the creditors to vote in favor of the Safeguard Plan and the Chapter 11 Plan (subject to receiving appropriate disclosure material), provide various waivers, enter into the required documentation to effect the financial restructuring and not to sell their debt holdings unless the transferee entered into the lock-up agreement or was already a signatory thereto. According to the restructuring support agreement entered into with DNCA Invest and certain entities managed by DNCA Finance (together, the “DNCA Entities”), as shareholders, the DNCA Entities committed to take, as shareholders, any step and action reasonably necessary to implement and carry out the financial restructuring, including voting in favor of the appropriate resolutions at the shareholders general meeting and not selling their holdings of the Company’s shares during the restructuring process.

In this context, we filed a petition with the Commercial Court of Paris to benefit from safeguard proceedings, which were opened by a ruling dated June 14, 2017. The Commercial Court of Paris appointed the former *mandataire ad hoc* as judicial administrator of CGG S.A. with the mission to supervise the debtor in its management and SELAFA MJA, acting through Ms. Lucile Jouve as creditors’ representative. JG Capital Management SAS, acting through its legal representative Mr. Gatty, was appointed as controller by a decision of the Paris supervisory court judge (*juge commissaire*) on September 14, 2017.

Because the Senior Notes were governed by the laws of the State of New York and the courts of such State had jurisdiction over any disputes relating thereto, we requested to benefit from the provisions of Chapter 15 of the United States Bankruptcy Code in order to have the effects of the safeguard proceedings recognized in the United States.

Accordingly, the application to have the safeguard proceedings recognized through Chapter 15 proceedings was filed with the U.S. Bankruptcy Court for the Southern District of New York on June 14, 2017 and the related order was obtained on July 13, 2017.

In addition, 14 foreign subsidiaries of the Group that are debtors or guarantors under our financial debt (namely CGG Holding BV, CGG Marine BV, CGG Holding I (UK) Ltd, CGG Holding II (UK) Ltd, CGG Holding (U.S.) Inc., CGG Services (U.S.) Inc., Alitheia Resources Inc., Viking Maritime Inc., CGG Land (U.S.) Inc., Sercel Inc., Sercel-GRC Corp, CGG Marine Resources Norge AS, CGG Canada Services Ltd. and Sercel Canada Ltd.) voluntarily applied for and obtained on June 14, 2017 the opening of reorganization proceedings under the Chapter 11 of the United States Bankruptcy Code in the U.S. Bankruptcy Court for the Southern District of New York.

As part of these judicial proceedings, the holders of claims under the Credit Facilities, Senior Notes and convertible bonds (whose principal aggregate amount amounted to approximately US\$2.8 billion) were not allowed to accelerated their claims, which provided protection for us to carry out our operational activities while leaving the stakeholders a limited timeframe to approve a financial restructuring plan.

The draft Safeguard Plan was approved on July 28, 2017 by the committee of banks and financial institutions, and by the general meeting of holders of Senior Notes. In addition, the different classes of affected creditors in the context of the Chapter 11 proceedings voted in favor of the Chapter 11 Plan, which was confirmed by the U.S. Bankruptcy Court for the Southern District of New York by an order dated October 16, 2017. The works council of the Company, which was also consulted with respect to the draft Safeguard Plan, rendered a favorable opinion during its meeting held on October 2, 2017.

In order to implement the draft restructuring plan, the necessary resolutions were approved by the Company's general meeting of shareholders on November 13, 2017. The draft Safeguard Plan was then approved by a judgment of the Commercial Court of Paris on December 1, 2017. Lastly, the judgment of the Commercial Court of Paris relating to the Safeguard Plan was recognized and made enforceable in the United States under the Chapter 15 proceeding on December 21, 2017. The implementation of the Financial Restructuring Plan was finalized on February 21, 2018.

#### *Description of the Safeguard Plan*

The Safeguard Plan was aimed at restructuring our financial debt while complying with its main industrial goals, namely:

- preserving our integrity;
- giving us leeway to (i) pursue our technological and business development and (ii) face the uncertainties in the oil market; and
- maintaining and developing in France an internationally recognized center of excellence in the seismic and geoscience fields.



The Safeguard Plan was based on the following main characteristics:

(a) Substantial reduction of our financial indebtedness level

This reduction was carried out by way of equitization, under the following conditions, of the principal amounts and accrued but unpaid interest as of February 2, 2018 (being the last day of the subscription period of the Rights Issue (as defined below)), in respect of:

- (i) the Senior Notes, which were reduced by an amount of US\$86 million (which, at the holders' election, either was repaid by way of set-off at their face value as part of the subscription for the second lien notes (without Warrants #3) or will be repaid in cash over a ten-year period subject to certain terms. The equitization of the remaining claims under the Senior Notes was carried out through a share capital increase with removal of the shareholders' preferential subscription right in favor of the holders of Senior Notes at a subscription price of €3.12 per new share. The capital increase was subscribed for by way of set-off at their face value against the amount of the claims under the Senior Notes (the "Senior Note Equitization"), which were converted into euros in accordance with the Safeguard Plan at the exchange rate of US\$1.1206 per euro.
- (ii) the convertible bonds, which were reduced by an amount of approximately €4.46 million (the euro equivalent of US\$5 million converted in accordance with the Safeguard Plan at the exchange rate of US\$1.1206 per euro), which was paid in cash on February 21, 2018. The equitization of the remaining claims under the convertible bonds was carried out via a share capital increase with removal of the shareholders' preferential right in favor of the holders of convertible bonds at a subscription price of €10.26 per new share. The subscription to the share capital increase was carried out by way of set off at their face value against the claims under convertible bonds (the "Convertible Bond Equitization").

(b) New money injection up to a maximum amount of approximately US\$500 million

The parties agreed to inject new money of approximately US\$500 million on the basis of a negative outlook for 2018 and 2019, relying in particular on a less favorable assumption for the oil price stabilizing at US\$50-55 per barrel, and a lower level of increase in the exploration expenses. Such new money injection was carried out by way of (i) the Rights Issue, and (ii) the issuance of the new money portion of the second lien notes, as follows:

- (i) The Safeguard Plan provided for a share capital increase with preferential subscription right in an amount of up to approximately €112 million (including share premium) (corresponding to approximately US\$125 million on the basis of the exchange rate provided for in the Safeguard Plan of US\$1.1206 per euro), by way of an issue of shares of the Company, each with a share warrant attached (the "Rights Issue") at a subscription price of €1.56 for each new share with a share warrant attached. Three of these share warrants (the "Warrants #2") give the right to subscribe to two new shares at a subscription price of €4.02 per new share for a five-year period as from February 21, 2018. The Rights Issue had cash backstop commitments from the DNCA Entities for approximately €71.39 million (including the share premium) (euro equivalent of US\$80 million converted using the exchange rate provided in the Safeguard Plan of US\$1.1206 per euro) and additional backstop commitments by the holders of Senior Notes by way of set-off against part of their claims under the Senior Notes (which would have been triggered only if the backstop commitments by the DNCA Entities had not been sufficient to ensure the full subscription of the Rights Issue). These backstop commitments were not called, as the total subscription demand amounted to €132.5 million (€20.3 million higher than the target amount) with a subscription rate of 118.06%.
- (ii) The Safeguard Plan provided for new money of up to US\$375 million, subscribed pursuant to a private placement agreement dated June 26, 2017, by way of the issuance by the Company of new high yield notes governed by New York-law, benefitting from second-ranking security interests, bearing interest at a rate including a variable component indexed on the LIBOR (for the tranche

denominated in US dollars) and EURIBOR (for the tranche denominated in euros), in each case, with a floor of 1%, plus a margin of 4.0% per annum, and payment-in-kind interest (“PIK interest”) of 8.5% per annum (such notes, the “second lien notes” and such issuance, the “New Notes Issuance”). The second lien note were issued together with share warrants (the “Warrants #3”) which are exercisable within a six-month period from February 21, 2018 and give the right to subscribe, at a subscription price of €0.01 per new share, for new shares representing in the aggregate 16% of the share capital of the Company, after dilution resulting from the issuance of shares as part of the Senior Note Equitization, the Convertible Bond Equitization, the Rights Issue, the exercise of all of the Backstop Warrants (as defined below), Coordination Warrants (as defined below) and Warrants #3, but prior to the exercise of the Warrants #1 (as defined below) and Warrants #2. Certain eligible holders of Senior Notes undertook to subscribe for the New Notes Issuance, in accordance with the terms of the private placement agreement. These subscribers received a subscription commitment fee equal to 7% of the total amount of the New Notes Issuance they subscribed. The New Notes Issuance was backstopped by the members of the ad hoc committee of the holders of Senior Notes (or their transferees, subject to certain conditions), who received: (x) a backstop commitment fee equal to 3% of the total amount of the New Notes Issuance (such fee having been paid by way of set-off against the subscription price of the second lien notes), and (y) share warrants with a six-month exercise period as from February 21, 2018 giving the right to subscribe, at a subscription price of €0.01 per new share, for new shares representing 1.5% of the share capital of the Company, after dilution resulting from the issuance of shares as part of the Senior Note Equitization, the Convertible Bond Equitization, the Rights Issue, the exercise of all of the Backstop Warrants (as defined below), Coordination Warrants (as defined below) and Warrants #3 but prior to the exercise of the Warrants #1 (as defined below) and Warrants #2 (the “Backstop Warrants”). As a result, on February 21, 2018, the Company issued US\$355.1 million and €80.4 million in principal amounts of second lien notes (comprising US\$275 million and €80.4 million as new money and US\$80.2 million in exchange for part of the accrued interest claims under the Senior Notes, with the US dollar-denominated second lien notes issued as new money notes and the second lien notes issued in exchange for the accrued interest claims under the Senior Notes being fungible).

(c) Free allocation of share warrants to the shareholders and certain holders of Senior Notes

The Safeguard Plan also provided for the following:

- (i) the issuance and free allocation by the Company of share warrants in favor of the historical shareholders of the Company, with a four-year exercise period from February 21, 2018, with one such share warrant being allocated to each existing share and three of such share warrants giving the right to subscribe for four new shares of the Company at a subscription price of €3.12 per new share (the “Warrants #1”).
- (ii) the issuance and free allocation by the Company of share warrants in favor of the members of the *ad hoc* committee of the holders of Senior Notes with a six-month exercise period from February 21, 2018, giving the right to subscribe, at a subscription price of €0.01 per new share, for new shares representing 1% of the share capital of the Company, after dilution resulting from the issuance of shares as part of the Senior Note Equitization, the Convertible Bond Equitization, the Rights Issue, the exercise of all of the Backstop Warrants, Coordination Warrants (as defined below) and Warrants #3 but prior to the exercise of the Warrants #1 and Warrants #2 (the “Coordination Warrants”).

(d) Significant extension of the maturity of the secured debt by way of an exchange

This extension of the maturity of our secured debt allows us not to be under any repayment obligation until 2023. It was carried out by way of a cancellation of the principal amount of the claims under the Credit Facilities, reduced by the US\$150 million initial cash repayment from the net proceeds of the Rights Issue and the New Notes Issuance, in exchange for the first lien notes. As a result, on

February 21, 2018, CGG Holding (U.S.) Inc. issued US\$663.6 million in principal amount of first lien notes, bearing floating rate interest at LIBOR (with a floor of 1%) plus 6.5% per annum in cash, and 2.05% per annum PIK interest in exchange for the remaining claims under Credit Facilities, reduced by the cash payment of US\$150 million. The Company may, at any time prior to May 21, 2018, redeem these first lien notes, in whole but not in part, at 100% of their principal amount and then until August 21, 2018 at 103% of their principal amount. Beyond this date and until February 21, 2021, the Company will have the option to redeem these first lien notes in whole or in part at a redemption price of 103% of the principal amount thereof plus an applicable premium until February 21, 2021.

The new money raised as part of the Rights Issue and the New Notes Issuance (net of backstop and commitment fees and other fees related to the Rights Issue and the New Notes Issuance) was and will be used as follows:

- first, and up to an amount of US\$250 million (calculated using the exchange rate provided for in the Safeguard Plan of US\$1.1206 per euro), for the financing of our corporate and financial needs (including (i) the payment of the accrued and unpaid interests as of February 2, 2018 under the convertible bonds not equitized as part of the Convertible Bonds Equitization for an amount of approximately €4.46 million (calculated using the exchange rate provided for in the Safeguard Plan of US\$1.1206 per euro) and (ii) the payment of costs and fees in connection with the financial restructuring, other than backstop costs and fees and other fees related to the Rights Issue and the New Notes Issuance);
- second, to make the US\$150 million initial cash repayment to the Secured Lenders on a *pro rata* basis; and
- the remainder being kept by us to face (i) our financial needs (including the payment of fees and costs in connection with the financial restructuring other than the subscription and backstop fees and costs) and (ii) any delay in our redeployment.

The Chapter 11 Plan has the same characteristics as that set out above and applicable to the Safeguard Plan for the concerned creditors, namely the creditors under the Credit Facilities and the Senior Notes.

#### Undertakings of the Company and certain of its creditors in the framework of the safeguard proceedings

##### (i) Undertakings of the Company

Bpifrance Participations (which held, as of December 31, 2017, 9.35% of the share capital and 10.90% of the voting rights of the Company) voted in favor of the resolutions required to implement the Financial Restructuring Plan at the general meeting of shareholders held on November 13, 2017 on second convening, in light of the undertakings made by the Company, upon authorization from its board of directors, in a letter dated October 16, 2017 sent to the supervising judge of the Paris Commercial Court (*juge commissaire*) and the judicial administrator (*administrateur judiciaire*). Pursuant to such letter, the Company:

- undertook to refrain from any form of disposal of its significant assets until December 31, 2019, pursuant to article L. 626-14 of the French Commercial Code, as such disposals are not provided for by its three-year business plan (the “Business Plan”); consequently, should such disposals appear necessary due to the evolution of market conditions that would impede implementation of the Business Plan, the Company would have to request the prior authorization of the Commercial Court of Paris;
- confirmed that the Business Plan does not provide for any form of disposal of significant assets held in France or abroad, including by its direct or indirect subsidiaries; should the disposal of such significant assets be foreseen and likely to result in a substantial change to the means or goals of the draft Safeguard Plan, the Company would have to request the prior authorization from the Commercial Court of Paris, pursuant to article L.626-26 of the French Commercial Code; the Company will keep the necessary flexibility to take an active part, as the case may be, in the potential consolidation or other form of evolution that may occur in the seismic acquisition market;

- confirmed that pursuant to the draft Safeguard Plan and in light of the underlying market assumptions of its Business Plan, no social or industrial restructuring is contemplated in France, and that the Transformation Plan, which implementation was completed by the end of 2016, had already led to the reduction of the Group’s workforce by half compared to the end of 2013; more precisely, unless otherwise authorized by the Commercial Court of Paris, the Company undertook to refrain from any redundancy plan in France until December 31, 2019 and to maintain, and to do what is necessary for the French law subsidiaries it controls within the meaning of article L.233-3 of the French Commercial Code to maintain the decision centers currently located in France, including the Company’s registered office, until December 31, 2022; and
- undertook (i) not to take any measure to oppose the governance undertakings made by the Signatory Creditors (as defined below), it being specified however, that the Company assumes no responsibility, and the Safeguard Plan will not be at risk of being terminated pursuant to articles L.626-25 and L.626-27 of the French Commercial Code in the event one or more third parties separate from the Signatory Creditors were to hold a sufficient number of voting rights to impose a composition of the board of directors of the Company that would differ from the one provided for under these undertakings, and (ii) to have Bpifrance Participations participate in the discussions that will take place notably with the Signatory Creditors with respect to the new composition of the Company’s board of directors, in accordance with the provisions of the lock-up agreement referred to above.

The trustees in charge of overseeing the implementation of the plan (*commissaires à l’exécution du plan*), appointed by the Commercial Court of Paris, will issue a yearly report on the compliance with the undertakings that the Company makes under the Safeguard Plan and this letter, which have been acknowledged by the Commercial Court of Paris in its judgment approving the Safeguard Plan; any breach may potentially lead to the termination of the Safeguard Plan, in accordance with applicable laws and regulations. In accordance with article L. 626-26 of the French Code de commerce, any substantial change in the goals or the means of the Safeguard Plan can only be decided by the Court, further to a report by the *commissaires à l’exécution du plan*.

(ii) Undertakings of certain Senior Notes holders creditors

Each of (i) Attestor Capital LLP, (ii) Boussard & Gavaudan Asset Management LP, and (iii) DNCA Finance, Oralie Patrimoine and DNCA Invest SICAV (each, a “Signatory Creditor”) agreed to give the following undertakings on October 16, 2017, upon a request from the *Direction Générale des Entreprises*, which have been acknowledged by the Commercial Court of Paris in its judgment approving the Safeguard Plan on December 1, 2017:

- to have Bpifrance Participations involved in the discussions that will be notably held with each of the Signatory Creditors regarding the Company’s board of directors’ new composition, in accordance with the provisions of the lock-up agreement referred to above;
- to vote, during the first ordinary shareholders’ meeting of the Company that will occur after the closing of the financial restructuring, in favor of the designation as director of candidates which will have been agreed between the Company’s current board of directors and the relevant Signatory Creditor in the context of the above referred process;
- neither the relevant Signatory Creditor nor its affiliates or related persons will be represented on the Company’s board of directors unless such Signatory Creditor or the funds, entities or accounts managed or advised directly or indirectly by it or its affiliates (i) hold together 10% or more of the Company’s share capital or (ii) demonstrate the existence of fiduciary duties (including the duties of the relevant funds’ management companies to manage the money entrusted to them by investors in the best interest of such investors);
- to vote in favor of any draft resolutions and, if necessary and subject to holding a sufficient shareholding in compliance with article L. 225-105 of the French Commercial Code, to submit any draft resolutions to the shareholders’ meeting in order to maintain the Company’s board of directors

composed of 60% of independent directors and that such composition of the board continues to reflect, in accordance with the current situation, the diversity of geographical origins of the members of the board of directors, while complying with the Company's registered office location;

- to vote in favor of any draft resolutions and, if necessary and subject to holding a sufficient shareholding in compliance with article L. 225-105 of the French Commercial Code, to submit any draft resolutions to the shareholders' meeting in order to ensure that the Company's articles of association provide that any chief executive officer (*directeur général*) succeeding, as the case may be, the current chief executive officer (*directeur général*), will have his main place of residence located in France.

The abovementioned undertakings of each of the Signatory Creditors became effective when all the transactions for the implementation of the Safeguard Plan were completed (with the exception of the first undertaking, which took effect as from countersignature of the letter by the Signatory Creditors). The undertakings will remain valid until December 31, 2019, subject to the corresponding Signatory Creditor remaining a shareholder of the Company, it being specified that no undertaking to keep shares of the Company has been entered into.

The trustees in charge of overseeing the implementation of the plan (*commissaires à l'exécution du plan*) appointed by the Commercial Court of Paris, will issue a yearly report on the compliance with the undertakings that the Signatory Creditors make under the abovementioned letters; any breach potentially leading to the termination of the Safeguard Plan, in accordance with applicable laws and regulations.

Each of the Signatory Creditors also declared that it does not act in concert with any other Signatory Creditor, with Bpifrance Participations, or with any other third party.

## Business overview

The following is an overview of the business activities of our Equipment, Contractual Data Acquisition and GGR business segments. Our views regarding the state of the market in 2017 and the outlook for 2018 are "forward-looking statements," based upon information available to us on the date of this annual report and are subject to risks and uncertainties that may change at any time.

### Operating Revenues Data

#### Revenues by Activity

The following table sets forth our consolidated operating revenues by activity in millions of dollars, and the percentage of total consolidated operating revenues represented thereby, for the periods indicated:

	<u>2017</u>	<u>2016</u>	<u>2015</u>
	MUS\$	MUS\$	MUS\$
Marine Contractual Data Acquisition .....	186	133	439
Land and Multi-Physics Acquisition .....	102	105	177
<b>Contractual Data Acquisition segment revenues</b> .....	<b>288</b>	<b>238</b>	<b>616</b>
Multi-client Data .....	469	383	546
Subsurface Imaging and Reservoir .....	351	401	562
<b>Geology, Geophysics &amp; Reservoir segment revenues</b> .....	<b>820</b>	<b>784</b>	<b>1,108</b>
<b>Equipment segment revenues</b> .....	<b>241</b>	<b>255</b>	<b>437</b>
Eliminated revenues and others .....	(29)	(81)	(60)
<b>Total operating revenues</b> .....	<b><u>1,320</u></b>	<b><u>1,196</u></b>	<b><u>2,101</u></b>



*Revenues by Region (by location of customers)*

The following table sets forth our consolidated operating revenues by region in millions of dollars, and the percentage of total consolidated operating revenues represented thereby, for the periods indicated:

	2017		2016		2015	
	MUS\$	%	MUS\$	%	MUS\$	%
North America . . . . .	353	27%	357	30%	528	25%
Central and South Americas . . . . .	331	25%	170	14%	233	11%
Europe, Africa and Middle East . . . . .	424	32%	482	40%	876	42%
Asia Pacific . . . . .	212	16%	187	16%	464	22%
<b>Total operating revenues . . . . .</b>	<b>1,320</b>	<b>100%</b>	<b>1,196</b>	<b>100%</b>	<b>2,101</b>	<b>100%</b>

The Group’s clients can be broadly categorized as national oil companies, international oil companies (the “Majors”) and independent companies. In 2017, our top two clients represented respectively 10.4% and 8.6% of consolidated revenues, respectively.

During 2017, our French subsidiary CGG Services SAS, generated revenues equivalent to US\$31 thousand from software training provided to employees of an Iranian entity involved in the petroleum industry, and our French subsidiary Sercel SAS generated revenues equivalent to US\$36 thousand from repair and maintenance work on gauges for Iranian entities involved in the petroleum industry. We do not believe that any net profit is attributable to these activities. These subsidiaries may continue carrying out these activities in the future.

Figures relating to the geophysical market and to the competitive positioning of the Group’s Equipment, Contractual Data Acquisition and GGR segments or the activities of these segments provided in this section have been derived from internal Group data.

**Contractual Data Acquisition**

Our Contractual Data Acquisition activity encompasses our geophysical acquisition services offering, including land, marine, airborne and seabed, being operated either directly or through joint ventures. Our worldwide crews operate in all environments. In land and marine environments, they use the latest geophysical equipment manufactured by Sercel.

Total revenues of the “Contractual Data Acquisition” segment amounted to US\$288 million in 2017.

***Marine Data Acquisition Business Line***

*Overview*

Using the fleet described below, CGG provides a complete range of marine seismic 2D and 3D services, focusing on the Gulf of Mexico, the North Sea, West Africa and Brazil, as well as the Asia Pacific region. CGG also delivers marine seismic contract data acquisition in “frontier” areas.

*Activity description*

Marine seismic surveys are conducted through the deployment of submersible cables (streamers) and acoustic sources (airguns) from specialized vessels. These streamers are up to 12 kilometers long and carry hydrophone groups normally spaced 12.5 meters apart along the length of the streamer. The recording capacity of a vessel is dependent upon the number of streamers she tows and the number of acoustic sources she carries, as well as the configuration of her data recording system. By increasing the number of streamers and acoustic sources used, a vessel can perform surveys more rapidly and efficiently and acquire higher resolution data.

The commercial business model of this business line consists of working on an exclusive contractual basis with the client. The contract generally stipulates that we shall be paid according to a fixed rate, such as a daily fee or a fee per square kilometer acquired. The contract may protect us against operational elements beyond our control, such as bad weather or interference from other activities carried out in the oil field. The client owns the acquired data and pays us on the agreed basis. Our operating income from this activity is the difference between the cost to us and the final price of the survey.

## *Group's fleet of seismic vessels*

### *Fleet ownership changes*

In April 2017, we entered into agreements with Eidesvik Shipping AS (“Eidesvik”), the lenders under our Nordic credit facility and the lenders under the credit facilities of Eidesvik Seismic Vessels AS (“ESV”) and Oceanic Seismic Vessels AS (“OSV”), in order to change the ownership structure of our marine fleet and restructure the related financial obligations under the Nordic credit facility related thereto (the “Marine Fleet Restructuring”). Under the new arrangements, GSS, a company organized under the laws of Norway and 50% owned by us (through our subsidiary, Exploration Investment Resources II AS) and 50% owned by Eidesvik, holds (i) CGG Geo Vessels AS (renamed Geo Vessels AS), our former wholly-owned subsidiary, which owns the five previously cold-stacked vessels (*Geo Coral* (having been re-rigged), *Geo Caribbean*, *Geo Celtic*, *CGG Alizé* and *Oceanic Challenger*), and (ii) ESV and OSV (in which we previously held direct 49% stakes), which respectively own the *Oceanic Vega* and *Oceanic Sirius* (together, the “X-bow Vessels”). GSS is not a subsidiary of CGG.

As part of the Marine Fleet Restructuring, the charter agreements for the X-bow Vessels were amended to, among other things, reduce the charter day-rate to a rate in line with the prevailing market rate in exchange for an extension of the charter agreements and certain payment obligations to ESV and OSV, which we settled through the Marine Fleet Restructuring. Through our subsidiary, CGG Services SAS, we continue to charter the X-bow Vessels from ESV and OSV, respectively, under the amended charter agreements. The obligations of CGG Services SAS under the amended charter agreements are subject to parent guarantees provided by CGG S.A. in favor of ESV and OSV.

The Marine Fleet Restructuring has also allowed us to complete the termination of the charter relating to the vessel *Viking Vanquish*, which had been cold-stacked, in exchange for a cash payment of a settlement amount to Eidesvik.

In addition, through CGG Services SAS, we also entered into an umbrella agreement with Geo Vessels AS to further reduce our charter costs, mainly through the re-profiling of the reimbursement schedule of the debt related to the vessels, together with an extension of the vessel employment commitments to ten years through charters of a duration of no more than 12 months. We provided a parent guarantee in respect of the obligations of CGG Services SAS (and any of our subsidiaries which enters into a charter under the umbrella agreement) under such umbrella agreement and bareboat charters thereunder. Under the umbrella agreement, we have begun to charter the *Geo Coral* from April 20, 2017. Furthermore, once the charters of the other vessels that we operate expire, we will charter the *Geo Caribbean* and the *Geo Celtic* from Geo Vessels AS.

In connection with the Marine Fleet Restructuring, Geo Vessels AS continues to be the borrower of the loan outstanding under our Nordic credit facility. The removal of Geo Vessels AS from our consolidated perimeter resulted in a reduction of the gross debt of the Group by US\$182.5 million, corresponding to the principal amount of loans under the Nordic credit facility outstanding as of March 31, 2017. We expect that the Marine Fleet Restructuring will further improve our competitiveness through the reduction of the charter day-rate for the X-bow Vessels and the 3D high-capacity seismic vessels and increase our cost-savings due to the reduction of charter liabilities of certain non-operated vessels and the externalization of cold-stacking costs, thus improving our liquidity in the short- and medium-term.

### *Proactive management of vessel charter costs*

In addition to the Marine Fleet Restructuring, on January 20, 2017, we issued US\$58.6 million in aggregate principal amount of our 6.50% Senior Notes due 2021 to the relevant charter counterparties to reduce the cash burden of the charter agreements in respect of three cold-stacked seismic vessels, namely the *Pacific Finder*, the *Oceanic Phoenix*, and the *Viking Vanquish*. On March 13, 2017, we also issued US\$12.1 million in aggregate principal amount of our 6.50% Senior Notes due 2021 to the relevant charter counterparty to reduce the cash burden of the charter agreement in respect of the *Oceanic Champion*, an active seismic vessel.



#### Status of the operated fleet as of December 31, 2017

On December 31, 2017, our operated fleet consisted of five 3D high-capacity seismic vessels (12 or more streamers), down from eight vessels at the end of 2015 as a result of our fleet reduction plan. This capacity is to a large extent dedicated to Multi-Client production.

All 3D high capacity vessels are equipped with Sentinel solid streamers, which provide several advantages over other industry streamers, such as acquiring surveys in tougher sea conditions, improving the frequency content and improving signal-to-noise ratio of the recorded data, and minimizing environmental impacts. All our vessels can deploy our broadband marine solutions, which combine industry-leading equipment, unique variable depth streamer acquisition techniques and proprietary deghosting and imaging technology. 100% of our fleet is also capable of deploying BroadSource, which, combined with BroadSeis, provides the ultimate in broadbandwidth, ghost-free seismic data, achieving a bandwidth of 2-200 Hz. QuietSea, the most advanced passive acoustic monitoring (PAM) system designed to detect the presence of marine mammals during seismic operations, which enables superior performance in minimizing environmental impact, is installed on four vessels.

In connection with the fleet downsizing plans initiated in 2014 and our adaptation to market conditions, which remain extremely difficult, the following measures were taken during the year 2017:

- The *Pacific Finder*, which halted operations in April 2016, was re-delivered to its owner in March 2017;
- The *Geo Caspian* halted operations as a seismic vessel in March 2017 and was re-delivered thereafter;
- The *Geo Coral* was re-introduced on April 1, 2017, as per the plan to keep the fleet at five seismic vessels.

#### *Maritime management of the operated fleet*

On December 31, 2017, the maritime management of the seismic fleet operated by the Group (*Oceanic Sirius*, *Oceanic Vega*, *Oceanic Endeavour*, *Oceanic Champion*, and *Geo Coral*) was managed by our joint venture ship managers CGG Eidesvik Ship Management AS.

Bourbon Offshore operates six support and chase vessels (ancillary services including refueling, food and equipment delivery, crew change, storage, assistance and support during in-sea maintenance operations, protection of streamers from interactions with third party vessels and fishing devices), designed specifically for CGG, chartered individually for a minimum period of five years since their initial progressive deployment between 2013 and 2014.

#### *Ownership status of the fleet*

At December 31, 2017, we owned the *Geowave Voyager* and 50% shares in GSS which directly holds 100% of the shares of the companies that own the *Oceanic Sirius*, *Oceanic Vega*, *Geo Coral*, *Geo Caribbean*, *Geo Celtic*, *CGG Alizé* and the *Oceanic Challenger*.

The following table provides certain information concerning the seismic vessels operated by CGG or cold stacked as of December 31, 2017.

<u>Vessel name</u>	<u>Year built</u>	<u>Year upgraded</u>	<u>Year joined fleet</u>	<u>Time charter / Bareboat expiry</u>	<u>Extension options<sup>(a)</sup></u>	<u>2D/3D</u>	<u>Maximum no. of streamers<sup>(b)</sup></u>	<u>Vessel length (m)</u>
<b><u>Operated vessels</u></b>								
<i>Oceanic Champion</i> . . . . .	1994	2012	2009	June 2020	n.a. 1 year and then	3D	14	107
<i>Oceanic Endeavour</i> . . . . .	2007	2011	2009	April 2018 <sup>(c)</sup>	2 × 5 years <sup>(c)</sup>	3D	16	92
<i>Oceanic Vega</i> . . . . .	2010	n.a.	2010	March 2027	4 × 5 years	3D	20	106
<i>Oceanic Sirius</i> . . . . .	2011	n.a.	2011	March 2027	4 × 5 years	3D	20	106
<i>Geo Coral</i> . . . . .	2010	n.a.	2013	March 2018 <sup>(c)</sup>	n.a. <sup>(d)</sup>	3D	16	108
<b><u>Stacked vessels</u></b>								
<i>Geowave Voyager</i> . . . . .	2005	2009	2009	Owned	n.a.	3D	12	83
<i>Oceanic Phoenix</i> . . . . .	2000	2011	2009	March 2019	10 × 1 year	3D	14	101
<i>Viking Vanquish</i> . . . . .	1999	2007	2007	November 2020	n.a.	3D	12	93

<sup>(a)</sup> In years.

<sup>(b)</sup> Equal to number of tow points.

<sup>(c)</sup> An addendum no. 2 to the bareboat charter was signed on December 21, 2017 in order to allow for the extension of the charter duration until December 31, 2018, at a reduced rate of US\$25,000 per day from April 11, 2018, with the possibility of early termination any time after such date with 30-day's notice and without penalties.

<sup>(d)</sup> Within the framework agreement in the joint venture with Eidesvik, we committed to charter a certain number of vessel months per year until March 2027. The chartered vessels, the first being the *Geo Coral*, are contracted on the basis of a one-year, renewable, bareboat agreement. The *Geo Coral* charter will be automatically extended by one year on April 1, 2018 and the *Geo Caribbean* will be chartered for one year on the same date.

As of December 31, 2017, the following vessels were either fully owned or hired under bareboat charter:

- The *Oceanic Sirius*, the *Oceanic Vega* and the *Geo Coral* were chartered bareboat by GSS or one of its subsidiaries;
- The *Oceanic Champion* was chartered bareboat from Oceanic Champion AS;
- The *Oceanic Endeavour* was chartered bareboat from Volstad Maritime DIS II AS;
- The *Viking Vanquish* was chartered bareboat from Eidesvik MPSV AS;
- The *Oceanic Phoenix* was chartered bareboat from Master and Commander AS; and
- The *Geowave Voyager* was owned by Exploration Vessel Resources II AS.

#### *Competition and market*

Five companies (CGG, PGS, WesternGeco, Polarcus & Shearwater) comprised around 70% of the 3D marine market at the end of 2017. During early 2018, Schlumberger (WesternGeco) announced that it would be exiting the seismic vessel market and was evaluating options for divesting its acquisition business within an undetermined time frame. With still roughly 10 good cold stacked vessels which can quickly return to service, vessel supply is expected to remain elastic, which should limit a price rebound.

The contraction in demand in the marine seismic acquisition market observed since 2014 continued in 2017 as a result of persisting low oil prices and the budget constraints of oil and gas companies. The imbalance

between supply and demand continued in 2017, despite the continued process of stacking, temporarily or permanently, and derigging of seismic vessels by most of the players. The low price levels observed in 2015 and 2016 were sustained throughout 2017. The low fleet activity rates similarly continued in 2017, particularly in the fourth quarter where competitor utilization dipped below 50% in some cases. We were able to outperform this trend with an industry leading 93% utilization rate for the full year 2017 for our 3D fleet.

Total revenues of the Marine Contractual Data Acquisition business line amounted to US\$186 million in 2017, representing 65% of the total production of the “Contractual Data Acquisition” segment.

52% of our 3D fleet’s utilization was dedicated to exclusive marine acquisition contracts and 48% was dedicated to acquiring multi-client surveys.

#### *2018 outlook*

The Industrial Transformation Plan was completed in 2017 with the Marine business line reorganized and size-adjusted for the current market environment.

We will continue to focus on cost reduction initiatives and operational efficiency in 2018 with a view to delivering the best possible results irrespective of the prevailing market conditions.

### ***Land Data Acquisition and Multi-Physics Business Lines***

#### *Overview*

Land Data Acquisition is principally focused on the acquisition and onsite processing of seismic data acquired on land areas. We are one of the main land seismic acquisition contractors operating worldwide, especially in desert areas, and particularly in areas requiring specific technologies, Health, Safety and Environment (“HSE”) excellence, highly qualified personnel and operational expertise. Our operations in high-resolution crews market in North Africa and the Middle East are good examples of our positioning. We now intend to reinforce on technological differentiation.

Multi-Physics acquisition operates globally and is principally focused on the acquisition, processing and interpretation of airborne geophysical data on land or offshore, and on providing marine gravity and magnetic acquisition services onboard seismic vessels or independently, as well as the processing of such data. Multi-Physics also provides advanced modeling, interpretation and commercial software services for potential fields and electromagnetics geophysical data and licenses data from a gravity and magnetics multi-client data library. We are one of the largest airborne acquisition contractors, operating worldwide and offering a diverse portfolio of airborne geophysical technologies, with particular emphasis and expertise in electromagnetics and gravity. In 2017, our activities were conducted out of operational centers located in Canada, the United States, Brazil, Italy and Australia, and are based on a foundation of HSE excellence.

In 2017, apart from operations in partnership, we operated on average two to three active land crews performing 3D and 2D seismic surveys (on exclusive contract surveys). Our Multi-Physics business line fleet was gradually reduced from 16 to 10 airplanes over the course of the year as we continued to sell some non-core aircraft.

#### *Activity description*

##### *Land Data Acquisition*

Land operations employ both surveying and recording crews. Surveying crews lay out the lines to be recorded and mark the sites for shot-hole placement or recording equipment location (except for “stakeless”

operations where the source locations are indicated through integrated GPS capabilities rather than on location by field personnel). Recording crews produce acoustic impulses and record the seismic signals via geophones or hydrophones. The acoustic sources used are mainly vibrators onshore, and explosives and air guns in transition areas. On a land survey where explosives are used as the acoustic source, the recording crew is supported by several drill crews. Drill crews operate ahead of the recording crew and bore shallow holes for explosive charges which, when detonated by the recording crew, produce the necessary acoustic impulse.

Land seismic crews are equipped with advanced equipment and software used for each step of the acquisition process. Also, patented high-end vibroseis technologies seek to increase significantly the productivity of a crew. EmphaSeis and CleanSweep seek to enhance the resolution of the data through broadening and cleaning the frequency content of the signal emitted.

By combining specific acquisition geometries and processing technologies as well as on-site processing software for acquired data, we have a unique capability to offer fully integrated solutions, improving both data quality and turn-around time, thus accelerating the exploration cycle.

Operations in the Middle East are conducted in partnership with the Saudi company TAQA through the Argas joint venture.

Seabed acquisitions are operated through Seabed JV which is owned 60% by Fugro and 40% by us.

### *Multi-Physics*

Multi-Physics encompasses four segments of activity and provides services worldwide:

- Airborne activity encompasses the collection, processing and interpretation of data related to the earth's surface and the soils and rocks beneath, and provides advice based on the results to clients in the mineral, oil and gas, geothermal, governmental, engineering and environmental management sectors. We acquire electromagnetic, magnetic, radiometric and gravity data using fixed-wing airplanes and helicopter platforms. The airplanes we operate have been modified with integrated geophysical measurement systems incorporating elements of internal design and manufacture. Helicopter projects are supported using subcontracted or chartered helicopters, as the geophysical instrument systems designed for use on helicopters can be installed without significant modifications to the aircraft.
- Marine activity encompasses the acquisition and data processing of marine gravity and magnetic data in conjunction with seismic surveys or on a stand-alone basis.
- Imaging activity involves the development and licensing of leading commercial software packages for potential fields and electromagnetic modelling and inversion, as well as interpretation services provided on data collected directly by Multi-Physics or from other sources.
- Multi-client activity involves the licensing of data from an owned library of gravity and magnetics data covering many areas of interest for oil & gas and minerals exploration.

These services are offered on a global basis. Efficient global deployment of our aviation resources is facilitated by operational units and aviation management facilities in both Canada and Australia, with the management responsibility and the majority of operational resources located in the two main logistics hubs in Toronto and Perth.

In Multi-Physics, we operate under two business models:

- The first business model consists of working on an exclusive contractual basis with the client. The contract usually stipulates that we will receive a fixed remuneration per acquired linear kilometer, on client specifications. The client owns the acquired data and pays us on the agreed basis. Our operating income is the difference between the cost to us and the final price of the survey.

- The second business model consists of operating under a multi-client model, with multiple clients prefunding the acquisition. In this case, the surveying and recording activities are performed by the Acquisition business line as an internal service for the MCNV business line, which among other things develops and sells a library of geophysical surveys. We remain the owner of the data thus acquired.

### *Competition and market*

The land acquisition market is fragmented and extremely competitive with the presence of both international and local players. In addition to CGG, the other significant service providers in the land seismic market worldwide are BGP, Sinopec, Geokinetics, WesternGeco, SAE and Argas (our joint venture with TAQA in the Middle East), and in the seabed acquisition market are Seabed Geosolutions BV, Fairfield and Magseis.

In this market, we believe that technology, quality of the crews, services provided and prices are the main differentiators, while the relationship with local suppliers and the expertise of personnel in complex areas are additional advantages. Our offerings are based on a technology and geographical focus with high-end activities often operated through local partnerships. We have developed a unique expertise in the Middle-Eastern and North African deserts. In a context of degraded oil prices, those regions still hold the best potential for growth, driven by the demand for high-end seismic and high-channel count crews. In 2017, we successfully developed a lighter product offering offer based on Sercel wireless technology particularly well suited for small 2D and 3D volumes in constrained environments, such as urban areas or areas otherwise difficult to access.

The airborne acquisition market is fragmented and extremely competitive with the presence of a handful of international players, as well as many smaller and regionally focused competitors. In general, primarily due to technical specialization, most competitors have their primary focus and activity in either the mining, oil and gas, or government sectors, but not in all.

We believe we are the only market player with a strong position in all major market sectors and geographic regions. The diversified market sector and geographic region presence lessens the impact of the historically significant fluctuations in airborne market activity by sector and region.

In the mining and oil and gas sectors, technology, service capability and prices are the main differentiators. For governmental sector work, price and capacity are the main differentiators on projects which are typically large in size and require commoditized technologies.

In 2017, land activities may be described by the following main elements:

- In North Africa, the prudence of the operators in Tunisia, and program delays combined with fierce competition in Algeria did not allow us to reproduce the levels of activity in the region of the past years;
- In the Middle East, certain national oil companies remained in waiting mode and continued their policy of delaying high channel count crews, whereas Saudi Aramco maintained a strong level of activity in Saudi Arabia; a fair level of activity was nevertheless maintained in Egypt where we introduced the first high resolution crew using unconstrained blended acquisition;
- In Europe, we launched our return through Italy followed by France with one light wireless crew; and
- In South East Asia, activity in Papua New Guinea started again with a high added value crew throughout the year. Otherwise, we successfully completed a 2D acquisition contract in Vietnam, with our local partner.

Activities for Multi-Physics in the mining sector remained at low levels for most of 2017, due to low levels of overall expenditure on exploration by both junior and major mining companies. However, increases in exploration budgets by major mining companies led to an increase in airborne activity towards the latter part of

2017, a trend which is expected to continue into 2018. The oil and gas sector provided a weak level of airborne activity in direct relation with reduced exploration caused by continued low oil prices and uncertainty in the market. Governmental sector activities for airborne provided only minor contributions in 2017.

The field of acquisition and data processing of marine gravity and magnetics continued to be affected by the overall reduction of the worldwide fleet of seismic vessels and remained at low levels of activity.

Total Land Data Acquisition and Multi-Physics production (both contract and multi-client surveys) accounted for US\$102 million in 2017, representing 35% of “Contractual Data Acquisition” operating revenues.

#### *2018 outlook*

Our land acquisition services still occupy a good position geographically (North and sub-Saharan Africa and niche markets in Southeast Asia) and technologically (high-end market). Our strategy in land acquisition remains focused on differentiation and operational excellence rather than market share. We intend to further reinforce this strategic focus on differentiation and existing partnerships in 2018, while also continuing our diversification outside of the oil & gas segment in a market which will nevertheless remain very competitive.

In multi-physics, we remain geographically and technologically well placed, and should benefit from our strong presence in the mining, oil and gas and government sectors to seize any opportunity. Mining sector activity levels are expected to continue on an improvement trend and we expect to leverage our technological capabilities to differentiate ourselves from our competitors and exploit differentiation opportunities offered by fixed-wing and helicopter electromagnetic measurement systems. Airborne activities in the oil and gas sector are expected to be stable and primarily focused on areas of onshore frontier exploration. Our ability to offer both low and high-resolution gravity measurement system technologies will allow us to present a range of options on projects, allowing clients to determine the most cost effective technique appropriate for the geological model in their exploration play.

### **Geology, Geophysics & Reservoir (“GGR”)**

#### *Overview*

With its worldwide footprint, our GGR segment engages in many activities assisting our clients in identifying their exploration targets and characterizing their reservoirs. Among these are: developing and licensing multi-client seismic surveys; processing seismic data; selling seismic data processing and reservoir characterization software (primarily under the *geovation*, Hampson-Russell and Jason brands); providing geoscience and petroleum engineering consulting services; collecting, developing and licensing geological data (under the Robertson brand) and providing data management services and software to our clients.

With its extensive scope of competencies, our GGR segment is the cornerstone of the integrated geoscience services that we offer to our clients.

#### *General description of activities*

##### *Multi-Client and New Ventures (“MCNV”)*

The MCNV business line utilizes the resources of our other business lines as well as those of sub-contractors to acquire and process seismic data for itself and license that data to our clients. Additionally MCNV may contribute or otherwise use its multi-client data in certain ventures with third parties (the “new ventures” in the business line name) in order to achieve enhanced returns. Such new ventures may take different forms, provided that they will not expose us to any drilling or other typical oilfield operation risk.

The multi-client licenses are for lengthy terms, the maximum allowable under local law, typically ranging from 5 to 25 years. The licenses are non-transferable, and the data may not be shared with partners who do not



own a license. Oil company partnerships of various forms are a common arrangement, especially in difficult and expensive exploration plays. The business model works well in venues where there is one or more of the following: significant levels of competition between oil companies exploring for assets; frequent lease turnover due to government lease rounds or lease trading activity between oil companies; frequent partnering between oil companies; and relatively high costs for seismic data.

The costs of the multi-client surveys are capitalized on MCNV's balance sheet and then amortized. Until the end of 2015, amortization was, generally, at a rate of 80% of revenue, subject to a maximum five or seven year straight-line depreciation. The depreciation method was adjusted in 2016 due to the requirements of the amendment of IAS 38, but the essential process was unchanged. Details of our multi-client accounting methods are fully described in note 1 to our consolidated financial statements included in this report. In 2017, MCNV capitalized US\$281 million of total costs, of which US\$251 million represented cash expenditures, and amortized US\$298 million to cost of sales, including US\$23 million of impairment charges.

MCNV operates in marine environments on a worldwide basis and on land in the United States. It has significant investments in the Gulf of Mexico, offshore Brazil, the North Sea and onshore United States. Maps and details of all surveys in our data library are available on our website. At the end of 2017, the library of 3D seismic surveys consisted of approximately 978,000 square kilometers of marine surveys across numerous basins and 76,000 square kilometers of land data, mostly in the United States. During the fourth quarter of 2015, MCNV sold its Canadian land data and exited that market.

#### *Subsurface Imaging and Reservoir ("SIR")*

Through its SIR activity, CGG transforms marine and land seismic data acquired in the field into high quality images of the subsurface that can then be used by our clients in their efforts to find and produce oil and gas. These images provide a means to understand the structure of the subsurface as well as deduce various qualities of the rocks and fluids in those structures. We process seismic data acquired by our land and marine seismic acquisition crews as well as seismic data acquired by non-affiliated third parties. In addition, we reprocess the previously processed data using new techniques to improve the quality of seismic images.

We conduct our seismic imaging operations out of 4 large international centers located in Houston (USA), Crawley (England), Massy (France) and Singapore, and 15 regional centers spread around the world. In addition to this network of open centers, serving all clients, we operate 9 centers each dedicated to serving a single specific client. This geographic spread of centers allows for a great amount of collaboration with our clients as we jointly seek to produce the best subsurface images.

In addition to subsurface imaging, we offer geophysical consulting services. Using seismic data in conjunction with other information such as well logs, we are able to determine various rock and fluid properties and thereby assist our clients in characterizing their oil and gas reservoirs.

In addition to geophysical data, the Group, under the Robertson brand, develops and maintains large libraries of various types of geological data covering most geographic areas of interest to petroleum and mining companies. We license this data to clients, who generally use it in the early stages of their exploration efforts, often as a precursor to seismic exploration. Our geologists and other geo-professionals also engage in many types of proprietary studies for clients.

CGG also sells seismic data processing software, under the *geovation* brand and sells software for reservoir characterization, interpretation, and modeling under the Hampson-Russell, Jason, Insight Earth and Velpro brands, allowing clients to produce reservoir studies.

Finally, CGG is engaged in the business of providing data storage & retrieval solutions, and data transformation services to oil companies and oil oriented government agencies under the Smart Data Solutions brand. The explosion in volume of data of all types and the need to re-format large volumes of old data for use in current applications make this activity an interesting area for future growth.

CGG operates in those geographic and technical areas where its specific offerings can deliver significant value to customers. Based on customer feedback and industry surveys, we believe that our SIR activity is regarded as the technical leader in markets where it participates.

### *Competition and market*

MCNV's main competition comes from Schlumberger (WesternGeco), PGS and TGS. Competition in the multi-client business is focused on location and availability of surveys, technology used in acquisition and processing, and price. The four main companies generally compete in all areas of the world where the multi-client business model is practical.

The SIR sector is led by CGG and WesternGeco. Competition in the high end of seismic imaging, where SIR focuses its business, tends to be based on technology and service level, areas where we have an outstanding reputation.

Processing capacity has multiplied in recent years as a result of improvements in computing technology. This increase in computing power has allowed improved processing quality through the use of more complex and accurate algorithms. We believe SIR is the market leader in application of the most advanced processing techniques.

SIR occupies a strong position in the relatively narrow market of seismic reservoir characterization software (Hampson-Russell, Jason and Insight Earth). The overall seismic and geological interpretation software market is dominated by Schlumberger and Halliburton, with numerous small players competing with niche applications. Many of these, including SIR's, are designed to be compatible with the Schlumberger and Halliburton systems.

GGR revenues in 2017 amounted to US\$820 million, an increase of 5% compared to 2016. GGR revenues represented 62% of the consolidated revenues in 2017. MCNV generated US\$469 million of this revenue (a 22% increase compared to 2016) and SIR generated US\$351 million (a 13% decrease compared to 2016).

MCNV invested US\$251 million in seismic data libraries in 2017, with a cash prefunding rate of 107%. After sales revenue, revenue from completed surveys, was US\$200 million in 2017. The net book value of the seismic multi-client library was US\$831 million at the end of the year.

### *2018 outlook*

Increasing oil and gas prices have significantly improved the profitability and cash flow within GGR's customer base, which should lead to an improved market for GGR. However, most large clients are publicly stating that they will maintain tight spending discipline and will structure their companies to prosper at commodity prices lower than today's prices. Nonetheless, GGR's major customers are actively engaged in exploration in basins where they can access large reservoirs under reasonable commercial terms, a trend which we believe will continue. Particular areas meeting these criteria are the deepwater areas of Mexico and the pre-salt areas offshore Brazil, where GGR is particularly well positioned with advanced multi-client data sets. We believe GGR will also continue to see high demand for our products and services in Norway and we will see a resurgence of demand in the UK sector of the North Sea.

Many customers are focusing their exploration and production budgets on increasing production from current installations, and GGR benefits from services and imaging projects, given our leading ocean bottom nodes processing capability, as well as large multi-client projects over mature areas. Our clients also invest heavily in their land operations in the United States where our contributions are more modest, but GGR has established, and is continuing to invest in, a significant data library position in the popular onshore unconventional plays in the United States.

Our top line strategy for the GGR activities in 2018 continues to be:

- Maintain our investment in new MCNV surveys, at an acceptable level of pre-funding;
- Continue to invest in research and development and people to maintain our lead in high end imaging and advance our software offering;
- Expand our reservoir and geological operations through increased multi-client / subscription product investment and the geographic expansion of certain technologies; and
- Gain more value from integrated offerings.

## **Equipment Business Line**

### *Overview*

We conduct our equipment development and production operations through Sercel and its subsidiaries. We believe Sercel is the market leader in the development and production of seismic equipment in the land and marine seismic markets. Sercel makes most of its sales to purchasers other than CGG. As of December 31, 2017, Sercel operated six seismic equipment manufacturing facilities, located in Nantes and Saint Gaudens in France, Houston and Tulsa in the US, Krimpen aan de Lek in The Netherlands and Singapore. In China, Sercel operates through Hebei Sercel-JunFeng Geophysical Prospecting Equipment Co. Ltd. (“Sercel-JunFeng”), based in Hebei, in which Sercel has a 51% equity stake. In addition, two sites in Toulouse and Brest (France) are dedicated to borehole gauges and submarine acoustic instrumentation, respectively.

### *General description of activities*

Sercel sells its equipment and offers customer support services including training on a worldwide basis. Sercel offers a complete range of geophysical equipment for land or marine seismic data acquisition, including seismic recording equipment, software and seismic sources either for land (vibrators) or marine (air guns). Sercel also supplies its clients with integrated solutions.

With respect to land acquisition equipment, Sercel launched, in the fall of 2013, the latest generation of its recording system, the 508<sup>XT</sup> system, which introduces a new paradigm in land seismic acquisition by offering high count channels crews the ability to record up to one million channels in real time, resulting in a new level of image resolution. First deliveries for this new system occurred during 2014 and in January 2016 the system achieved the one million VPs (Vibrated Points) on a high density survey with a high channel count. The 508<sup>XT</sup> is the first member of Sercel’s new generation of state-of-the-art land seismic acquisition systems designed to drive crew productivity, operating flexibility and data quality to a new level.

The 508<sup>XT</sup> has an adaptive architecture and the option of mixing different communication media (cable, radio, and fiber-optic) to form a true network allowing the user to define data routing and hence avoid obstacles in the field.

Sercel also introduced, along with its new acquisition system, QuietSeis, a new, high-performance digital sensor based on next-generation MicroElectroMechanicalSystems (MEMS), allowing seismic signals to be recorded with three times less instrument noise than before.

The 508<sup>XT</sup> architecture combines the best of both cabled and wireless technologies. In June 2017, Sercel announced the launch of a new node, the WTU-508, which is fully integrated into the existing 508<sup>XT</sup> platform. This new product offers even greater flexibility for all types of survey operations, such as complex small-scale urban surveys or high-productivity mega-crews. The WTU-508 also features Sercel’s new XT-Pathfinder transmission management technology, which provides quality control information to the land seismic recorder wirelessly and without the need for any additional infrastructure.

Sercel is also a market leader for vibroseismic vehicles used as seismic source in land and for vibrator electronic systems VE 464. Sercel's latest vibrator family, called Nomad, offers high reliability and unique ergonomic features. Nomad is available with either normal tires or a tracked drive system. The track drive system allows Nomad vibrators to operate in terrain not accessible to vehicles with tires. In sand dunes or arctic conditions, this can improve crew productivity. The Nomad was designed to optimize reliability and maintenance in order to allow an intensive use on the field. As of December 31, 2017, more than 1,160 Nomad 65 were delivered since its market introduction. Sercel also offers the Nomad 90 which is capable of exerting a peak force of 90,000 pounds and is believed to represent the heaviest vibrator on the market. The Neo version of the Nomad 65 and 90 allows the generation of a wider range of seismic wave frequencies and is therefore a facilitator for broadband seismic land surveys and adds new functionalities that improve productivity and reliability. In June 2014, Sercel also launched the Nomad 15, a small and highly maneuverable version of a vibrator.

In addition to recording systems and vibrators, Sercel develops and produces a complete range of geophysical equipment for seismic data acquisition and other ancillary geophysical products such as geophones, cables and connectors. The acquisition of a 51% stake in Sercel-JunFeng, based in China, in 2004, reinforced our manufacturing capabilities for geophone, cables and connectors, as well as our presence on the Chinese seismic market. Sercel also offers the SG5 geophone featuring a low natural frequency.

In the down-hole domain, Sercel offers its latest generation VSP tool, MaxiWave, which has received positive reviews from clients. The Geowave II, launched in 2015, is the first digital multilevel borehole tool specifically designed for high temperature, high pressure wells. Sercel built on its diversification into the well environment and more specifically the artificial lift in acquiring Geophysical Research Corporation in January 2012.

With respect to marine equipment, the Seal system is currently the sole system with integrated electronics. In 2005, Sercel launched the Sentinel solid streamer that is the outcome of the technological synergies realized in acquisitions performed in recent years. The Sentinel cables have become a standard in the accessible market. The Sentinel RD is another generation of the Sentinel solid streamer which offers a reduced diameter and lower weight.

In June 2013, Sercel introduced the Sentinel MS, a Sentinel with multi-sensors together with two additional acceleration components, providing directive measurement for both cross line and vertical wave front. This streamer technology delivers multi-sensors data sets for enhanced broadband imaging.

On April 4, 2017, Sercel has further enhanced its cables offer with the Sentinel HR, the new high-resolution solid streamer designed to meet the specific imaging needs of shallow-target applications, such as oceanology, civil engineering and reservoir characterization, as well as high-resolution 3D (HR3D) seismic surveys for detailed mapping of geological features. The latest member of the Sentinel streamer family has been developed with a close channel separation of 3.125 meter to achieve reliable and cost-effective high-resolution surveys.

The marine range of products has been further improved with the SeaProNav, a navigation software allowing the real-time positioning of streamers, the Nautilus, a totally integrated system for positioning seismic streamers and QuietSea, a passive acoustic monitoring system for detecting the presence of marine mammals during marine seismic surveys.

The SeaRay is an ocean bottom cable offered under several configurations for depth of 100 to 500 meters. This cable is based on the 428 family acquisition systems technology and allows multi-components recording owing to its DSU 3 components. In October 2015, Sercel launched the GeoTag product, an acoustic solution for seabed seismic acquisition up to 500 meters depth.

As a result of many acquisitions since 2000, Sercel is a market leader in the development and production of both marine and land geophysical equipment. It is a global provider for the seismic acquisition industry with a

balanced industrial position in terms of both product range and geographical presence on the shores of the Atlantic and in Asia Pacific. Sercel also relies on strategic partnerships to move beyond the oil exploration markets. To that end, an alliance was formed at the end of June 2017 with EFI Automotive, a French company that has created Axandus (a startup accelerator), in order to setup a similar entity within Sercel's premises in the western part of France. Its aim is to assist startups in their industrialization process in the fields of mechatronics and connected devices. Axandus' clients benefit from access to the panel of skills and resources of Sercel in business development, design, prototyping, design to cost, industrialization, manufacturing and international supply chain.

Sercel has also, on November 2017, entered into a partnership with UK-headquartered Fotech Solutions to jointly develop a future borehole seismic solution combining electronics and distributed acoustic sensing (DAS) technology. Within the partnership, Fotech Solutions will contribute DAS measurement solutions and Sercel will contribute downhole seismic tools & software for subsurface seismic operations. This combination of expertise will lead to revolutionary new technology developments for both the borehole seismic exploration and microseismic monitoring markets.

### *Competition and market*

We estimate that the worldwide demand for geophysical equipment has stabilized in 2017 after a decrease of 41% in 2016. This low level of activity is due to a weakness of demand for land seismic equipment with the absence of new high-channel count megacrews operating in the Middle East and to the collapse of the marine demand due to the reduction of the global seismic fleet. We estimate that Sercel's market share remains above 50%.

Our main competitors for the manufacture of marine seismic equipment are Ion Geophysical Inc., Teledyne and WesternGeco, which now offers its streamers for sale to third parties. For land products, the main competitors are Inova (a joint venture between BGP and Ion Geophysical Inc.), Geospace Technologies Corporation, Wireless Seismic and WesternGeco. The market for seismic survey equipment is highly competitive and is characterized by continual and rapid technological change. We believe that technology is the principal basis for competition in this market, as oil and gas companies have increasingly demanded new equipment for activities such as reservoir management and data acquisition in difficult terrain. Oil and gas companies have also become more demanding with regard to the quality of data acquired. Other competitive factors include price and customers' support services.

The total production of the Equipment business line (Sercel), including internal and external revenues, amounted to US\$241 million, a 5% decrease compared to 2016.

Sercel external revenue amounted to US\$215 million, an increase of 20% compared to 2016, and representing 16% of our consolidated revenue in 2017.

### *2018 outlook*

In 2018, we expect that Sercel's revenue should improve compared to 2017 with a rebound of land activity worldwide in a more stabilized oil context than in 2017 and due to the need for new equipment after years of under investment. Sercel should also benefit from the sales of the 508<sup>XT</sup> advanced technology compared to aging systems. Geographically, pockets of new opportunities are emerging in India and Algeria, beyond our traditional markets (Russia, China and Middle East).

The marine market should moderately decrease as no major order will be coming from CGG and Sercel's clients are facing financing difficulties. Marine contractors continue to face a difficult market, restricting their ability to invest in new equipment. However their current fleets are aging and their excess of equipment generated by the stacking of vessels is shrinking.

In this market environment, and notably considering its important installed base, Sercel estimates that, for 2018, it should maintain its leading position in the seismic equipment market by capitalizing on growth opportunities resulting from the strength of its current product range, the application of new technologies in all of its products as well as from its diversified geographical presence.

### Seasonality

We have historically experienced higher levels of activity in our equipment manufacturing operations in the fourth quarter as our clients seek to fully deploy annual budgeted capital. The same happens in our multi-client activity with oil and gas companies that seek to fully deploy their exploration budget in the last quarter of the year.

### Intellectual property

We continually seek the most effective and appropriate protection for our products, processes and software and, as a general rule, will file for patent, copyright or other statutory protection whenever possible. Our patents, trademarks, service marks, copyrights, licenses and technical information collectively represent a material asset to our business. However, no single patent, trademark, copyright, license or piece of technical information is of material importance to our business when taken as a whole. These patents last up to 20 years, depending upon the date filed and the duration of protection granted by each country.

### Competition

Most contracts are obtained through a competitive bidding process, which is standard for the industry in which we operate. Important factors in awarding contracts include service quality, technological capacity, performance, reputation, experience of personnel, customer relations and long-standing relationships, as well as price. While no single company competes with us in all of our segments, we are subject to intense competition with respect to each of our segments. We compete with large, international companies as well as smaller, local companies. In addition, we compete with major service providers and government-sponsored enterprises and affiliates. See “— Business Overview” for a discussion of the competitive factors in each of our business segments.

### Organizational structure

CGG S.A. is the parent company of the Group. Its principal subsidiaries are as follows:

<u>Subsidiary</u>	<u>Jurisdiction of Organization</u>	<u>Head office</u>	<u>% of interest</u>
Sercel SAS	France	Carquefou, France	100.0
CGG Services SAS	France	Massy, France	100.0
CGG Holding B.V.	Netherlands	The Hague, the Netherlands	100.0
Exploration Investment Resources II	Norway	Oslo, Norway	100.0
CGG Services (Norway) AS	Norway	Oslo, Norway	100.0
Sercel Inc.	United States	Oklahoma, USA	100.0
CGG Holding (U.S.) Inc.	United States	Delaware, USA	100.0
CGG Services (U.S.) Inc.	United States	Delaware, USA	100.0
CGG Mexico, SA de CV	Mexico	Mexico City, Mexico	100.0
CGG do Brasil Participações Ltda.	Brazil	Rio de Janeiro, Brazil	100.0
CGG Services (UK) Ltd	UK	Crawley, UK	100.0



## Property, plant & equipment

The following table sets forth certain information relating to the principal properties of the Group as of December 31, 2017:

<u>Location</u>	<u>Type of facilities</u>	<u>Size (sq.m.)</u>	<u>Owned/ Leased</u>	<u>Lease expiration date</u>
France, Paris	Headquarters of CGG S.A.	1,655	Leased	2021
<b>Geophysical Services (Contractual Data Acquisition and GGR Segments)</b>				
Australia, Perth	Registered office of CGG Services (Australia) Pty Ltd and Data processing center	2,200	Leased	2024
Australia, Jandokot Airport, Perth	Warehouse	6,276	Leased	2019
Brazil, Rio de Janeiro	Registered office of CGG do Brazil Participações LTDA and Data processing center	1,522	Leased	2021
Canada, Calgary	Registered office of Hampson Russell Ltd Partnership and Data processing center	8,701	Leased	2018
China, Beijing	Registered office of CGG Services Technology (Beijing) Co, Ltd and Research and development center	1,470	Leased	2020
England, Redhill	Administrative offices and Operations computer hub	1,884	Leased	2029
England, Crawley	Registered office (Crompton Way) of CGG Services (UK) Ltd. and Data processing center	7,432	Leased	2028
France, Massy	Registered office of CGG Services SAS and Data processing center	17,850	Leased	2020
India, Mumbai	Registered office of CGG Services India Pvt Ltd and Data processing center	1,675	Leased	2018
Indonesia, Jakarta	Registered office of PT Veritas Mega Pratama and Data processing center	678	Leased	2020
Malaysia, Kuala Lumpur, Kuching	Registered office of CGG Services (Malaysia) Sdn Bhd and Data processing center	1,755	Leased	2020
Mexico, Villahermosa	Data processing center and offices	1,788	Leased	2018
Mexico, Mexico City	Registered office of CGG de Mexico SA de CV	142	Leased	2018
Netherlands, La Hague	Offices	1,580	Leased	2019
North Wales, Anglesey	Data management Solutions	4,362	Owned	N/A
North Wales, Llanrhos	Offices and laboratories	2,800	Leased	2030
North Wales, Conwy	Offices/storage facility	2,829	Owned	N/A
Norway, Oslo	Registered office of CGG Services (Norway) AS, Wavefield Inseis AS, CGG Marine Resources Norge AS, Exploration Vessel Resources II AS, Exploration Investment Resources II AS	5,200	Leased	2024

<u>Location</u>	<u>Type of facilities</u>	<u>Size (sq.m.)</u>	<u>Owned/ Leased</u>	<u>Lease expiration date</u>
Russia, Moscow . . . . .	Registered office of CGG Vostok and Data processing center	1,600	Leased	2018
Scotland, Aberdeenshire . . . . .	Birchmoss offices	3,065	Leased	2018
Singapore . . . . .	Registered office of CGG Services (Singapore) Pte. Ltd. and Data Processing Center	9,782	Leased	2019
Singapore . . . . .	Logistic Marine Warehouse	2,605	Leased	2018
Switzerland, Geneva . . . . .	Registered office of CGG International	606	Leased	2022
Thailand, Bangkok, . . . . .	Offices of CGG Services SAS (branch)	82	Leased	2019
USA, Houston, Texas . . . . .	Principal executive offices of CGG Services (U.S.) Inc. and data processing center	39,569	Leased	2024
USA, Schulenburg . . . . .	Warehouse	28,230	Owned	N/A
<b>Equipment Segment</b>				
China, Xu Shui . . . . .	Manufacturing and research and development facilities	59,247	Owned	N/A
France, Carquefou . . . . .	Sercel manufacturing and research and development facilities recording equipment (land and marine)	25,005	Owned	N/A
France, Saint-Gaudens . . . . .	Sercel manufacturing and research and development facilities	23,051	Owned	N/A
USA, Houston, Texas, . . . . . (ParkRow)	Offices and manufacturing premises of Sercel	39,344	Owned	N/A

We also lease other offices worldwide to support our operations. We believe that our existing facilities are adequate to meet our current requirements.

Information concerning our seismic vessels is set out under “Business Overview — Contractual Data Acquisition — Marine Data Acquisition Business Line” above.

### **Environmental matters and safety**

CGG has a structured approach to HSE, built on our HSE Operating Management System (HSE-OMS). The HSE-OMS is consistent with the International Oil & Gas Producers (IOGP) guidelines for the Development and Application of Health, Safety and Environment management systems which has become a de facto industry standard. The HSE-OMS is implemented across our activities; it has a wide scope including the health, safety and security of our permanent employees, our seasonal employees and sub-contractors working on our projects, as well as the environmental impact of all of our projects and facilities.

A dedicated HSE organization supports the operating divisions in all aspects of the management system, from risk identification and control through training and communication to emergency response in the event of an incident. This professional staff, which is widely distributed across our business, monitors the local regulatory environment in HSE and assists our line management in developing and implementing measures to ensure regulatory compliance.

### **Legal proceedings**

From time to time we are involved in legal proceedings arising in the normal course of our business. We do not expect that any of these proceedings, either individually or in the aggregate, will result in a material adverse effect on our consolidated financial condition or results of operations.

*Request for information from the Bureau of Industry and Security (BIS) of the United States Department of Commerce*

Following an investigation by the BIS regarding some shipments to our vessels operating in or near Cuba that may not have complied fully with our internal policies and possibly violated applicable export controls and sanctions laws, a warning letter without any financial penalty was issued on September 10, 2015. On July 29, 2015, the U.S. Office of Foreign Assets Control (OFAC) issued a pre-penalty notice. On December 15, 2015, a settlement agreement was signed pursuant to which we paid a fine of US\$614,250.

*ONGC arbitration*

On March 18, 2013, CGG Services SAS, a fully owned subsidiary of CGG S.A., initiated arbitration proceedings against ONGC, an Indian company, to recover certain unpaid amounts under three commercial contracts entered into by the two entities between 2008 and 2010. The Arbitration Tribunal issued an award in favor of CGG on July 26, 2017. ONGC appealed this decision on October 27, 2017. We believe that the on-going procedure will allow us to recover at a minimum the amount of the receivables that are recorded on our balance sheet as unpaid receivables as of December 31, 2017.

*Challenge of the draft Safeguard Plan by certain holders of convertible bonds and by the representative of the holders of convertible bonds*

On August 4, 2017, certain holders of convertible bonds (Keren Finance, Delta Alternative Management, Schelcher Prince Gestion, La Financière de l'Europe, Ellipsis Asset Management and HMG Finance) filed a claim against the Safeguard Plan approved by the committee of banks and assimilated creditors, and the bondholders' general meeting on July 28, 2017.

Without disputing the results of the general meeting of bondholders' vote, these holders of convertible bonds challenged the treatment of their claims under the Safeguard Plan, arguing that the differences in treatment between the holders of convertible bonds and the holders of Senior Notes were not justified by the differences in their situations and would be, in any event, disproportionate.

On December 1, 2017, the Commercial Court of Paris declared that the claims filed by the holders of convertible bonds were inadmissible and approved the Safeguard Plan.

Four of these holders of convertible bonds (the companies Delta Alternative Management, Schelcher Prince Gestion, La Financière de l'Europe and HMG Finance) have appealed against the judgment that rejected the admissibility of their claims, which appeal shall be examined by the Court of Appeal of Paris during the hearing of pleadings on March 29, 2018.

As this appeal does not stay implementation, the restructuring transactions provided for under the Safeguard Plan have been implemented on February 21, 2018.

If the Court of Appeal were to approve the appellants' requests and reverse the judgment approving the Safeguard Plan, this decision could theoretically lead to the cancellation of the implementation of the Safeguard Plan with retroactive effect. However, such a cancellation may be impossible to implement in the context of a transaction which has involved a public offering.

As of the date of this annual report, no assurance can be given concerning the decision of the Court of Appeal regarding the aforementioned appeal.

In addition, on December 29, 2017, (i) Mr. Jean Gatty, acting in his capacity as representative of the holders of Convertible Bonds, as well as (ii) JG Capital Management, acting as management company of the JG Partners

fund, holder of Convertible Bonds, filed a third-party opposition against the judgment approving the Safeguard Plan rendered by the Commercial Court of Paris on December 1, 2017. This action, which did not stay implementation as of right, was expected to be examined by the Commercial Court of Paris at a hearing planned on February 12, 2018. However, JG Capital Management and Mr. Jean Gatty withdrew from this third-party opposition.

*Claim for the cancellation of the extraordinary general meeting held on November 13, 2017*

On December 7, 2017, a minority shareholder of the Company filed a claim in summary proceedings (*procédure de référé*) against the Company for the cancellation of the extraordinary general meeting held on November 13, 2017 that approved the resolutions necessary for the implementation of the Safeguard Plan. By a court order rendered on January 4, 2018, the President of the Commercial Court of Paris rejected the admissibility of the claim filed by this minority shareholder.

**Item 4A: UNRESOLVED STAFF COMMENTS**

None.

**Item 5: OPERATING AND FINANCIAL REVIEW AND PROSPECTS**

**Group organization**

Since September 30, 2015, we have organized our activities in four segments for financial reporting: (i) Contractual Data Acquisition, (ii) Geology, Geophysics & Reservoir (“GGR”), (iii) Equipment and (iv) Non-Operated Resources. Financial information by segment is reported in accordance with our internal reporting system and provides internal segment information that is used by the chief operating decision maker to manage and measure performance.

As discussed further below under the heading “Factors affecting our results of operations — Fixed costs, Transformation Plan and fleet reduction”, we started implementing our Transformation Plan in the first quarter of 2014 to address the cyclical trough in the seismic market. In February 2015, when market conditions deteriorated further as a consequence of a renewed bearish outlook on the price of oil, we decided to implement new measures throughout the Group as part of our Transformation Plan, ultimately reducing our marine fleet to five vessels mainly dedicated to multi-client surveys. Going forward, the downsized CGG fleet will be dedicated on average two-thirds to multi-client surveys and only one-third to exclusive surveys. As a result of the reduction of the fleet, part of our owned vessels will not be operated for a certain period of time. The costs of these non-operated resources, as well as the costs of the Transformation Plan, are reported in the Non-Operated Resources segment. Since April 2017, and the implementation of the new ownership set up of our fleet, the non-operated vessels and their related costs (cold-stacking costs notably) have been transferred to Global Seismic Shipping AS (“GSS”). *For more information, see note 2 of our consolidated financial statements.*

A summary of our four segments is set out below:

- **Contractual Data Acquisition.** This operating segment comprises the following business lines:
  - Marine: offshore seismic data acquisition undertaken by us on behalf of a specific client;
  - Land and Multi-Physics: other seismic data acquisition undertaken by us on behalf of a specific client.
- **GGR.** This operating segment comprises the Multi-client business line (development and management of seismic surveys that we undertake and license to a number of clients on a non-exclusive basis) and the Subsurface Imaging and Reservoir business lines (processing and imaging of geophysical data, reservoir characterization, geophysical consulting and software services, geological data library and

data management solutions). Both business lines regularly combine their offerings, generating overall synergies between their respective activities. The GGR segment includes the costs, industrial capital expenditures and capital employed related to the vessels dedicated to multi-client surveys.

- **Equipment.** This operating segment comprises our manufacturing and sales activities for seismic equipment used for data acquisition, both on land and marine. The Equipment segment carries out its activities through our subsidiary Sercel.
- **Non-Operated Resources.** This segment mainly comprises the costs of the non-operated marine resources as well as all of the costs of our Transformation Plan (mainly restructuring provisions and provisions for onerous contracts). The capital employed includes the non-operated marine assets and the provisions related to the Transformation Plan. In this segment, the recoverable value retained is the fair value less costs of disposal.

### **Financial restructuring process**

On February 21, 2018, the Group finalized the implementation of its Financial Restructuring Plan, which meets the Company's objectives of strengthening its balance sheet and providing financial flexibility to continue investing in the future. This plan comprises (i) the equitization of all of the unsecured senior debt, (ii) the extension of the maturities of the secured senior debt and (iii) the provision of additional liquidity to meet various business scenarios.

Following the implementation of the Financial Restructuring Plan, the Board of Directors considers that (i) the Group no longer faces material uncertainties that may cast doubt upon its ability to continue as a going concern and that (ii) the Group's liquidity and cash flow are sufficient to meet our expected cash requirements until at least December 31, 2018. Having considered the above, the Board of Directors concluded that preparing the December 31, 2017 consolidated financial statements on a going concern basis is an appropriate assumption.

The consolidated financial statements as of December 31, 2017 were approved by the Board of Directors on March 8, 2018 on a going concern basis.

*For more detailed information, please refer to "Item 4: Information on the Company — History and development of the Company — Financial restructuring process" and note 2 to our consolidated financial statements.*

### **Critical Accounting Policies and Estimates**

The following operating and financial review and prospects should be read in conjunction with our consolidated annual financial statements and the notes thereto included in this annual report, which have been prepared in accordance with International Financial Reporting Standards (IFRS) and its interpretations as issued by the International Accounting Standards Board (IASB) and as adopted by the European Union at December 31, 2017.

Our significant accounting policies, which we have applied consistently, are fully described in note 1 to our consolidated financial statements, including a discussion of certain of our accounting policies that are particularly important to the portrayal of our financial position and results of operations, such as those relating to:

- revenue recognition (including the application of "IFRS 15 — Revenue from Contracts with Customers");
- multi-client surveys (and impairment, amortization and classification thereof);
- capitalization of expenditures on our research activities; and
- impairment losses (including impairment losses on goodwill).

As stated in note 1 to our consolidated financial statements, the Group decided not to early adopt those Standards, Amendments and Interpretations which were adopted by the European Union but were not effective as of December 31, 2017, notably “IFRS 15 — Revenue from Contracts with Customers”, “IFRS 9 — Financial Instruments” and “IFRS 16 — Leases”.

The preparation of consolidated financial statements in accordance with IFRS requires management to make estimates, assumptions and judgments that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ materially from those estimates due to the change in economic conditions, changes in laws and regulations, changes in strategy and the inherent imprecision associated with the use of estimates.

Our significant estimates relate mainly to the expected cash-flows used to measure the recoverability of certain intangible assets such as deferred tax assets, our multi-client data library and goodwill and to determine the amortization rate of our multi-client surveys. To calculate the recoverable amount of our goodwill, we use estimates that are based on our outlook for the seismic industry, as well as the expected cash flows in our three-year plan and what we consider to be normative cash flows for the years thereafter. *See note 11 to our consolidated financial statements for the key assumptions used in our determination of asset recoverability and the sensitivity in changes in assumptions.* Changed assumptions, in particular the discount rate and the normative cash flow, could significantly affect our impairment result.

### **Factors affecting our results of operations**

Our operating results are generally affected by a variety of factors, including changes in exchange rates, particularly the value of the euro against the US dollar, and changes in market environment. See “Foreign exchange fluctuations” and “Geophysical market environment” herein.

#### ***Geophysical market environment***

Overall demand for geophysical services and equipment is dependent on spending by oil and gas companies for exploration, development and production and field management activities. We believe the level of spending of such companies depends on their assessment of their ability to efficiently supply the oil and gas market in the future and the current balance of hydrocarbon supply and demand. The geophysical market has historically been extremely volatile.

We believe many factors contribute to the volatility of this market, such as the geopolitical uncertainties that can harm the confidence and visibility that are essential to our clients’ long-term decision-making processes and the expected balance in the mid- to long-term between supply and demand for hydrocarbons. Lower or volatile hydrocarbon prices tend then to limit the demand for seismic services and products. Since 2015, oil and gas companies reduced their exploration and production spending due to falling oil prices, affecting demand for our products and services as reflected in our results.

The challenging market conditions that we experienced in 2016 remained similar in 2017, with clients remaining extremely cautious. After a decline in earnings over the last three years, we recorded a 10% increase in revenue (US\$1,320 million) and a 14% growth in EBITDAS (US\$372 million) for the full year 2017 compared to 2016. While the outlook still remains uncertain, we believe the market should stabilize in 2018 and progressively recover throughout 2019.

*For more information about developments in the geophysical industry, please refer to “Item 4: Information on the Company — Industry conditions”.*



### ***Fixed costs, Transformation Plan and fleet reduction***

The Group has high fixed costs and seismic data acquisition activities that require substantial capital expenditures and long-term contractual commitments. As a result, downtime or decreased productivity due to reduced demand, weather interruptions, equipment failures, permit delays or other circumstances that affect our ability to generate revenue could result in significant operating losses. In particular, we operate certain of our marine acquisition vessels under long-term bareboat charters, which generate significant fixed costs that cannot easily be reduced before the expiration of the charters.

In order to lower our high fixed cost base in light of the difficult market environment, the Group took drastic measures to reduce the operated seismic fleet, as part of the Transformation Plan, from 18 vessels in 2014 to an optimal size of five 3D high-end vessels by the end of 2016, with such remaining vessels mainly dedicated to multi-client programs. The main steps in the reduction of the fleet over the past three years are described below.

During the year 2015:

- The *Symphony* and the *Princess* were sold;
- The *Vantage*, the *Viking II* and the *Viking I* were returned to their owners;
- The *Oceanic Phoenix* and the *Viking Vanquish* halted operations; and
- The *Geowave Voyager* and the *Pacific Finder* were used as source vessels throughout the year.

During the year 2016:

- The *CGG Alizé*, the *Geo Celtic* and the *Pacific Finder* halted operations;
- The *Viking Vision* was returned to its owner; and
- The *Geowave Voyager* was used as a source vessel and a crew boat throughout the year.

As of December 31, 2016, the operated seismic fleet was composed of five 3D high-end vessels, in accordance with our Transformation Plan.

Beginning of 2017, the Group implemented additional measures to further reduce its maritime exposure and improve the fleet's competitiveness.

In January 2017 and March 2017, we reduced the cash burden of various charter agreements, in respect of cold-stacked seismic vessels (the *Pacific Finder*, the *Oceanic Phoenix* and the *Viking Vanquish*) and an active seismic vessel (the *Oceanic Champion*) through payments settled on a non-cash basis. In April 2017, we implemented the new ownership set up for our seismic fleet, allowing the Group to access high-end capacity at fair market price while externalizing the cold-stacking costs.

During the year 2017:

- The *Pacific Finder* was re-delivered to its owner;
- The *Geo Caspian* halted operations as a seismic vessel at the expiration of the charter agreement; and
- The *Geo Coral* was re-introduced on April 1, 2017, in replacement of the *Geo Caspian*, as per the plan to keep the fleet at five seismic vessels.

In 2017, the Group operated five 3D high-end vessels for a total annual charter cost of US\$59 million compared to US\$77 million in 2016, mainly as a result of the improved contractual conditions described above.

*For more information, please refer to "Item 4: Information on the Company — Contractual Data Acquisition — Marine Data Acquisition Business Line — Group's fleet of seismic vessels" and note 2 to our consolidated financial statements.*

### ***Write-downs & restructuring costs related to our Transformation Plan***

We have had in the past and may have in the future impairment losses as events or changes in circumstances occur that reduce the fair value of an asset below its book value. We may also have write-offs and non-recurring charges or restructuring costs. For 2015, 2016 and 2017, such asset impairments, write-offs and restructuring costs net of gains on sales of assets related to our Transformation Plan totaled US\$1,218 million, US\$184 million and US\$186 million (not including the acceleration of historical issuing fees amortization for US\$23 million), respectively.

We have also been involved in a number of business combinations in the past, leading to the recognition of large amounts of goodwill on our balance sheet. Goodwill on our balance sheet totaled US\$1,234 million as of December 31, 2017 and US\$1,223 million as of December 31, 2016. Goodwill is allocated to CGUs as described in note 11 to our consolidated financial statements. At each balance sheet date, if we expect that a CGU's recoverable amount will fall below the amount of capital employed recorded on the balance sheet, we may write down some value on given assets and/or the goodwill in part or in whole.

As of December 31, 2015, in response to the continuing deterioration of market conditions and the drastic reduction of our fleet, we wrote down US\$365 million of goodwill in our marine acquisition activity and US\$439 million of goodwill in our GGR segment, for a total of US\$804 million for 2015.

In 2016 and 2017, we did not write down any goodwill.

*For more information, please refer to notes 11 and 21 to our consolidated financial statements.*

### ***Acquisitions and divestitures***

During the periods under review, the most significant change to our perimeter has been the new ownership set up of our marine fleet, as described above. *For more information regarding other acquisitions and divestitures, please refer to note 2 to our consolidated financial statements.*

### ***Backlog***

Backlog estimates are based on a number of assumptions and estimates, including assumptions as to exchange rates between the euro and the US dollar and estimates of the percentage of completion contracts. Contracts for services are occasionally modified by mutual consent and in certain instances are cancelable by the customer on short notice without penalty. The historical relationships we have with many of our clients (most of which are large, well established companies) tend to reduce our exposure to the risk of early termination. Nevertheless, backlog as of any particular date may not be indicative of actual operating results for any succeeding period.

Backlog for our Contractual Data Acquisition and GGR segments represents the revenues we expect to receive from commitments for contract services we have with our customers and, in connection with the acquisition of multi-client data, represents the amount of pre-commitments for such data. Backlog for our Equipment segment represents the total value of orders we have received but not yet fulfilled.

Our backlog for our Contractual Data Acquisition, GGR and Equipment segments was US\$500 million as of January 1, 2018 compared to US\$548 million as of January 1, 2017 and US\$719 million as of January 1, 2016.

### ***Foreign exchange fluctuations***

As a company that derives a substantial amount of its revenues from international sales, that are often denominated or linked to the US dollar but with costs that are to a certain extent denominated in euros, our results of operations are affected by fluctuations in currency exchange rates.

Changes between the US dollar and euro or other currencies may adversely affect our business by negatively impacting our results of operations and earnings.

The exchange rates as of December 31, 2015, 2016 and 2017 were, US\$1.0887, US\$1.0541 and US\$1.1993 respectively, per euro, and the average exchange rates for the years 2015, 2016 and 2017 were, US\$1.1138, US\$1.1057 and US\$1.1227 respectively, per euro.

See “Item 3 — Key Information — Risk Factors — Market and Other Risks — We are exposed to exchange rates fluctuations” for more information on the impact of currency fluctuations on our results of operations during the periods under review.

## Year ended December 31, 2017 compared to year ended December 31, 2016

### *Operating revenues*

The following table sets forth our operating revenues by business line and segment for each of the periods stated:

	Year ended December 31,	
	2017	2016
	In millions of US\$	
Marine Contractual Data Acquisition .....	186.4	133.1
Land and Multi-Physics Acquisition .....	102.3	104.9
<b>Contractual Data Acquisition Revenues</b> .....	<b>288.7</b>	<b>238.0</b>
Multi-client Data .....	469.0	383.3
Subsurface Imaging and Reservoir .....	350.6	400.7
<b>GGR Revenues</b> .....	<b>819.6</b>	<b>784.0</b>
<b>Equipment Revenues</b> .....	<b>241.2</b>	<b>255.0</b>
Eliminated revenues and others .....	(29.5)	(81.5)
<b>Total operating revenues</b> .....	<b>1,320.0</b>	<b>1,195.5</b>

### *Operating revenues*

In a very challenging market environment, our consolidated operating revenues in 2017 increased 10% to US\$1,320 million from US\$1,196 million in 2016, due in particular to strong multi-client sales and the execution of two large exclusive contracts by our Marine Contractual Data Acquisition business line. The respective contributions from the Group’s businesses in 2017 were 62% from GGR, 16% from Equipment and 22% from Contractual Data Acquisition.

### **Contractual Data Acquisition**

Operating revenues for our Contractual Data Acquisition segment increased 21% to US\$289 million in 2017 from US\$238 million in 2016, mainly as a consequence of our Marine Contractual Data Acquisition business line, in a continuingly competitive market environment stabilized at a low level.

#### *Marine Contractual Data Acquisition*

Despite very weak pricing conditions, operating revenues of our Marine Contractual Data Acquisition business line increased 40% to US\$186 million in 2017 from US\$133 million in 2016, mainly due to the execution of two large contracts using high-end multi-source vessel set-up and the strong operational performance of the fleet, with a high production rate at 97% in 2017 compared to 94% in 2016.

The availability rate increased to 93% in 2017 from 92% in 2016. 48% of the fleet was dedicated to multi-client programs in 2017 compared to 49% in 2016.

### *Land and Multi-Physics Acquisition*

Operating revenues of our Land and Multi-Physics Acquisition business lines decreased 2% to US\$102 million in 2017 from US\$105 million in 2016, mainly as a consequence of the weak market, a delayed contract in Algeria and the early termination of a contract in Angola for our Land Acquisition business line.

### GGR

Operating revenues from our GGR segment in 2017 increased 5% to US\$820 million from US\$784 million in 2016, mainly due to strong multi-client sales despite a soft market environment.

### *Multi-client Data*

Multi-client revenues increased 22% to US\$469 million in 2017 from US\$383 million in 2016. Our sustained offshore multi-client sales were boosted by Brazilian licensing rounds, as well as sales in the North Sea and the Gulf of Mexico.

Prefunding revenues decreased 1% to US\$269 million in 2017 from US\$272 million in 2016, with cash prefunding rate at 107% in 2017 compared to 92% in 2016. After-sales increased 80% to US\$200 million in 2017 from US\$111 million in 2016 mainly as a result of demand for our well-positioned multi-client data libraries in the strategic basins.

### *Subsurface Imaging & Reservoir*

Operating revenues from our Subsurface Imaging & Reservoir business lines decreased 13% to US\$351 million in 2017 from US\$401 million in 2016. Subsurface Imaging delivered a resilient performance and maintained its market share, while the Reservoir businesses were impacted by clients' spending cuts.

### Equipment

Operating revenues from our Equipment segment, including internal and external sales, decreased 5% to US\$241 million in 2017 from US\$255 million in 2016, reflecting very low volumes driven by the weakness of the seismic acquisition market.

Internal sales represented 11% of the total revenues in 2017 compared to 30% in 2016. External revenues increased 20% to US\$215 million in 2017, from US\$179 million in 2016, mainly due to land equipment sales, driven notably by the 508<sup>XT</sup> deliveries in the fourth quarter.

Land equipment sales represented 59% of the total revenues in 2017 compared to 56% in 2016.

In 2017, we generated US\$116 million in revenues in the fourth quarter, representing 48% of our total revenues of the year. This sharp increase can be explained by staggered deliveries from the third quarter to the fourth quarter and the usual seasonal pattern at year-end driving a strong activity pick-up in the fourth quarter.

### *Operating Expenses*

Cost of operations, including depreciation and amortization, were stable in 2017 at US\$1,239 million compared to US\$1,250 million in 2016 despite increased activity, mainly due to the sharp reduction in our cost base as a consequence of the completion of our Transformation Plan. The multi-client amortization costs (including amortization linked to IAS 38 Amended, as the Group no longer applies straight-line scheme since 2016) corresponded to 63% of multi-client revenues in 2017 compared to 84% in 2016. As a percentage of operating revenues, cost of operations were 94% in 2017 compared to 105% in 2016. Gross profit increased to US\$81 million in 2017 from US\$(53) million in 2016, representing 6% of operating revenues in 2017 compared to (4)% in 2016.

Research and development expenditures, net of government grants received, increased 112% to US\$29 million in 2017 from US\$14 million in 2016, principally as a result of a U.S. tax credit catch-up for research and development in the earlier period. Research and development expenditures represented respectively 2% and 1% of operating revenues for 2017 and 2016.

Marketing and selling expenses decreased 11% to US\$56 million in 2017 from US\$62 million in 2016 mainly due to the completion of our Transformation Plan.

General and administrative expenses decreased 3% to US\$82 million in 2017, from US\$84 million in 2016 as a consequence of the completion of the Transformation Plan. As a percentage of operating revenues, general and administrative expenses represented respectively 6% and 7% of operating revenues for 2017 and 2016.

Other expenses amounted to US\$179 million in 2017, including mainly US\$186 million of restructuring costs net of gain on sales of assets relating to our Transformation Plan (not including the acceleration of historical issuing fees amortization linked to our financial restructuring for US\$23 million) of which (i) US\$51 million loss relating to our new ownership set up for our seismic fleet (ii) US\$12 million relating to the renegotiation of a charter agreement, (iii) US\$102 million relating to financial restructuring fees and (iv) US\$21 million relating to other restructuring costs, being mainly redundancy and facilities exit costs net of reversal of provisions.

Other expenses amounted to US\$183 million in 2016, including mainly (i) US\$97 million impairment of multi-client surveys mainly related to our U.S. offshore library (ii) US\$31 million impairment of vessels related to our Transformation Plan and (iii) US\$54 million restructuring costs being mainly vessel chart costs and redundancies, net of reversal of provisions. Out of these other expenses, the portion directly related to our Transformation Plan and to impairment amounted to US\$184 million in 2016.

*For more information about restructuring costs relating to the Transformation Plan, please refer to note 21 to our consolidated financial statements.*

### ***Operating income***

Operating income amounted to US\$(263) million in 2017 (or US\$(77) million before restructuring costs net of gain on sale of assets relating to our Transformation Plan), compared to US\$(397) million in 2016 (or US\$(213) million before impairment of assets and restructuring costs related to our Transformation Plan).

Operating income from our Contractual Data Acquisition segment amounted to US\$(91) million in 2017, compared to US\$(99) million in 2016 (or US\$(98) million before impairment of assets), with the positive impact of the lower cost base of our Marine Contractual Data Acquisition business line being partially offset by a non-recurring research and development tax credit in 2016.

Operating income from our GGR segment amounted to US\$131 million in 2017, compared to US\$(16) million in 2016 (or US\$81 million before impairment of assets), demonstrating the overall resilience of the GGR segment, boosted by a favorable revenue mix in multi-client sales with an amortization rate corresponding to 63% of multi-client sales in 2017 compared to 84% in 2016.

Operating income from our Equipment segment increased to US\$(36) million in 2017 from US\$(42) million in 2016, hampered by very low volumes, despite very efficient cost management and manufacturing flexibility.

Operating income from our Non-Operated Resources segment amounted to US\$(220) million in 2017 (or US\$(34) million before restructuring costs net of gain on sale of assets relating to our Transformation Plan), compared to US\$(170) million in 2016 (or US\$(84) million before impairment of assets and restructuring costs related to our Transformation Plan).

### ***Equity in Income of Affiliates***

Income from investments accounted for under the equity method amounted to US\$(20) million in 2017 compared to US\$(8) million in 2016, mainly due to the negative contribution from our joint ventures GSS and PTSC CGGV Geophysical Survey Limited (“PTSC”) in Vietnam, impacted by adverse market conditions in the marine acquisition market.

### ***Earnings before interest and tax (“EBIT”)***

EBIT, as disclosed in note 19 to our consolidated financial statements, amounted to US\$(284) million in 2017 (or US\$(97) million before restructuring costs net of gain on sale of assets relating to our Transformation Plan) compared to US\$(405) million in 2016 (or US\$(221) million before impairment of assets and restructuring costs related to our Transformation Plan).

EBIT from our Contractual Data Acquisition segment amounted to US\$(103) million in 2017, compared to US\$(105) million in 2016 (or US\$(104) million before impairment of assets). Our EBIT in 2017 included a US\$(11) million negative contribution from investments accounted for under the equity method, mainly PTSC and the Seabed JV, compared to a negative contribution of US\$(6) million for this line item in 2016 mainly attributed to the Seabed JV.

EBIT from our GGR segment amounted to US\$130 million in 2017 compared to US\$(18) million in 2016 (or US\$79 million before impairment of assets).

EBIT from our Equipment segment amounted to US\$(36) million in 2017 compared to US\$(42) million in 2016.

EBIT from our Non-Operated Resources segment amounted to US\$(229) million in 2017 (or US\$(43) million before restructuring costs net of gain on sale of assets relating to our Transformation Plan) compared to US\$(170) million in 2016 (or US\$(84) million before impairment of assets and restructuring costs related to our Transformation Plan). Our EBIT in 2017 included a US\$(8) million negative contribution from investments accounted for under the equity method, mainly reflecting the contribution from GSS.

*See note 21 to our consolidated financial statements for further details on restructuring expenses related to our Transformation Plan.*

### ***Financial Income and Expenses***

Cost of net financial debt increased 21% to US\$211 million in 2017 from US\$174 million in 2016. This increase was mainly due to the acceleration of historical issuing fees amortization for US\$23 million, as most of our debt was settled during February 2018 through conversion into equity or new debt instruments under our financial restructuring.

Other financial income amounted to US\$4 million in 2017 compared to an expense of US\$11 million in 2016. This increase was mainly due to foreign exchange gains. *See note 23 to our consolidated financial statements for more information.*

### ***Income Taxes***

Income taxes amounted to an expense of US\$24 million in 2017, including US\$12 million deemed taxation through withholding tax and US\$11 million in current income tax mainly in Canada and Brazil.

Income taxes amounted to an income of US\$14 million in 2016.

*For more information about income taxes, please refer to note 24 to our consolidated financial statements.*



### *Net Income*

Net income amounted to US\$(514) million in 2017 compared to US\$(577) million in 2016 as a result of the factors discussed above. Earnings per share were US\$(11.18) in 2017 compared to US\$(13.26) in 2016.

Net income attributable to the shareholders of CGG S.A. was US\$(515) million (€(459) million) in 2017 compared to US\$(573) million (€(519) million) in 2016.

### *Unconsolidated financial statements of CGG S.A.*

Operating revenues of CGG S.A. in 2017 were €26 million compared to €49 million in 2016.

Operating loss in 2017 amounted to €32 million compared to €43 million in 2016.

Financial loss in 2017 amounted to €969 million compared to €827 million in 2016. The decrease was mainly due to dividends received in 2017 of €142 million, compared to €421 million in 2016. In 2017, we accounted for a provision allowance for investments in affiliates for €1,104 million, compared to €1,197 million in 2016.

Extraordinary income and expense in 2017 amounted to €(2) million, mainly as a result of extraordinary costs relating to the financial restructuring for €(67) million and reversal of provisions for risks of affiliates for €67 million. Extraordinary income and expense amounted to €30 million in 2016 mainly due to a €25 million reversal of provisions for risks of affiliates.

Net income in 2017, after a tax income of €57 million due to the French tax group effect, was €(945) million compared to a net income of €(841) million in 2016, after a tax expense of €1 million. The 2017 tax income resulted from the reversal of the provision for the use of subsidiaries' deficits, following the inclusion of the planned reduction of the corporate tax rate in France.

The shareholders' equity as of December 31, 2017 amounted to €0.3 billion compared to €1.2 billion as of December 31, 2016.

No dividends have been distributed in the last three fiscal years.

### **Year ended December 31, 2016 compared to year ended December 31, 2015**

#### *Operating revenues*

The following table sets forth our operating revenues by business line and segment for each of the periods stated:

	Year ended December 31,	
	2016	2015
	In millions of US\$	
Marine Contractual Data Acquisition . . . . .	133.1	438.3
Land and Multi-Physics Acquisition . . . . .	104.9	177.2
<b>Contractual Data Acquisition Revenues . . . . .</b>	<b>238.0</b>	<b>615.5</b>
Multi-client Data . . . . .	383.3	546.4
Subsurface Imaging and Reservoir . . . . .	400.7	561.2
<b>GGR Revenues . . . . .</b>	<b>784.0</b>	<b>1,107.6</b>
<b>Equipment Revenues . . . . .</b>	<b>255.0</b>	<b>437.3</b>
Eliminated revenues and others . . . . .	(81.5)	(59.5)
<b>Total operating revenues . . . . .</b>	<b>1,195.5</b>	<b>2,100.9</b>

Our consolidated operating revenues in 2016 decreased 43% to US\$1,196 million from US\$2,101 million in 2015 mainly due to weak volumes in difficult market conditions and the reduction of the marine seismic fleet. The respective contributions from the Group's businesses in 2016 were 66% from GGR, 15% from Equipment and 19% from Contractual Data Acquisition.

#### Contractual Data Acquisition

Operating revenues for our Contractual Data Acquisition segment decreased 61% to US\$238 million in 2016 from US\$616 million in 2015, mainly due to the downsizing of the fleet, weak volumes and low pricing conditions.

#### *Marine Contractual Data Acquisition*

Operating revenues of our Marine Contractual Data Acquisition business line decreased 70% to US\$133 million in 2016 from US\$439 million in 2015, mainly due to the reduction of the marine seismic fleet to five 3D high-end vessels and to weak pricing conditions, despite our fleet's good operational performance with a high production rate at 94% in 2016 compared to 92% in 2015.

The availability rate increased to 92% in 2016 from 83% in 2015. 49% of the fleet was dedicated to multi-client programs in 2016 compared to 34% in 2015.

#### *Land and Multi-Physics Acquisition*

Operating revenues of our Land and Multi-Physics Acquisition business lines decreased 41% to US\$105 million in 2016 from US\$177 million in 2015, as a consequence of low levels of activity and delays in clients' decision processes.

#### GGR

Operating revenues from our GGR segment in 2016 decreased 29% to US\$784 million from US\$1,108 million in 2015 as a result of the overall market conditions, characterized by slowdown and delays in exploration spending by oil and gas companies.

#### *Multi-client Data*

Multi-client revenues decreased 30% to US\$383 million in 2016 from US\$546 million in 2015 due to a very soft market environment. Our highest offshore multi-client sales were in Latin America and North Sea.

Prefunding revenues decreased at US\$272 million in 2016 from US\$290 million in 2015. Cash prefunding rate was of 92% in 2016 compared to 102% in 2015. After-sales decreased 56% to US\$111 million in 2016 from US\$256 million in 2015 due to lower overall exploration spending by our clients.

#### *Subsurface Imaging & Reservoir*

Operating revenues from our Subsurface Imaging & Reservoir business lines decreased 29% to US\$401 million in 2016 from US\$562 million in 2015 due to soft market conditions. However, we consider this to have been an overall resilient level of activity in the context of a significant decrease in data acquisition market volumes.

#### Equipment

Operating revenues from our Equipment segment, including internal and external sales, decreased 42% to US\$255 million in 2016 from US\$437 million in 2015 due to very low volumes driven by the weakness of the seismic acquisition market. Land equipment sales represented 56% of the total revenues.

Internal sales represented 30% of the total revenues in 2016 compared to 9% in 2015.

External revenues for our Equipment segment decreased 55% to US\$179 million in 2016, from US\$400 million in 2015.

### ***Operating Expenses***

Cost of operations, including depreciation and amortization, decreased 31% to US\$1,250 million in 2016, from US\$1,817 million in 2015, mainly due to the downsizing of the fleet, the overall contraction of activity (with historically low volumes in our Equipment segment) and the cost base reduction as a consequence of the progress of our Transformation Plan (see paragraph “— Fixed costs, Transformation Plan and fleet reduction” above for further details). The multi-client amortization expenses corresponded to 84% of multi-client revenues in 2016 before impairment of our multi-client data library compared to 60% (before impairment) in 2015. As a percentage of operating revenues, cost of operations were 105% in 2016 compared to 86% in 2015. Gross profit decreased 119% to US\$(53) million in 2016, from US\$285 million in 2015, representing (4)% of operating revenues in 2016 compared to 14% in 2015.

Research and development expenditures, net of government grants received, decreased 80% to US\$14 million in 2016 from US\$69 million in 2015 mainly due to a higher level of U.S. research and development tax credit. Research and development expenditures represented respectively 1% and 3% of operating revenues for 2016 and 2015.

Marketing and selling expenses decreased 29% to US\$62 million in 2016 from US\$87 million in 2015 mainly due to the progress of our Transformation Plan.

General and administrative expenses decreased 14% to US\$84 million in 2016 from US\$99 million in 2015 as a consequence of the progress of the Transformation Plan. As a percentage of operating revenues, general and administrative expenses represented respectively 7% and 5% of operating revenues for 2016 and 2015.

Other expenses amounted to US\$183 million in 2016, including mainly (i) US\$97 million impairment of multi-client surveys mainly related to our US offshore library (ii) US\$31 million impairment of vessels related to our Transformation Plan and (iii) US\$54 million restructuring costs being mainly vessel chart costs and redundancies, net of reversal of provisions. Out of these other expenses, the portion directly related to our Transformation Plan and to impairment amounted to US\$184 million in 2016.

Other expenses amounted to US\$1,188 million in 2015, including mainly (i) US\$804 million of impairment of goodwill in Marine Contractual Data Acquisition and GGR as a consequence of the reduction of the fleet and the revision of our financial forecasts (ii) US\$207 million of impairment of vessels and related equipment and other intangible assets (including US\$42 million of impairment of multi-client surveys); (iii) restructuring costs related to our Transformation Plan for US\$208 million mainly related to redundancies, facility exit costs and costs related to cold-stacked vessels, net of reversal of provisions and (iv) a US\$27 million net gain related to disposals of assets. Out of these other expenses, the portion directly related to our Transformation Plan and to impairment amounted to US\$1,219 million in 2015.

### ***Operating income***

Operating income amounted to US\$(397) million in 2016 (or US\$(213) million before impairment of assets and restructuring costs related to our Transformation Plan), compared to US\$(1,158) million in 2015 (or US\$61 million before impairment of assets and restructuring costs related to our Transformation Plan).

Operating income from our Contractual Data Acquisition segment amounted to US\$(99) million in 2016 (or US\$(98) million before impairment of assets), compared to US\$(675) million in 2015 (or US\$(156) million before impairment of assets).

Operating income from our GGR segment amounted to US\$(16) million in 2016 (or US\$81 million before impairment of assets), compared to US\$(204) million in 2015 (or US\$288 million before impairment of assets).

Operating income from our Equipment segment decreased to US\$(42) million in 2016 from US\$26 million in 2015.

Operating income from our Non-Operated Resources segment amounted to US\$(170) million in 2016 (or US\$(84) million before impairment of assets and restructuring costs related to our Transformation Plan), compared to US\$(236) million in 2015 (or US\$(28) million before restructuring costs related to our Transformation Plan).

### ***Equity in Income of Affiliates***

Income from investments accounted for under the equity method amounted to US\$(8) million in 2016 compared to US\$21 million in 2015, mainly due to negative contribution from Seabed JV suffering from low volumes in a weak market.

### ***Earnings before interest and tax ("EBIT")***

EBIT, as disclosed in note 19 to our consolidated financial statements, amounted to US\$(405) million in 2016 (or US\$(221) million before impairment of assets and restructuring costs related to our Transformation Plan) compared to US\$(1,136) million in 2015 (or US\$82 million before impairment of assets and restructuring costs related to our Transformation Plan).

EBIT from our Contractual Data Acquisition segment amounted to US\$(105) million in 2016 (or US\$(104) million before impairment of assets), compared to US\$(653) million in 2015 (or US\$(134) million before impairment of assets). Our EBIT in 2016 included a US\$(6) million negative contribution from investments accounted for under the equity method, mainly Seabed JV, compared to a positive contribution of US\$22 million for this line item in 2015.

EBIT from our GGR segment amounted to US\$(18) million in 2016 (or US\$79 million before impairment of assets) compared to US\$(204) million in 2015 (or US\$288 million before impairment of assets). Our EBIT in 2016 included a US\$(2) million negative contribution from investments accounted for under the equity method.

EBIT from our Equipment segment amounted to US\$(42) million in 2016 compared to US\$26 million in 2015.

EBIT from our Non-Operated Resources segment amounted to US\$(170) million in 2016 (or US\$(84) million before impairment of assets and restructuring costs related to our Transformation Plan) compared to US\$(236) million in 2015 (or US\$(28) million before restructuring costs related to our Transformation Plan).

### ***Financial Income and Expenses***

Cost of net financial debt decreased 2% to US\$174 million in 2016 from US\$179 million in 2015.

Other financial expense amounted to US\$11 million in 2016 compared to US\$55 million in 2015. This decrease was mainly due to the impairment of our shares in Geokinetics Inc. for US\$40 million in 2015.

### ***Income Taxes***

Income taxes amounted to an income of US\$14 million in 2016.

This compares to a US\$77 million expense in 2015.

### ***Net Income***

Net income amounted to US\$(577) million in 2016 compared to US\$(1,446) million in 2015 as a result of the factors discussed above. Earnings per share were US\$(13.26) in 2016 compared to US\$(114.66) in 2015.

Net income attributable to the shareholders of CGG S.A. was US\$(573) million (€(519) million) in 2016 compared to US\$(1,450) million (€(1,302) million) in 2015.

### ***Unconsolidated financial statements of CGG S.A.***

Operating revenues of CGG S.A. in 2016 were €49 million compared to €74 million in 2015. The level of services provided by the Company to its subsidiaries in the Contractual Data Acquisition and GGR segments decreased in both 2015 and 2016.

Operating loss in 2016 amounted to €43 million compared to €48 million in 2015.

Financial income in 2016 was €(827) million compared to €586 million in 2015. This decrease was mainly due to dividends of €2,007 million received in 2015 in connection with the reorganization of the subsidiaries within our Sercel Group compared to €421 million in 2016.

The rest of the financial income included mainly provision allowance on investments in affiliates for €1,197 million in 2016 compared to €1,280 million in 2015.

Extraordinary income and expense in 2016 amounted to €30 million mainly due to a €25 million reversal of provisions for risks of affiliates. Extraordinary income and expense in 2015 was €(39) million mainly due to grants provided to affiliates totaling €56 million.

Net income in 2016, after a tax expense of €1 million, was €(841) million compared to a net income of €606 million in 2015, after a tax income of €106 million due to the French tax group effect.

The shareholders' equity as of December 31, 2016 amounted to €1.2 billion compared to €1.7 billion as of December 31, 2015.

No dividends have been distributed in the last three fiscal years.

### **Liquidity and Capital Resources**

Our principal financing needs are the funding of ongoing operations, capital expenditures, investments in our multi-client data library and our latest transformation steps, as well as debt service and refinancing. We intend to fund our capital requirements through cash generated by operations, liquidity on hand and, as necessary, capital markets or bank financings. In the past we have obtained financing through bank borrowings, capital increases and issuances of debt and equity-linked securities.

Our ability to make scheduled payments of principal, or to pay the interest or additional amounts, if any, or to refinance our indebtedness, or to fund planned capital expenditures will depend on our future performance, which, to a certain extent, is subject to general economic, financial, competitive, legislative, regulatory and other factors that are beyond our control.

### **Financial restructuring process**

Our balance sheet, and in particular our financial liabilities, were significantly affected by our financial restructuring, which was completed on February 21, 2018. As of February 21, 2018, our gross financial debt

amounted to US\$1.2 billion. Based on the liquidity of US\$0.57 billion (our cash and cash equivalent as of December 31, 2017 increased by the net cash proceeds from the financial restructuring), the pro forma net debt was US\$0.63 billion as of December 31, 2017.

*For information about the financial restructuring, please refer to “Item 4: Information on the Company — History and development of the Company — Financial restructuring process” and note 2 to our consolidated financial statements.*

## **Cash Flows**

### ***Operating activities***

Net cash provided by operating activities was US\$198 million in 2017 compared to US\$355 million for 2016 and US\$408 million for 2015. Before changes in working capital, net cash provided by operating activities in 2017 was US\$238 million compared to US\$157 million for 2016 and US\$453 million for 2015.

Changes in working capital had a negative impact on cash from operating activities of US\$40 million in 2017 compared to a positive impact of US\$198 million for 2016 and a negative impact of US\$45 million for 2015.

### ***Investing activities***

Net cash used in investing activities was US\$303 million in 2017 compared to US\$381 million in 2016 and US\$423 million in 2015.

In 2017, our industrial capital expenditures, inclusive of the Sercel lease pool, and net of asset suppliers' variance, were significantly reduced to US\$47 million (US\$50 million excluding asset suppliers' variance), mainly as a consequence of continued tight cash spending discipline in all segments. The capitalized development costs were US\$34 million.

In 2016, our industrial capital expenditures, inclusive of the Sercel lease pool, and net of asset suppliers' variance, were significantly reduced to US\$71 million (US\$66 million excluding asset suppliers' variance), mainly as a consequence of fleet reduction and tight cash spending discipline in all segments. The capitalized development costs were US\$34 million.

In 2015, our industrial capital expenditures, inclusive of the Sercel lease pool, and net of asset suppliers' variance, were US\$104 million (US\$89 million excluding asset suppliers' variance) mainly as a consequence of fleet reduction and tight cash spending discipline in all segments. The capitalized development costs were US\$42 million.

In 2017, we invested US\$251 million in multi-client data, primarily offshore in Brazil, Mozambique and in the North Sea.

In 2016, we invested US\$295 million in multi-client data, primarily offshore in Brazil, in Western Africa and in the Norwegian North Sea.

In 2015, we invested US\$285 million in multi-client data, primarily in Western Africa, in North Sea and Asia Pacific.

As of December 31, 2017, the net book value of our multi-client data library was US\$831 million compared to US\$848 million as of December 31, 2016 and US\$927 million as of December 31, 2015.

### ***Financing activities***

Our net cash used by financing activities in 2017 was US\$117 million compared to net cash provided of US\$176 million in 2016, and net cash provided of US\$63 million in 2015.



In 2017, we repaid in full the US\$8 million outstanding principal amount of our 7.75% senior notes due 2017. We also repaid US\$8 million of the principal amount under our Nordic credit facility, leading to a total outstanding amount of US\$182.5 million under this facility before it was transferred to GSS in April 2017 as part of the of new ownership set up for our seismic fleet. *For more information, please refer to note 2 to our consolidated financial statements.*

In 2016, we repaid a net amount of US\$31 million from our French revolving facility, leading to an amount outstanding as of December 31, 2016 under this facility of US\$294 million. We also drew a net amount of US\$35 million from our US revolving facility, leading to an amount outstanding as of December 31, 2016 under this facility of US\$165 million.

As of December 31, 2016, the outstanding amount of our Nordic credit facility stood at US\$190 million compared to US\$220 million as of December 31, 2015 after repayment of US\$30 million in 2016.

On February 12, 2016, we fully repaid the outstanding US\$6.1 million of our US\$45 million Voyager AS (renamed Exploration Vessel Resources II AS) Secured Term Loan Facility.

In 2016, we also received net proceeds of €337 million from our capital increase.

In 2015, we drew a net amount of US\$167 million from our French revolving facility, leading to an amount outstanding as of December 31, 2015 under this credit facility of US\$325 million. We also drew a net amount of US\$55 million from our US revolving facility leading to an amount outstanding as of December 31, 2015 under this credit facility of US\$130 million.

## **Financing Arrangements**

As of December 31, 2017, our material financing arrangements consisted of the following:

- US\$162 million US revolving credit facility;
- US\$309 million French revolving credit facility;
- US\$338 million term loan B;
- US\$675 million 6.50% senior notes due 2021;
- €400 million 5.875% senior notes due 2020;
- US\$420 million 6.875% senior notes due 2022; and
- €360 million convertible bonds.

As of the completion date of our financial restructuring, our material financing arrangements were US\$664 million in principal amount of first lien senior secured notes due 2023 and US\$355 million and €80 million in principal amount of second lien senior secured notes due 2024, all issued on February 21, 2018.

*For more information about the terms and conditions of our financing arrangements as of December 31, 2017, please refer to note 13 to our consolidated financial statements.*

## **Financial Debt**

Gross financial debt was US\$2,955 million as of December 31, 2017, US\$2,850 million as of December 31, 2016, and US\$2,885 million as of December 31, 2015. Net financial debt was US\$2,640 million as of December 31, 2017, US\$2,312 million as of December 31, 2016, US\$2,500 million as of December 31, 2015. The ratio of net debt to equity for the years ended December 31, 2017, 2016 and 2015 was 540%, 206%, and 191%, respectively.

The amount of our financial debt was materially reduced by our financial restructuring, which was completed on February 21, 2018. Following the effectiveness of the restructuring, our gross financial debt totaled US\$1.2 billion. See “Item 4: Information on the Company — History and development of the Company — Financial restructuring process” and note 2 to our consolidated financial statements.

“Gross financial debt” is the amount of bank overdrafts, plus current portion of financial debt, plus financial debt, and “net financial debt” is gross financial debt less cash and cash equivalents. Net financial debt is presented as additional information because we understand that certain investors believe that netting cash against debt provides a clearer picture of our financial liability exposure. However, other companies may present net financial debt differently than we do. Net financial debt is not a measure of financial performance under IFRS and should not be considered as an alternative to any other measures of performance derived in accordance with IFRS.

The following table presents a reconciliation of net financial debt to financing items of the balance sheet at December 31, 2017, 2016 and 2015 (according to IFRS standards):

	<u>Year ended December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
	In millions of US\$		
Bank overdrafts . . . . .	0.2	1.6	0.7
Current portion of financial debt . . . . .	2,902.8	2,782.1	96.5
Financial debt . . . . .	52.3	66.7	2,787.6
<b>Gross financial debt . . . . .</b>	<b>2,955.3</b>	<b>2,850.4</b>	<b>2,884.8</b>
Less cash and cash equivalents . . . . .	(315.4)	(538.8)	(385.3)
<b>Net financial debt . . . . .</b>	<b><u>2,639.9</u></b>	<b><u>2,311.6</u></b>	<b><u>2,499.5</u></b>

## EBIT and EBITDAS

EBIT is defined as operating income plus our share of income in companies accounted for under the equity method. As a complement to operating income, EBIT may be used by management as a performance indicator for segments because it captures the contribution to our results of the significant businesses that we manage through our joint ventures.

EBITDAS is defined as earnings before interest, tax, income from equity affiliates, depreciation, amortization net of amortization expense capitalized to multi-client, and share-based compensation cost. Share-based compensation includes both stock options and shares issued under our share allocation plans. EBITDAS is presented as additional information because we understand that it is one measure used by certain investors to determine our operating cash flow and historical ability to meet debt service and capital expenditure requirements.

However, other companies may present EBIT and EBITDAS differently than we do. EBIT and EBITDAS are not a measure of financial performance under IFRS and should not be considered as an alternative to cash flow from operating activities or as a measure of liquidity or an alternative to net income as indicators of our operating performance or any other measures of performance derived in accordance with IFRS.

The following table presents a reconciliation of EBITDAS and EBIT to net income for the periods indicated:

	<b>Year ended December 31,</b>		
	<b>2017</b>	<b>2016</b>	<b>2015</b>
	<b>in millions of US\$</b>		
<b>EBITDAS</b> .....	<b>186.1</b>	<b>273.6</b>	<b>452.8</b>
Depreciation and amortization .....	(181.2)	(293.2)	(1,310.6)
Multi-client surveys depreciation and amortization .....	(297.7)	(417.2)	(369.5)
Depreciation and amortization capitalized to multi-client surveys .....	30.0	42.3	72.8
Stock based compensation expenses .....	(0.7)	(2.0)	(3.1)
<b>Operating income</b> .....	<b>(263.5)</b>	<b>(396.5)</b>	<b>(1,157.6)</b>
Share of (income) loss in companies accounted for under equity method .....	(20.1)	(8.2)	21.4
<b>EBIT</b> .....	<b>(283.6)</b>	<b>(404.7)</b>	<b>(1,136.2)</b>
Cost of financial debt, net .....	(211.0)	(174.2)	(178.5)
Other financial income (loss) .....	4.2	(11.4)	(54.5)
Total income taxes .....	(23.7)	13.7	(77.0)
<b>Net income (loss)</b> .....	<b>(514.1)</b>	<b>(576.6)</b>	<b>(1,446.2)</b>

For 2017, EBIT at the Group level was a loss of US\$284 million, corresponding to a loss of US\$97 million before restructuring costs net of gain on sale of assets relating to our Transformation Plan and a loss of US\$55 million excluding Non-Operated Resources.

For 2016, EBIT at the Group level was a loss of US\$405 million, corresponding to a loss of US\$221 million before impairment of assets and restructuring costs related to our Transformation Plan and a loss of US\$137 million excluding Non-Operated Resources.

For 2015, EBIT at the Group level was a loss of US\$1,136 million corresponding to an income of US\$82 million before impairment of assets and restructuring costs related to our Transformation Plan and an income of US\$110 million excluding Non-Operated Resources.

For 2017, Group EBITDAS was US\$186 million, representing 14% of operating revenues, US\$372 million before restructuring costs net of gain on sale of assets relating to our Transformation Plan, representing 28% of operating revenues and US\$387 million excluding Non-Operated Resources.

For 2016, Group EBITDAS was US\$274 million, representing 23% of operating revenues, US\$328 million before restructuring expenses relating to our Transformation Plan, representing 27% of operating revenues and US\$350 million excluding Non-Operated Resources.

For 2015, Group EBITDAS was US\$453 million, representing 22% of operating revenues, US\$661 million before restructuring expenses relating to our Transformation Plan, representing 31% of operating revenues and US\$661 million excluding Non-Operated Resources.

The following table presents EBITDAS by segment:

	<u>Year ended December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
	(in millions of US\$)		
<b>EBITDAS</b>			
Contractual Data Acquisition .....	(47.3)	(35.9)	(23.8)
Non-Operated Resources .....	(200.6)	(76.5)	(207.2)
GGR .....	486.0	460.4	680.9
Equipment .....	(6.1)	(6.4)	67.9
Eliminations and other .....	(45.9)	(68.0)	(65.0)
<b>Consolidated Total</b> .....	<b><u>186.1</u></b>	<b><u>273.6</u></b>	<b><u>452.8</u></b>

For 2017, Non-Operated Resources EBITDAS included US\$(186) million of restructuring costs net of gain on sale of assets relating to our Transformation Plan.

For 2016, Non-Operated Resources EBITDAS included US\$(54) million of restructuring expenses relating to our Transformation Plan.

For 2015, Non-Operated Resources EBITDAS included US\$(207) million of restructuring expenses relating to our Transformation Plan.

The following table presents a reconciliation of EBITDAS to net cash provided by operating activities, according to our cash flow statement, for the periods indicated:

	<u>Year ended December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
	(in millions of US\$)		
<b>EBITDAS</b> .....	<b>186.1</b>	<b>273.6</b>	<b>452.8</b>
Other financial income (loss) .....	4.2	(11.4)	(54.5)
Variance on Provisions .....	(16.7)	(105.6)	98.5
Net gain on disposal of fixed assets .....	(30.4)	0.1	(27.2)
Dividends received from affiliates .....	2.0	13.0	5.1
Other non-cash items .....	49.2	0.3	(3.0)
Income taxes paid .....	43.5	(12.6)	(19.2)
Change in trade accounts receivables .....	(97.9)	320.2	76.8
Change in inventories and work-in-progress .....	54.5	60.2	53.2
Change in other current assets .....	(15.8)	(27.3)	25.7
Change in trade accounts payables .....	(0.4)	(98.2)	(144.1)
Change on other current liabilities .....	19.6	(58.2)	(33.5)
Impact of changes in exchange rate .....	—	1.0	(22.5)
<b>Net cash provided by operating activities</b> .....	<b><u>197.9</u></b>	<b><u>355.1</u></b>	<b><u>408.1</u></b>

### Free cash flow

We define “free cash flow” as cash flow from operations including “Proceeds from disposals of tangible and intangible assets” minus (i) the net of “Total net capital expenditures”; “Investments in multi-client surveys” set out in our consolidated statement of cash flows under “Investing”, and (ii) “Financial expenses paid” set out in our consolidated statement of cash flows under “Financing”.

Free cash flow amounted to outflows of US\$197 million in 2017 compared to outflows of US\$174 million in 2016 and outflows of US\$130 million in 2015. Before restructuring charges relating to the Transformation

Plan, free cash flow amounted to outflows of US\$96 million in 2017, compared to outflows of US\$7 million in 2016 and outflows of US\$9 million in 2015.

### Contractual obligations

The following table presents payments in future periods relating to contractual obligations as of December 31, 2017:

	Payments due by period				Total
	Less than 1 year	2-3 years	4-5 years	After 5 years	
	(in millions of US\$)				
<i>Long-term debt obligations:</i>					
— Repayments: fixed rates . . . . .	2,134.9	—	—	—	2,134.9
— Repayments: variables rates(a) . . . . .	809.2	—	—	—	809.2
— Bonds and facilities interests . . . . .	9.0	—	—	—	9.0
<b>Total Long-term debt obligations . . . . .</b>	<b>2,953.1</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>2,953.1</b>
<i>Finance leases:</i>					
— Finance lease Obligations: fixed rates . . . . .	8.2	15.6	11.8	—	35.6
— Finance lease Obligations: variables rates(a) . . . . .	—	—	—	—	—
<b>Total Finance lease obligations . . . . .</b>	<b>8.2</b>	<b>15.6</b>	<b>11.8</b>	<b>—</b>	<b>35.6</b>
<b>Bareboat agreements . . . . .</b>	<b>72.2</b>	<b>102.9</b>	<b>91.3</b>	<b>193.8</b>	<b>460.2</b>
<b>Other operating lease agreements . . . . .</b>	<b>49.7</b>	<b>55.2</b>	<b>41.5</b>	<b>44.5</b>	<b>190.9</b>
<b>Total Contractual Obligations(b) . . . . .</b>	<b>3,083.2</b>	<b>173.7</b>	<b>144.6</b>	<b>238.3</b>	<b>3,639.8</b>

(a) Payments are based on the variable rates applicable as of December 31, 2017.

(b) Payments in foreign currencies are converted in US\$ at December 31, 2017 exchange rates.

The amount of our financial debt was materially reduced by our financial restructuring, which was completed on February 21, 2018.

See “Item 4: Information on the Company — History and development of the Company — Financial restructuring process” and note 2 to our consolidated financial statements.

### Off-Balance Sheet Arrangements

We have not entered into any other off-balance sheet arrangements that have or are reasonably likely to have a current or future material effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources that are material to investors.

Please refer to note 18 to our consolidated financial statements for further details on current off-balance sheet obligations.

### Trend information

#### Currency Fluctuations

We face foreign exchange risks because a large percentage of our revenues and cash receipts are denominated in US dollars, while a significant portion of our operating expenses and income taxes accrue in euro and other currencies. Movements between the US dollar and euro or other currencies may adversely affect our operating results. Approximately 75% of our turnover was denominated in US dollars in 2017, 2016 and 2015.

As of December 31, 2017, we estimate our annual recurring expenses in euros to be approximately €350 million and as a result, an unfavorable variation of US\$0.20 in the average yearly exchange rate between the US dollar and the euro would reduce our profit before tax and our shareholders' equity by approximately US\$70 million.

*Please refer to “Item 3 — Key Information — Risk Factors — Market and Other Risks — We are exposed to exchange rates fluctuations” for further details on the effect of fluctuations in the exchange rate of US dollar against euro upon our results of operations.*

### **Interest Rates**

Following our financial restructuring effective February 21, 2018, the total amount of our first lien notes and second lien notes are subject to variable interest rates that are reset at each interest period (every three months). As a result, our interest expenses vary in line with movements in short term interest rates.

*For more information about our variable interest rate exposure, please refer to “Item 3 — Key Information — Risk Factors — Risks Related to Our Indebtedness — We are exposed to interest rate risk” and note 14 to our consolidated financial statements.*

### **Income Taxes**

We conduct the majority of our activities outside of France and pay taxes on income earned or deemed profits in each foreign country pursuant to local tax rules and regulations.

We have significant tax losses carried forward that are available to offset future taxation on income earned in certain OECD countries. Deferred tax assets are recognized only when their recovery is considered as probable or when there are existing taxable temporary differences, of an appropriate type, that reverse in an appropriate period. When tax laws limit the extent to which unused tax losses can be recovered against future taxable profits in each year, the amount of deferred tax assets recognised from unused tax losses as a result of suitable existing taxable temporary differences is restricted as specified by the tax law. When financial forecast are revised downward, we consider the depreciation of our deferred tax assets recognized on prior period.

### **Seasonality**

Our land and marine seismic data acquisition revenues, in particular in the marine market, are usually seasonal in nature. In the marine market notably, certain basins can be very active and absorb higher capacity during a limited period of the year (such as the North Sea between April and September), triggering significant volatility in demand and price in their geographical markets throughout the year. The marine data acquisition business is, by its nature, exposed to unproductive interim periods due to vessel maintenance and repairs or transit time from one operational zone to another during which revenue is not recognized. Other factors that cause variations from quarter to quarter include the effects of weather conditions in a given operating area, the internal budgeting process of some important clients for their exploration expenses, and the time needed to mobilize production means or obtain the administrative authorizations necessary to commence data acquisition contracts.

In particular, we have historically experienced higher levels of activity in the fourth quarter for our multi-client and equipment business lines as our clients seek to fully deploy annual budgeted capital.

## **Item 6: DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES**

### **Directors and Senior Management**

#### ***Board of Directors***

Under French law, the Board of Directors determines our business strategy and monitors its implementation. The Board of Directors deals with any issues relating to our affairs, pursuant to the powers granted to it by the



Ordinary Shareholders' Meeting. In particular, the Board of Directors prepares and presents our year-end accounts to our Ordinary Shareholders' Meeting. Our Board of Directors consists of between six and fifteen members elected by our shareholders. Under French law, a Director may be an individual or a legal entity for which an individual is appointed as permanent representative.

Our *statuts* (memorandum and Articles of Association) provide that each Director is elected for a four-year term by the Ordinary Shareholders' Meeting. There is no obligation for Directors to be French nationals. According to French corporate law, a physical person may simultaneously hold the office of Director in no more than five *sociétés anonymes* whose registered offices are located on French territory, subject to certain exceptions. The Board's internal regulations provide that each Director is required to own at least 156 of our shares.

Directors are required to comply with applicable law and our *statuts*. Under French law, Directors are responsible for actions taken by them that, *inter alia*, are contrary to the Company's interests. They may be held liable for such actions both individually and jointly with the other Directors.

The following table sets forth the names of our current Directors, their positions, the dates of their initial appointment as Directors and the respective expiry dates of their current term as of the date of this report:

Name	Independent <sup>(a)</sup>	Position	Age	Nationality	Initially appointed <sup>(b)</sup>	Term expires	Number of shares/ ADS held as of December 31, 2017	Number of shares/ ADS held as of March 15, 2018
Remi Dorval <sup>(1)</sup>	Yes	Chairman <sup>(c)</sup>	67	French	2005	2018	749 shares	3,180 shares
Helen Lee Bouygues <sup>(e)</sup>	Yes	Director	45	US	2018	2020	n.a	n.a
Michael Daly <sup>(1)(4)</sup>	Yes	Director	64	English	2015	2021	156 shares	663 shares
Patrice Guillaume	No	Director	59	French	2017 <sup>(d)</sup>	2021	28 shares	28 shares
		representing employees						
Anne-France Laclide-Drouin <sup>(2)</sup>	Yes	Director	50	French	2017	2021	0 share	0 share
Colette Lewiner	Yes	Director	72	French	2018	2019	n.a.	1,000
Gilberte Lombard <sup>(2)(4)</sup>	Yes	Director	73	French	2011	2019	635 shares	3,202 shares
Heidi Petersen <sup>(f)</sup>	Yes	Director	60	Norwegian	2018	2020	n.a	n.a
Mario Ruscev	Yes	Director	61	French	2018	2019	n.a.	156 shares
Philippe Salle	Yes	Director	52	French	2018	2021	n.a.	25,950 shares
Robert Semmens <sup>(1)(3)</sup>	No	Director	60	US	1999	2019	156 shares	156 shares
Kathleen Sendall <sup>(3)(4)</sup>	Yes	Director	65	Canadian	2010	2018	156 ADS	156 ADS

<sup>(1)</sup> Member of Technology/Strategy Committee.

<sup>(2)</sup> Member of Audit Committee.

<sup>(3)</sup> Member of Appointment-Remuneration Committee.

<sup>(4)</sup> Member of HSE/Sustainable Development Committee.

<sup>(a)</sup> Independent Director within the meaning of the Governance Code of the Association Française des Entreprises Privées — Mouvement des Entreprises de France. See "Item 6: Directors, Senior Management and Employees — Board Practices".

<sup>(b)</sup> All current Directors have been appointed pursuant to Article L.225-17 of the French Commercial Code.

<sup>(c)</sup> Term of office was renewed on May 27, 2016 pursuant to Section 9 § 1 of the Articles of Association authorizing the Board to further extend the office of the Chairman, once or several times for a total period not exceeding three years.

<sup>(d)</sup> Mr. Patrice Guillaume was appointed as Director by the Group Committee pursuant to Article 8 of the Company's articles of association.

<sup>(e)</sup> Mrs. Bouygues was appointed by cooptation by the Board of Directors' meeting held on March 23, 2018 in place of Bpifrance Participations. Ratification of this appointment will be submitted to the General Meeting to be held on April 26, 2018.

<sup>(f)</sup> Mrs. Petersen was appointed by cooptation by the Board of Directors' meeting held on March 23, 2018 in place of Mr. Houssin. Ratification of this appointment will be submitted to the General Meeting to be held on April 26, 2018.

The Board indicated its intention to nominate Mr. Philippe Salle as Chairman of the Board of Directors to replace Remi Dorval whose term of office will expire at the end of the Annual General Meeting to be held on April 26, 2018. Such nomination shall take place at the Board meeting to be held at the end of such General Meeting subject to the ratification of Mr. Salle's cooptation by the said General Meeting.

The composition of the Board committees will be reviewed after the Annual General Meeting to be held on April 26, 2018.

**Mr. Remi Dorval** is a graduate of the *École Centrale de Paris*, the *Institut d'Études Politiques* and the *École Nationale d'Administration*. He has been Chairman of our Board of Directors since June 4, 2014. He served as a civil Board member of the *Direction des Hydrocarbures* of the Industry Ministry from 1979 to 1984 and a civil Board member of the *Direction du Trésor* of the Economy and Finance Ministry from 1984 to 1986. Between 1986 and 1990, he was successively, within the International Bank of Western Africa, General Manager of the US Branch in New York, then Managing Director of a subsidiary in Gabon and then Executive Vice President in charge of Treasury, Financial Markets Department and Asset Management. Until 2010, he was Chief Executive Officer and Director of Soletanche-Bachy Entreprise, Senior Executive Vice President of Soletanche Freyssinet, Director, Chairman and Chief Executive Officer of Solétanche Bachy France, Chairman of Forsol, Chairman of SB 2007, a Director of SHPIC, Bachy Soletanche Holdings, SBUSA, Soldata Iberia and Nicholson. He was also a member of the Supervisory Board of CGG Holding BV. He was Executive Vice President of Vinci, a Euronext Paris-listed company from 2010 to 2015. He also served as Chairman of *La Fabrique de la Cité* and is now a Member of the Advisory Board of the latter.

**Mrs. Helen Lee Bouygues** joined our Board of Directors on March 23, 2018. She received her Bachelor of Arts, magna cum laude, from Princeton University in Political Science and a Masters of Business Administration from Harvard Business School. Mrs. Helen Lee Bouygues started her career in 1995 at J.P. Morgan in the M&A group in New York and in Hong Kong. In 1997, she joined Pathnet Inc., a telecommunications provider based in Washington DC, as Director of Development and Finance. From 2000 until 2004, she worked at Cogent Communications Inc. as Chief Operating Officer, Chief Financial Officer and Treasurer. She thereafter became a Partner at Alvarez & Marsal Paris, where she left to launch her own consulting firm specialized in corporate turnaround and transformations in 2010. In 2014, she integrated her team at McKinsey & Company in Paris where she was Partner responsible for the division Recovery and Transformation Services. Since June 2017, she is President of HLB Partners, a consulting firm. She also serves as Director and member of the Audit Committee of Vivarte, Director and member of the Audit & Remuneration Committee of Burelle SA (a company listed on Euronext Paris) and Governor and member of Finance and Strategy Committees of the American Hospital of Paris (non-profit).

**Mr. Michael Daly** is a graduate of The University College of Wales, Leeds University (PhD) and Harvard Business School (PMD). Mr. Daly is a British geologist, oil and gas executive and academic. He joined the Geological Survey of Zambia in 1976, mapping the remote Muchinga Mountains of northeast Zambia. He began his business career with BP in 1986 as a research geologist. After a period of strategy work and exploration and production positions in Venezuela, the North Sea and London, he became President of BP's Middle East and S. Asia exploration and production business. In 2006, Mr. Daly became BP's Global Exploration Chief and a Group Vice President. He served on BP's Group Executive Team as Executive Vice President from 2010, and retired in 2014 after 28 years with the company. He currently serves as Senior Director at Macro Advisory Partners, Non-Executive Director with Tullow Oil, as Visiting Professor in Earth Sciences at The University of Oxford and Director of Daly Advisory and Research Ltd.

**Mr. Patrice Guillaume** graduated from the Ecole Centrale of Lyon (France). He began his professional activity in 1981 as a professor of electronics at the Polytechnic of Kano Nigeria as part of the volunteer service to the national service at the French Ministry of External Relations. After a three-year stint at Air Liquide's research center as a research engineer in combustion, he joined CGG in 1985 as deputy head of mission for land acquisitions in Italy. He then returned to a career in research in geophysics in the field of imaging to become an expert in tomography and managed the team specialized in tomography. He has been a member of the CGG Works Council for about 20 years and secretary of the Group Committee for about 10 years.

**Ms. Anne-France Laclide-Drouin** joined our Board of Directors on October 31, 2017. She is a graduate from the *Institut Commercial* of Nancy (ICN) and Mannheim University. She also holds a *Diplôme d'Etudes Supérieures Comptables et Financières*. Ms. Laclide-Drouin began her career at PricewaterhouseCoopers before occupying various positions in the financial division of international groups in different sectors, such as the distribution sector, where she acquired international experience. In 2001, she became Financial Director of Guilbert, then Staples, AS Watson and GrandVision. Mrs. Laclide-Drouin has been CFO of Oberthur Technologies, comprising the responsibility of the financial and legal functions of the group, from 2013 to 2017. She is now CFO of Consolis Holding SAS and she also serves as Director of Bonna Sabla SA (France), Consolis Oy AB (Finland), Parma Oy (Finland), Philbert Tunisie SA (Tunisia), Member of the Supervisory Board and Chairman of WPS Ujski (Poland), Member of the Supervisory Board of ASA Epiitoipari Kft (Hungary) and General Manager of Compact (BC) SARL (Luxembourg).

**Ms. Colette Lewiner** joined our Board of Directors on March 8, 2018. Ms. Colette Lewiner has graduated from *Ecole Normale Supérieure* (a leading French higher education University) and has a PhD in physics. In November 1979, after around 10 years spent as a physics researcher, she joined Electricité de France (EDF), she headed the Fuel Procurement division (purchasing fuel oil, gas, coal and mainly nuclear fuel) and then she became in 1989 EDF's first woman Executive Vice President in charge of the Commercial division that she created. Ms. Lewiner was appointed Chairman of the Board, Chief Executive Officer, of SGN on March 1992. When she took SGN leadership, this engineering company revenue was only in the nuclear sector and at 90% for its main shareholder Cogema. She expanded this 9,000 people top class engineering and services company internationally and added a Chemical branch. In 1998, SGN revenues had grown (despite its decrease in France) and non-French clients (US, Japan, etc.) accounted for 30% of the revenues. In 1998, Ms. Lewiner joined Capgemini and created the Utilities Global Market Unit. In May 2000, following the merger of Cap Gemini and Ernst & Young, Ms. Lewiner was nominated Executive Vice President and Global Leader of the Energy, Utilities and Chemicals Sector. In 2011, with 1 billion euros revenue this global Unit represented 11% of Capgemini's revenue (compared to 4% in 1998) had more than 11,000 collaborators. After having lead during 14 years the "Energy, Utilities and Chemicals" sector, Ms. Lewiner became on July 1, 2012, Energy advisor to Capgemini Chairman. She has been Director and Member of the Audit Committee of TGS Nopec Geophysical Company (from 2006 to 2015), Non-Executive Chairman of TDF (from 2010 to 2012), Director and Member of the Strategy Committee of Lafarge Holcim (from 2011 to 2014) and Director and Chairwoman of the Nomination and Remuneration Committee of Cromton Greaves (from 2013 to 2016). Ms. Colette Lewiner currently serves as Director, Member of the Strategy & Sustainable Development Committee of Nexans (a company listed on Euronext Paris), Director, Chairwoman of the Selection and Compensation Committee of Bouygues (a company listed on Euronext Paris), Director, Member of the Accounts Committee, Member of the Ethics Committee and Chairwoman of the selection and Compensation Committee of Colas (a company listed on Euronext Paris and at 96.6% controlled by Bouygues), Director, Chairwoman of the Audit Committee, Member of the Governance Committee of Getlink (formerly Eurotunnel, a company listed on Euronext Paris), Director, Member of the Audit Committee, Chairwoman of the Ethic Committee, Member of the Nomination and Remuneration Committee of EDF (a company listed on Euronext Paris), Director, Member of the Strategy Committee, Member of the Audit Committee of Ingenico (a company listed on Euronext Paris — this term of office will expire at the end of the next annual general meeting of Ingenico).

**Ms. Gilberte Lombard** joined our Board of Directors on May 4, 2011. She held various financial positions within HSBC France (formerly Credit Commercial de France) from 1990 until her retirement in February 2011. She began her career as a financial analyst and then joined the M&A department of Credit Commercial de France. After Credit Commercial de France was privatized in 1987, she became the Investor Relations Officer in charge of relationships with financial analysts and institutional investors. She also coordinated the information policy for both major bank shareholders and individual bank shareholders from 1987 to 2000. In 2000, she was appointed as head of financial transactions in charge of structuring and implementing sales, acquisitions and mergers for HSBC France (which by now had taken over Credit Commercial de France) and managing its industrial and financial portfolio. She was appointed a member of the Board and the Audit Committee of several companies within the HSBC group in France. She was also appointed as Secretary of the Board of Directors in

1990 and served as a member of the Supervisory Board, member of the Audit Committee and member of the Remuneration Committee of Zodiac Aerospace until February 12, 2018. She continues to serve as Director, Chairman of the Remuneration Committee and member of the Strategic Committee of Robertet SA, two Euronext Paris-listed companies. She is a Director of the *Vernet Retraite* association. Ms. Lombard holds a Masters degree in Economic Sciences and is a graduate of the INSEAD Advanced Management Program. She is *Chevalier de la Légion d'Honneur*.

**Ms. Heidi Petersen** joined our Board of Directors on March 23, 2018. Ms. Petersen holds a M.Sc. (cand. scient. degree) from the Norwegian University of Science and Technology in Trondheim, Department of Chemistry and Mathematics. She started her career as research assistant at the Norwegian University of Science and Technology in Trondheim in 1983. She was employed in Kvaerner Oil & Gas from 1988 where she worked as an engineer, project manager and departmental manager engaged in offshore and land-based industrial assignments. She served as maintenance supervisor of the Gullfaks C platform for two years from 1995 to 1997. She was appointed head of Kvaerner Oil & Gas AS in Sandefjord in 1997, where she served as Vice President until 2000. In 2000, she headed a management buy-out that led to the startup of Future Engineering AS and served as its Managing Director from 2000 to 2004. In 2004, she sold the company to Rambøll and served after that as Managing Director of Rambøll Oil & Gas from 2004 to 2007. Ms. Petersen is an independent businesswoman, with 30 years of experience in the oil and offshore industry. She has board experience in industrial, oil and gas-based operations, as well as energy supply and financial enterprises. Mrs. Petersen owns Future Technology AS, a leading consultancy and technology company located in Sandefjord and Oslo offering consultant services, engineering services and construction solutions, notably in the oil and gas market. She also serves as Chairman of Future Technology AS, Director of Arendal Fossekompagni ASA (a company listed on the Oslo Stock Exchange) and Director of HIP AS (Norway).

**Mr. Mario Ruscev** joined our Board of Directors on March 8, 2018. Dr. Ruscev is a Nuclear Physicist by training holding a PhD from Yale University. He spent 23 years with Schlumberger in various responsibilities in the R&D and operational areas. He was the head of the Seismic, Testing, Water & Gas services and Wireline Product Lines. He has since been CEO of FormFactor a provider of unique nanotech connectors for the semiconductor industry, CEO of IGSS (GeoTech) the major Russian Seismic Company, CTO at Baker Hughes and EVP at Weatherford. During his career, Mr. Ruscev had the opportunity to evolve in many environments where Technology was a differentiator and his team's successfully introduced systems as diverse as: luggage scanners differentiating between organic and inorganic materials still in use after 30 years, the first Container Scanner based on unique gaseous sensors, many Wireline and Testing tools including the PlatForm Express Wireline combo still unequalled after 25 years, the first single sensor seismic systems called Q, the first ever Aquifer Storage and Recovery in Middle East, simulators allowing to understand the formation and propagations of fractures during Frac operations or analytics applications in the Oilfield Operations. His combined Technology and Operational experiences give him a unique perspective on the evolution of the Oilfield business.

**Mr. Philippe Salle** joined our Board of Directors on March 8, 2018. Mr. Philippe Salle is a graduate of the *École des Mines* and holds a MBA from the Kellogg Graduate School of Management, Northwestern University (Chicago, USA). Mr. Philippe Salle began his career with Total in Indonesia before joining Accenture in 1990. He then joined McKinsey in 1995 and became Senior Manager in 1998. In 1999, he joined the Vedior group (which later became Randstad, a company listed on Euronext Amsterdam). He became Chairman and CEO of Vedior France in 2002; In 2006, he became a member of the managing board of Vedior NV and was then appointed President for South Europe in 2006 (France, Spain, Italy and Switzerland). In 2007, he joined the Geoservices group, a technological company operating in the petroleum industry and listed on the New York Stock Exchange. He was first appointed Deputy CEO and then Chairman and CEO until March 2011. From 2011 to 2015, he was Chairman and CEO of the Altran group. He then became Chairman and CEO of Elixir where he remained until October 2017. He is now CEO of Foncia. He has also been a Director of Gaztransport and Technigaz (a company listed on Euronext Paris), since 2014 and a Director of Banque Transatlantique since 2010.



**Mr. Robert Semmens** is a private investor and adjunct professor of finance at the Leonard N. Stern School of Business (New York University). He holds a law degree from Northwestern University School of Law and an MBA in Finance and Accounting from the J.L. Kellogg Graduate School of Management at Northwestern University. He was Vice President of Goldman Sachs & Co. in Investment Banking, and at J. Aron and Principal Investing, all in energy related businesses. He was co-founder of The Beacon Group, where he raised and co-managed private equity funds in the energy business. Mr. Semmens joined the Board of CGG in connection with an investment made by the Beacon Group in CGG in 1999. At CGG, he has served on the Audit, Appointment-Remuneration and Strategic Committees of the Board and has been a Director of Sercel. He has served on more than 15 boards, all in the energy business. He currently serves as a Director of MicroPharma Ltd (Canada) and Bronco Holdings LLC (USA).

**Ms. Kathleen Sendall** joined our Board of Directors on May 5, 2010. She is a mechanical engineering graduate of Queen's University (Ontario), holds an Honorary Doctorate from the University of Calgary and is a graduate of the Western Executive Program. She began her career as a junior process engineer for Petro-Canada in 1978, and then was a project engineer for compressor station design and construction at Nova, an Alberta corporation for two years. Ms. Sendall held various positions within Petro-Canada between 1984 and 1996. From 1996 to 2000, she was Vice President Engineering & Technology, and was Vice President, Western Canada Development & Operations until 2002. Ms. Sendall was appointed Senior Vice President, North American Natural Gas of Petro-Canada from 2002 to 2009. She was also a Governor on the Board of Governors of the University of Calgary until 2010 and Governor and Chair of the Board of the Canadian Association of Petroleum Producers. Mrs. Sendall is a member of the Association of Professional Engineers and Geoscientists of Alberta (APEGA). She also serves as a Director of ENMAX, as trustee of the Ernest C. Manning Awards Foundation and as Chairman of the Board of Directors of Emission Reductions Alberta. Ms. Sendall was invested as a member of the Order of Canada in 2011 and was awarded the Queen's Jubilee Medal in 2012.

### *Executive Officers*

Under French law and our current *statuts*, the Chief Executive Officer has full executive authority to manage our affairs and has full power to act on our behalf and to represent us in dealings with third parties, subject only to (i) the corporate purpose of the Company, (ii) those powers expressly reserved by law to the Board of Directors or our shareholders and (iii) limitations that the Board of Directors may resolve, such limitations not being binding on third parties. The Chief Executive Officer determines and is responsible for the implementation of the goals, strategies and budgets for our different businesses, which are reviewed and monitored by the Board of Directors. The Board of Directors has the power to appoint and remove the Chief Executive Officer at any time. In accordance with French corporate law, our current *statuts* provide that the Board of Directors may either elect one person to assume both the position of Chairman and the position of Chief Executive Officer or it may elect two different people to fill the positions. The Board of Directors decided to separate the roles of Chairman and Chief Executive Officer. Since June 4, 2014, Mr. Dorval has held the position of Chairman, and since June 30, 2010, Mr. Malcor has held the position of Chief Executive Officer. Our current *statuts* also allow that the Board of Directors to appoint up to five Corporate Officers (*Directeurs Généraux Délégués* or Corporate Officers) upon proposal of the Chief Executive Officer, whether or not this person is also the Chairman of the Board. Stéphane-Paul Frydman, Pascal Rouiller and Sophie Zurquiyah were each appointed as Corporate Officers by our Board of Directors. Their role as Corporate Officer was terminated on January 4, 2017 upon decision of the Board of Directors.

The following table sets forth the names of members of our Corporate Committee and their current positions with us.

Name	Current position
Jean-Georges Malcor . . . . .	Chief Executive Officer
Stéphane-Paul Frydman . . . . .	Group Chief Financial Officer
Pascal Rouiller . . . . .	Chief Operating Officer
Sophie Zurquiyah . . . . .	Chief Operating Officer

**Mr. Jean-Georges Malcor**, 61, is a graduate of the *École Centrale de Paris*, holds a Doctorate from the *École supérieure des Mines de Paris* and a Master in Science from Stanford University. He has been Chief Executive Officer of CGG S.A. since June 30, 2010 and a Director of CGG S.A. since May 4, 2011. From January 1, 2010 to June 30, 2010, he served as President of CGG. Mr. Malcor began his career at the Thales group as an acoustic engineer (1983-1987) in the Underwater Activities division, where he was in charge of hydrophone and geophone design and towed streamer programs. He then moved to Sydney-based Thomson Sintra Pacific Australia, becoming Managing Director of the company in 1990. Mr. Malcor became Director of Marketing & Communications (1991), then Director, Foreign Operations, of Thomson Sintra Activités Sous-Marines (1993). In 1996, he was appointed Managing Director of Thomson Marconi Sonar Australia which was, in addition to its military activities, the lead developing company for the solid geophysical streamer. In 1999, he became the first Managing Director of the newly formed joint venture Australian Defense Industry. During this time, he operated the Sydney based Woolloomooloo Shipyard (the largest dry dock in the southern hemisphere). In 2002, he became Senior Vice President, International Operations, at Thales International. From 2004 to 2009, he was Senior Vice President in charge of the Naval Division, supervising all naval activities in Thales, including ship design, building and maintenance. In January 2009, he became Senior Vice President in charge of the Aerospace Division. In June 2009, he moved to the position of Senior Vice President, Continental Europe, Turkey, Russia, Asia, Africa, Middle East, and Latin America. He also serves as a member of the Board of Directors of the Arabian Geophysical and Surveying Company (ARGAS), a company 49% held by the Group. He is also a member of the Audit Committee and member of the Supervisory Board of STMicroelectronics (a company listed on Euronext Paris, the New York Stock Exchange and Borsa Italiana), a member of the Supervisory Board of Fives SA, General Manager of SCI l’Australe, Chairman of the Board of Directors of *Universcience Partenaires*, Director of *Oceanides* association and of the *École Centrale Supélec*, and an active member of *EVOLEN* and of *Cluster Maritime Français*.

**Mr. Stéphane-Paul Frydman**, 54, is a graduate of the *École Polytechnique* of Paris and the *École des Mines* of Paris. He has been Group Chief Financial Officer since January 2007 and served as Corporate Officer from February 29, 2012 to January 4, 2017. He is also in charge of the General Secretary Function, as well as the Strategy and Investors’ relations departments. Before that time, he had been Group Controller, Treasurer and Deputy Chief Financial Officer since September 2005, Deputy Chief Financial Officer of the Group since January 2004 and Vice President in charge of corporate financial affairs reporting to the Chief Financial Officer since December 2002. Prior to joining CGG, Mr. Frydman was, from April 2000 to November 2002, an Investor Officer of Butler Capital Partners, a private equity firm and from June 1997 to March 2000, Industrial Advisor to the French Minister of the Economy and Finances. Mr. Frydman is currently a Director of CGG Holding (U.S.) Inc. and Chairman of the Board of Directors of CGG International SA.

**Mr. Pascal Rouiller**, 64, is a graduate of the *École Centrale de Paris*. He is Chief Operating Officer in charge of the Acquisition and Equipment business lines and of Risk Management/HSE/Sustainable Development for the Group. He served as Corporate Officer from February 29, 2012 to January 4, 2017. Before that time, Mr. Rouiller served as Vice President for the Asia-Pacific region from May 1992 to September 1995, then as Vice President of our Product segment from October 1995 to December 1999. In 1999, he was appointed Chief Operating Officer of the Sercel Group and has acted as Chairman and Chief Executive Officer of Sercel SAS since September 2005. Mr. Rouiller is now Chief Executive Officer of Sercel SAS, Sercel Holding SAS and Chairman of CGG Services SAS, Chairman of the Board of Directors of Sercel (Beijing) Technological Services



Co. Ltd. and of Sercel Australia Pty. Ltd., Chairman of the Board of Sercel Canada Ltd., Chairman of the Board of Directors of Hebei Sercel Junfeng Geophysical Prospecting Equipment Co. Ltd., Director of Sercel Singapore Private Ltd., Director and Chief Executive Officer of Sercel Inc., and Director of Seabed Geosolutions B.V. (a Dutch company 40% held by the Group).

**Ms. Sophie Zurquiyah**, 51, is a graduate from *École Centrale de Paris*, holds a master in Numerical analysis from the University of Paris VI (UPMC) and a master's degree in aerospace engineering from the University of Colorado. As of the date of this report, she is Chief Operating Officer (COO) and Senior Executive Vice President in charge of the GGR segment, Technology and Global Operational Excellence. She joined CGG in 2013 after 22 years in the oilfield services industry, working for Schlumberger in global executive positions ranging from business, operations, functional to technology, based in France, the United States and Brazil. Ms. Zurquiyah also serves as Senior Executive Vice President of CGG Services (U.S.) Inc. and Director of Petroleum Edge Ltd. She has been a Director of Safran (a company listed on Euronext Paris) since June 2017.

#### *Term of Mr. Jean-Georges Malcor's office as Chief Executive Officer*

Following the approval by the extraordinary general meeting of the resolutions necessary to implement the Safeguard Plan, and with the confirmation judgment of the Chapter 11 Plan in the United States and the judgment approving the Safeguard Plan rendered by the Commercial Court of Paris on December 1, 2017, Mr. Jean-Georges Malcor decided, in agreement with the Board of Directors, not to pursue his mandate of Chief Executive Officer once the restructuring process is completed.

The Board of Directors of the Company, at its meeting held on December 1, 2017, determined the terms and conditions of the termination of Mr. Jean-Georges Malcor's office as Chief Executive Officer. This decision followed the Board of Director's approval of the early termination of his office as Chief Executive Officer by October 1, 2018 at the latest or any earlier date on which a new Chief Executive Officer is appointed and takes up his duties. The compensation arrangements resulting from this decision are described in section "Compensation" below relating to the Chief Executive Officer's compensation.

The meeting of the Board of Directors held on March 23, 2018 approved the appointment of Ms. Sophie Zurquiyah as Chief Executive Officer until the annual general meeting to be convened to approve the 2021 financial statements. This appointment will be effective at the end of the annual general meeting to be held on April 26, 2018.

## **Compensation**

### **Annual fixed and variable compensation of the Chairman of the Board of Directors and the Chief Executive Officer for 2016 and 2017 fiscal years**

#### *Compensation of Mr. Remi Dorval, Chairman of the Board of Directors*

The gross fixed compensation earned by and paid by the Company and its subsidiaries to Mr. Remi Dorval, Chairman of the Board of Directors, for fiscal years 2016 and 2017, is set forth in the table below.

**For fiscal year 2016**, the Board of Directors resolved that Mr. Dorval would benefit, as Chairman of the Board of Directors, from a fixed amount of Directors' fees, set at €57,200 per year, and from a fixed remuneration set at €109,750 per year. In addition, he benefited from a benefit in kind (company car), corresponding to €3,360 per year, in addition to his fixed compensation.

For fiscal year 2017, the Board of Directors resolved that Mr. Dorval would benefit, as Chairman of the Board of Directors, from a fixed amount of Directors' fees, set at €57,200 per year, and from a fixed remuneration set at €115,000 per year, to which the actual amount borne by the Company with respect to his company car will be deducted. This benefit in kind (company car) amounts to €3,360.

Remi Dorval Chairman of the Board of Directors	2016		2017	
	Amounts earned	Amounts paid	Amounts earned	Amounts paid
Fixed compensation . . . . .	€109,750.00	€109,750.00	€109,750.00	€109,750.00
Annual variable compensation . . . . .	N/A	N/A	N/A	N/A
Multi-annual variable compensation . . . . .	N/A	N/A	N/A	N/A
Exceptional compensation . . . . .	N/A	N/A	N/A	N/A
Retirement Indemnity . . . . .	N/A	N/A	N/A	N/A
Director's fees . . . . .	€57,700.00 <sup>(1)(4)</sup>	€65,000.00 <sup>(2)</sup>	€57,200.00 <sup>(3)</sup>	€57,700.00 <sup>(1)(4)</sup>
Benefits in kind . . . . .	€3,360.00	€3,360.00	€3,360.00	€3,360.00
<b>Total . . . . .</b>	<b>€170,810.00</b>	<b>€178,110.00</b>	<b>€170,310.00</b>	<b>€170,810.00</b>

(1) Paid in February 2017 for fiscal year 2016.

(2) Paid in January 2016 for fiscal year 2015.

(3) Paid in March 2018 for fiscal year 2017.

(4) Includes an amount of €500 as travel indemnity according to the Directors' compensation principles described below.

#### Compensation of Mr. Jean-Georges Malcor, Chief Executive Officer

The variable part of the Chief Executive Officer's compensation is based on qualitative criteria (individual objectives), accounting for a third of the variable compensation, and quantitative criteria (financial objectives), accounting for two-thirds of the variable compensation. His target amount was set at 100% of his fixed compensation. Lastly, in case of overachievement, the allocation of short term variable incentive compensation may involve:

- the quantitative criteria (financial objectives) for a maximum of 133.3% of the fixed salary, and
- the qualitative criteria (individual objectives) for a maximum of 66.6% of the fixed salary.

For fiscal year 2016, during a meeting held on March 24, 2016, the Board of Directors resolved that the variable compensation of Mr. Malcor would be composed as follows:

- Quantitative criteria based on the achievement of budget objectives: Group free cash flow (25% weighting), Group external revenues (25% weighting), Group operating income (25% weighting), and EBITDAS minus tangible and intangible investments made in the course of the fiscal year (25% weighting);
- Qualitative criteria based on the achievement of individual objectives, related to the implementation of the Group transformation plan, the relations with our major customers, the relations with the Board of Directors, the shareholders and the financial community, strategy and development of the Group in the industry and outside the oil and gas industry, human resources and the improvement of the Group HSE performance.

The level of achievement for each objective was determined by the Board of Directors but is not disclosed for confidentiality reasons.

In 2016, Mr. Jean-Georges Malcor's objectives were achieved at 61% of the target amount of his variable compensation and of his fixed compensation.

**For fiscal year 2017**, during a meeting held on April 6, 2017, the Board of Directors resolved that the variable compensation of Mr. Malcor would be composed as follows:

- Quantitative criteria based on the achievement of budget objectives: Group free cash flow (25% weighting), Group external revenues (25% weighting), Group operating income (25% weighting), and EBITDAS minus tangible and intangible investments made in the course of the fiscal year (25% weighting);
- Qualitative criteria, based on the achievement of individual objectives, were focused on (i) the financial restructuring plan and, in particular, its negotiation with all stakeholders, the implementation of the legal proceedings in France and in the U.S. as well as the approval of the plan by the extraordinary shareholders' meeting — this objective included also the restructuring of our financial obligations on the Nordic credit facility; and (ii) the budgets' monitoring, our operational performance, ensuring cohesion and motivation of our employees (clients satisfaction, monitoring of the HSE/SD objectives, regular communication internally for our employees and externally for our clients and state governments).

The level of achievement for each objective was determined by the Board of Directors but is not disclosed for confidentiality reasons.

In 2017, Mr. Jean-Georges Malcor's objectives were achieved at 145% of the target amount of his variable compensation and of his fixed compensation.

The gross fixed and variable compensations paid by the Company and its subsidiaries to Mr. Jean-Georges Malcor in fiscal years 2016 and 2017 are set forth below:

Jean-Georges Malcor Chief Executive Officer	2016		2017	
	Amounts earned	Amounts paid	Amounts earned	Amounts paid
Fixed compensation . . . . .	€630,000.00	€630,000.00	€630,000.00	€630,000.00
Annual variable compensation . . . . .	€384,216.00	€480,087.00 <sup>(1)</sup>	€914,885.00 <sup>(2)</sup>	€384,216.00 <sup>(3)</sup>
Multi-annual variable compensation <sup>(4)</sup> . . . . .	N/A	N/A	N/A	N/A
Exceptional compensation . . . . .	N/A	N/A	N/A	N/A
Director's fees . . . . .	N/A	N/A	N/A	N/A
Benefits in kind . . . . .	€11,880.00	€11,880.00	€11,880.00	€11,880.00
<b>Total . . . . .</b>	<b>€1,026,096.00</b>	<b>€1,121,967.00</b>	<b>€1,556,765.00</b>	<b>€1,026,096.00</b>

<sup>(1)</sup> Paid in March 2016 for fiscal year 2015.

<sup>(2)</sup> The variable compensation due for the 2017 fiscal year in respect of the term of office of Mr. Jean-Georges Malcor as Chief Executive Officer will be paid in 2018, after approval of the financial statements by the Annual General Meeting convened on April 26, 2018. This payment will be subject to approval of such variable compensation by the same General Meeting in accordance with the conditions provided by article L. 225-100 of the French Commercial Code.

<sup>(3)</sup> Paid in March 2017 for fiscal year 2016.

<sup>(4)</sup> Additional details on the multi-annual variable compensation implemented on June 23, 2016 are provided below. No compensation was earned or paid pursuant to this mechanism in 2016 and 2017.

Conditions of compensation and benefits granted to the Chief Executive Officer following the Board of Directors' meeting held on December 1, 2017

The Board of Directors of the Company, at its meeting held on December 1, 2017, approved the conditions relating to the departure of Mr. Jean-Georges Malcor as Chief Executive Officer (see also paragraph "Contractual

indemnity in case of termination” below) and, after taking into consideration the recommendations of the Appointment and Remuneration Committee, decided the following:

- no compensation or other benefits will be paid to Mr. Jean-Georges Malcor upon or after the termination of his duties as Chief Executive Officer;
- the 2018 compensation of Mr. Jean-Georges Malcor for his duties as Chief Executive Officer would consist of the following elements:
  - a fixed compensation of €52,500 gross monthly, unchanged from his 2017 fixed compensation;
  - no annual variable compensation subject to the achievement of qualitative objectives and quantifiable objectives will be attributed to him;
  - a special compensation payment of a gross fixed amount of €75,000 conditional upon the final completion, under certain conditions, of all the financial securities issuance operations allowing for the implementation of the Group’s debt restructuring; and
  - an additional special compensation payment conditional upon the final completion, under certain conditions, of a refinancing of the debt, amounting to €75,000, which could be increased to €175,000 should such refinancing occur on or prior to February 21, 2018.

Mr. Jean-Georges Malcor will continue to benefit from the performance units set up in June 2015 and 2016, according to unchanged performance conditions and from the stock options granted to him by the Board of Directors and remaining outstanding to date, also in accordance with unchanged acquisition conditions.

Mr. Jean-Georges Malcor will remain subject to the non-compete commitment authorized by the Board of Directors on June 30, 2010 for a period of 18 months in return for an indemnity equal to 100% of his annual reference compensation, corresponding to the amount of (i) any gross fixed compensation received within the Group during the last 12 months and (ii) the annual average of the variable compensation due for the last three (3) years, it being specified that this non-compete commitment would be replaced by a new non-compete commitment for a period of 24 months and in return for an indemnity equal to the 16/12th of his reference compensation in the event the employment contract referred to below is concluded.

Mr. Jean-Georges Malcor will continue to benefit from the supplementary defined benefit pension scheme in effect within the Group for certain members of the Executive Committee and whose extension to Mr. Jean-Georges Malcor has been authorized by the Board of Directors during its meeting of June 30, 2010.

In the event that Mr. Jean-Georges Malcor’s term of office is terminated before October 1, 2018, the Board of Directors has authorized, in accordance with Article L.225-38 and, as appropriate, Article L.225-42-1 of the French Commercial Code, the entering into of an employment contract with him in order to allow his continued collaboration with the Company as “Senior Advisor” until that date, under the same conditions of compensation as those applicable to his mandate as Chief Executive Officer (with the exception of the non-competition commitment which would in this case be for a period of 24 months and in return for an indemnity equal to the 16/12th of his reference compensation, as indicated above).

#### ***Multi-annual bonus plan in the form of performance units***

On June 23, 2016, the Board of Directors of the Company, upon the Appointment-Remuneration Committee’s proposal, implemented a multi-annual bonus system in the form of performance units, replacing the performance shares plans with a twofold objective:

- Implementation of a globally harmonized remuneration mechanism consistent with the growing internalization of our Group, and

- Establishment of a closer link between the remuneration of the main senior executives and the share price and overall economic performance of the Group taken as a whole on a mid-term basis (three years).

The Corporate Committee members (including the Chief Executive Officer) along with the senior executives of the Group and certain additional employees that contributed to the Group performance or that have strong evolution potential within the Group are eligible for the plan.

The performance units vest upon the expiry of a three-year period from the allocation date subject to a presence condition in the Group at the time of vesting and achievement of certain performance conditions. These performance conditions are based on precise and predetermined qualitative criteria, which are not described in this report for confidentiality concerns. These performance conditions, each conditioning the vesting of 50% of the allocation, are based on the achievement of Group objectives related to the return on capital employed and balance sheet structure along with achievement of business segments' financial objectives aligned with the Group strategic orientations over a three-year period.

The number of vested performance units under these two plans is based on achievement of the Group objectives up to 60% of the global allocation. The balance is allocated based on the achievement of the segments' objectives.

The valuation of each vested performance unit under these two plans shall be equal to the average closing price of CGG shares on Euronext over the five trading days prior to the vesting date. The vested performance units will be paid half in cash and half in existing CGG shares.

The performance units allocated to the Chief Executive Officer by the Board of Directors on June 23, 2016 are set forth below:

<u>Name of the Executive Officer</u>	<u>Date of Board meeting</u>	<u>Maximum number of Performance Units</u>	<u>Valuation of performance units pursuant to the method used for consolidated financial statements (€)</u>	<u>Acquisition date</u>
Jean-Georges MALCOR <i>Chief Executive Officer</i>	06.23.2016	108,960	32,943	06.23.2019

#### Corporate Committee

As of December 31, 2017, the compensation of the members of Corporate Committee consists of a fixed element and a bonus.

The variable part of this compensation is based on the achievement of Group's financial objectives such as the operating income, free cash flow and external revenues of the Group, as well as on the achievement of commercial and financial objectives within each segment of the Group and their respective heads. This variable part is also based on the achievement of qualitative individual objectives.

Considering the importance of this variable part, the amount of the Corporate Committee members' compensation may significantly vary from one year to another. The variable part is set and paid the following year, in March.

The aggregate compensation of our Corporate Committee, including the Chief Executive Officer, paid in fiscal year 2017 was €3,226,438 including the benefits in kind but excluding Directors' fees, if any.

## **Contractual indemnity in case of termination**

### Chief Executive Officer

#### Agreement in force until January 4, 2017

On June 4, 2014, the Board of Directors renewed the term of office of Mr. Jean-Georges Malcor for a three-year period, and also renewed, for the duration of his term in office, the terms and conditions of the advantages granted to Mr. Jean-Georges Malcor in case of termination of his term of office, which were previously approved by the Board of Directors on May 10, 2012 and ratified at the General Meeting of May 3, 2013. The renewal of the advantages was ratified at the General Meeting held on May 29, 2015.

These advantages are the following:

Mr. Jean-Georges Malcor does not benefit from any contractual termination indemnity, except in case of a forced departure relating to a change of control or a change of strategy. In such case, his indemnity shall be equal to the difference between:

- (i) a gross amount of 200% of the gross fixed compensation paid by the Company to Mr. Jean-Georges Malcor during the 12-month period preceding his departure date, to which is added the annual average of the variable compensation paid by the Company to Mr. Jean-Georges Malcor over the 36-month period preceding his departure date, (hereinafter “the Reference Annual Compensation”), and
- (ii) any sum to which Mr. Jean-Georges Malcor may be entitled as a result of his departure from the Group, including any sums to be paid pursuant to his non-competition agreement.

The indemnity global amount shall not exceed 200% of the Reference Annual Compensation.

Pursuant to Article L.225-42-1 of the Commercial Code, the payment of the special termination indemnity referred to hereinabove shall remain subject to the achievement of the following performance conditions, related to the Company’s performance:

- The average, calculated over the 60 trading days preceding the departure date, of the ratio of the CGG ADS price over the PHLX Oil Service Sector<sup>SM</sup> (OSX<sup>SM</sup>) index shall equal at least two-thirds of the same average ratio over the same 60-day period four years before the date on which Mr. Malcor leaves the Group;
- The average, calculated over the 60 trading days preceding the departure date, of the ratio of the CGG share price over the SBF 120 index shall equal at least two-thirds of the same average ratio over the same 60-day period four years before the date on which Mr. Malcor leaves the Group;
- The average margin rate of the Group EBITDAS over the four years preceding the date on which Mr. Malcor leaves the Group shall be at least 25%.

Payment of the full amount of the special termination indemnity is subject to the fulfillment of two out of three aforementioned conditions. If only one condition is fulfilled, then Mr. Jean-Georges Malcor will be entitled to receive only 50% of the special termination indemnity.

Finally, pursuant to said Article L.225-42-1 of the French Commercial Code in particular, the Board of Directors shall verify prior to the payment of the special severance payment (i) that the performance conditions described above are duly fulfilled and (ii) that the payment of such special termination indemnity complies with the Corporate Governance Code applicable at the date of departure.



Amended agreement dated January 4, 2017:

On January 4, 2017, the Board of Directors amended the triggering events and the performance conditions of the advantages granted to Mr. Jean-Georges Malcor in case of termination of his term of office. They are now as follows:

Mr. Jean-Georges Malcor is entitled to receive the special termination indemnity in case of dismissal, non-renewal of his term of office or in any other event of a forced departure linked to a change of control resulting in a substantial change in situation or a change of strategy.

The payment of the special termination indemnity will depend on the level of the average rate of achievement of the objectives relating to Mr. Jean-Georges Malcor's variable compensation calculated over the three financial years preceding his departure date as follows:

- If such average rate is below 40%, no special termination indemnity will be paid;
- If such average rate is higher than 40%, the special termination indemnity will be equal to 100% of the Reference Annual Compensation.

The other provisions of the agreement remain unchanged.

On June 1, 2017, the Board of Directors decided to renew the term of office of Mr. Jean-Georges Malcor until June 1, 2020 as Chief Executive Officer, and also renewed the advantages granted to Mr. Jean-Georges Malcor in case of termination of his term of office with the same terms and conditions as those existing since January 4, 2017.

Pursuant to article L. 225-42-1 of the French Commercial Code, the modification and the renewal of these advantages were submitted for ratification to the Annual General Meeting held on October 31, 2017 under the 9<sup>th</sup> and 10<sup>th</sup> resolutions. The General Meeting did not approve these resolutions.

The Board of Directors held on December 1, 2017, which among other things, determined the terms and conditions of the termination of Mr. Jean-Georges Malcor's office as Chief Executive Officer, decided that no severance pay will be paid to Mr. Jean-Georges Malcor upon termination of his office as Chief Executive Officer or thereafter.

## **Non-compete agreement**

### Chief Executive Officer

On June 30, 2010, the Board of Directors approved, in accordance with procedures applicable to related party agreements and provided for by Article L.225-38 et seq. of the French Commercial Code, the signature of a non-compete agreement between the Company and Mr. Jean-Georges Malcor. This agreement was ratified by the General Meeting held on May 4, 2011.

This non-compete agreement applies to any geophysical data acquisition, processing or interpretation services or the provision of equipment or products designed for the acquisition, processing or interpretation of geophysical data. Mr. Jean-Georges Malcor has agreed that he will not contribute to projects or activities in the same field as those in which he was involved at CGG for period of 18 months starting on the date on which he leaves the Group.

In consideration for this undertaking, Mr. Jean-Georges Malcor will be entitled to receive compensation corresponding to 100% of his Reference Annual Compensation as defined in the protection letters related to payment of the contractual indemnity in case of termination of his office.

## **General benefits plan**

### Chairman of the Board of Directors

On March 26, 2015, the Board of Directors approved, in accordance with procedures applicable to related party agreements and provided for by Article L.225-38 et seq. of the French Commercial Code, the extension of the Group's general benefits plan (applicable to all employees) to Mr. Remi Dorval. This agreement was ratified during General Meeting held on May 29, 2015.

### Chief Executive Officer

On June 30, 2010, the Board of Directors approved, in accordance with procedures applicable to related party agreements and provided for by Article L.225-38 et seq. of the French Commercial Code, the extension of the Group's general benefits plan (applicable to all employees) to Mr. Jean-Georges Malcor. This agreement was ratified by the General Meeting held on May 4, 2011.

## **Individual insurance covering loss of employment**

Pursuant to the procedure applicable to related-party agreements set forth by Article L. 225-38 and seq. of the French Commercial Code, the Board of Directors authorized, on June 30, 2010, the Company to subscribe with GSC Gan, as from July 1, 2010, an individual insurance policy covering loss of employment, in favor of Mr. Jean-Georges Malcor. The annual subscription fee payable by the Company amounts to €10,738.67 for 2017. This insurance provides for the payment of a maximum of 13.7% of his 2017 target compensation (corresponding to €172,603), for a duration of 12 months. This agreement was ratified during the General Meeting held on May 4, 2011.

## **Supplemental Retirement Plan**

A supplemental retirement plan for the members of the Executive Committee of the Group (as composed prior to February 1, 2013) and the Management Board of Sercel Holding (as composed prior to April 19, 2012) (whom we refer to here as the "Beneficiaries") was implemented on December 8, 2004. This plan was closed to new comers on July 1, 2014.

The Chief Executive Officer benefits from this plan. It is an additive defined benefit plan with a cap. Accruals are acquired per year of service, with a double limit:

- potential rights are applied in addition to the mandatory basic and supplementary pension schemes but cannot, however, procure in aggregate for all schemes, a replacement rate exceeding 50%;
- potential rights are calculated on the basis of seniority with an upper limit of 20 years. They are accrued up to:
  - 1.5% of the remuneration used as reference, per seniority year within the company and up to 20 years, for the portion of remuneration below 20 times the French Social security upper limit,
  - 1% of the remuneration used as reference, per seniority year within the company and up to 20 years, for the portion of remuneration above 20 times the French Social security upper limit.

The remuneration used as reference is composed of the average fixed remuneration received by the beneficiary over the last three years of activity, increased by the short-term variable remuneration based on annual performance, pursuant to current policies in place within the Company.

Considering the high cyclicality of the seismic market, which may result in strong volatility in the variable remuneration, the average remuneration used is composed of the three highest payments over the past seven years preceding the date of retirement.

Further, to participate in the plan, the Beneficiaries must comply with the following main cumulative conditions:

- have liquidated their social security pension and all possible other rights to pensions;
- have at least five years of service as member of the Executive Committee of the Group (as composed prior to February 1, 2013) or of the Management Board of Sercel Holding (as composed prior to April 19, 2012) and until they were 55 years of age; and
- end their professional career when leaving the Company.

The conditions relating to the age and length of service are assessed taking into account the service continuity within the new governance bodies of the Group.

As of December 31, 2017, the Company's commitment under the supplemental retirement plan for Mr. Jean-Georges Malcor, Chief Executive Officer, corresponds to an annual pension equal to 13%, of his annual 2017 target compensation, respectively.

The aggregate present benefit value of this supplemental plan as of December 31, 2017 was €14,340,234 of which €773,523 has been recorded as an expense for fiscal year 2017 for all Beneficiaries.

Of such present benefit value, the portions relating to Mr. Jean-Georges Malcor, Chief Executive Officer, are €4,174,308 and €383,832 respectively.

In addition, on June 1, 2017, upon renewal of the term of office of Mr. Jean-Georges Malcor as Chief Executive Officer, the Board decided, in accordance with section L.225-42-1, paragraph 2 of the French Commercial Code to submit, starting 2017, the acquisition of annual rights under the defined benefit pension plan benefitting to Mr. Jean-Georges Malcor to the following performance conditions:

- If the average rate of achievement of the objectives relating to Mr. Jean-Georges Malcor's variable compensation calculated over the three financial years preceding the acquisition date is higher than 40% the annual rights will be acquired;
- If such average rate is below 40%, the annual rights will not be acquired.

Pursuant to Article L. 225-42-1 of the French Commercial Code, this amended agreement has been ratified by the Annual General Meeting held on October 31, 2017 under the 11<sup>th</sup> resolution.

On March 23, 2018, the Board of Directors confirmed that the performance condition was met for 2017 and that the corresponding annual rights were accrued.

### **Directors' compensation**

Directors (excluding our Chief Executive Officer) as a group received aggregate compensation of €617,000 in March 2018 (compared to a €680,000 envelope authorized by the General Meeting held on October 31, 2017) for services provided in their capacity as Directors during fiscal year 2017. This amount is divided into a fixed and variable component on the basis of one-third of the basic amount for function and two-thirds for presence as described hereafter. No amounts were set aside or accrued by us or our subsidiaries to provide pension, retirement or similar benefits to Directors except for our Chief Executive Officer ("Supplemental Retirement Plan").

#### *Allocation of the basic amount:*

The fixed component is calculated on the basis of one share for each Director and an additional share as a Committee member. The remuneration of any Director appointed in the course of the year is calculated on a pro-rata temporis basis.

The variable component linked to the participation in committees and Board meetings is calculated on the basis of two shares for each meeting of the Board, one share for each committees or the Joint Committees, and 1.5 share for Board or Committee Chairs (this rule will apply as well to a Chairman attending a Joint Committee meeting of all committees). A Director who participates in a Board committee's meeting as a guest does not receive any fee.

Allocation of the lump sum:

**Audit Committee**

In addition to the basic amount, a lump sum is allocated as follows:

- €10,000 for the Chairman of the Audit Committee;
- €5,000 for each other Audit Committee member, i.e. a global amount of €20,000 for 4 members.

**Travel indemnity**

A travel indemnity is also applicable to each Director (whatever his/her nationality), including for the annual Board seminar

- €2,000 per intercontinental travel;
- €500 per travel in the same continent.

Chairman of the Board of Directors

The Chairman benefits from a fixed amount of Directors' fees of €57,200. In addition, he receives a fixed compensation as Chairman amounting to €115,000 per year, to which the actual amount borne by the Company with respect to his company car is deducted. This benefit in kind (company car) amounts to €3,360.

Chief Executive Officer

The Chief Executive Officer, who is also a Director of the Company, does not receive Directors' fees.

Stock options and performance shares

Pursuant to applicable law, Directors, except the Chief Executive Officer, are not entitled to be allocated stock options and/or performance shares of the Company.

### Non-Executive Directors

The following table sets forth the amounts CGG paid to its Directors, for the years ended December 31, 2016 and December 31, 2017:

<u>Name</u>	<u>Amount paid to CGG's Directors for fiscal year 2017</u>	<u>Amount paid to CGG's Directors for fiscal year 2016</u>
Bpifrance Participations <sup>(1)</sup> . . . . .	€58,356.81	€30,174.04
Loren Carroll . . . . .	€59,627.09	€54,837.40
Michael Daly . . . . .	€58,380.44	€40,628.42
Anne Guérin <sup>(2)</sup> . . . . .	n.a.	€23,983.35
Didier Houssin . . . . .	€55,519.92	€52,349.44
Anne-France Laclide-Drouin <sup>(3)</sup> . . . . .	€8,903.86	n.a.
Agnès Lemarchand <sup>(4)</sup> . . . . .	€45,425.68	€46,929.43
Gilberte Lombard . . . . .	€75,253.90	€72,328.86
Hilde Myrberg . . . . .	€47,463.98	€63,586.94
Robert F. Semmens . . . . .	€71,288.20	€59,629.14
Kathleen Sendall . . . . .	€79,580.11	€66,119.87
Daniel Valot <sup>(5)</sup> . . . . .	n.a.	€16,013.11

<sup>(1)</sup> *Bpifrance Participations was appointed by the General Meeting held on May 27, 2016.*

<sup>(2)</sup> *Ms. Guérin was appointed by cooptation in place of Mr. Gilet, on April 22, 2015. This appointment was ratified by the General Meeting held on May 25, 2015. Her office as Director ended after the General Meeting on May 27, 2016. She then became permanent representative of Bpifrance Participations until December 7, 2017.*

<sup>(3)</sup> *Ms. Laclide-Drouin was appointed director of the Company on October 31, 2017.*

<sup>(4)</sup> *The term of office of Ms. Lemarchand ended at the end of the General Meeting held on October 31, 2017.*

<sup>(5)</sup> *The office of Mr. Valot as Director ended after the General Meeting on May 27, 2016.*

As of December 31, 2017, our Directors and Executive Officers held an aggregate of 15,317 shares and 467 ADS of the Company (including the number of shares held by Ms. Marie-Laetitia Vassort, who is herself permanent representative of Bpifrance Participations, the legal entity being Director of the Company as of this date; the number of shares directly held by Bpifrance Participations has not been taken into account for this calculation). As of December 31, 2017, none of our Directors and Executive Officers held, on an individual basis, shares and options representing 1% or more of our outstanding capital.

### **Board practices**

The Company complies with the AFEP-MEDEF Code of corporate governance for listed companies (the “AFEP-MEDEF Code”). This Code is available on the website of the MEDEF ([www.medef.fr](http://www.medef.fr)).

The Appointment-Remuneration Committee and the Board review the qualification of the Directors as independent on an annual basis before release of the annual reports.

In accordance with Article 8.2 of the AFEP-MEDEF Code, the Board of Directors considers that a Director is independent when he or she has no relationship of any kind whatsoever with the company, its group or its management that may impair his or her freedom of judgment. The Appointment-Remuneration Committee and the Board of Directors rely on the criteria set out by the AFEP-MEDEF Code to assess the independence of each Director as follows:

<i>Name of the Director</i>	<b>Criterion no. 1</b>	<b>Criterion no. 2</b>	<b>Criterion no. 3</b>	<b>Criterion no. 4</b>	<b>Criterion no. 5</b>	<b>Criterion no. 6</b>	<b>Criterion no. 7</b>	<b>Qualification of independence established by the Board of Directors</b>
<b>Remi DORVAL</b> .....	Yes	Yes	Yes	Yes	Yes	<b>No</b>	Yes	<b>Yes</b>
<b>Helen LEE BOUYGUES</b> .....	Yes	Yes	Yes	Yes	Yes	Yes	Yes	<b>Yes</b>
<b>Michael DALY</b> .....	Yes	Yes	Yes	Yes	Yes	Yes	Yes	<b>Yes</b>
<b>Anne-France LACLIDE-DROUIN</b> .....	Yes	Yes	Yes	Yes	Yes	Yes	Yes	<b>Yes</b>
<b>Colette LEWINER</b> .....	Yes	Yes	Yes	Yes	Yes	Yes	Yes	<b>Yes</b>
<b>Gilberte LOMBARD</b> .....	Yes	Yes	Yes	Yes	Yes	Yes	Yes	<b>Yes</b>
<b>Helen PETERSEN</b> .....	Yes	Yes	Yes	Yes	Yes	Yes	Yes	<b>Yes</b>
<b>Mario RUSCEV</b> .....	Yes	Yes	Yes	Yes	Yes	Yes	Yes	<b>Yes</b>
<b>Philippe SALLE</b> .....	Yes	Yes	Yes	Yes	Yes	Yes	Yes	<b>Yes</b>
<b>Robert SEMMENS</b> .....	Yes	Yes	Yes	Yes	Yes	<b>No</b>	Yes	<b>No</b>
<b>Kathleen SENDALL</b> .....	Yes	Yes	Yes	Yes	Yes	Yes	Yes	<b>Yes</b>

*Yes = compliance with the AFEP-MEDEF Code in relation to independence criteria*  
*No = non-compliance with the AFEP-MEDEF Code in relation to independence criteria*

These criteria are the following:

**Criterion no. 1:** not to be:

- an employee or an Executive Officer of the corporation, or
- an employee or an Executive Officer or a Director:
  - of a company consolidated by the corporation, or
  - of the company's parent company, or
  - of a company that the parent company consolidates

and not having been in such a position for the previous five years;

**Criterion no. 2:** not to be an Executive Officer of a company in which the corporation holds a directorship, directly or indirectly, on in which an employee appointed as such or an Executive Officer of the corporation (currently in office or having held such office during the last five years) is a Director;

**Criterion no. 3:** not to be a customer, supplier, investment banker or commercial banker:

- that is material for the corporation or its group;
- or for a significant part of whose business the corporation or its group accounts;

**Criterion no. 4:** not to be related by close family ties to an Executive Director;

**Criterion no. 5:** not to have been an auditor of the corporation within the past five years;

**Criterion no. 6:** not to have been a Director of the corporation for more than twelve years;

**Criterion no. 7:** not to represent a significant shareholder of the company holding more than 10% of the voting rights.

With regard to the criterion relating to the business relationship, there is no business relationship between, on the one hand, Directors and/or companies in which they hold an office and, on the other, the Company or its group. Therefore, in the absence of such a relationship, in 2016, the Board of Directors did not have to assess the significant nature of any business relationship with regard to criteria determined in relation with the characteristics of the company and the business relationship in question.

Finally, the Board of Directors considered that the fact Mr. Remi Dorval has been a Director of the Company for more than 12 years does not prevent him from remaining independent from the general



management. The Board also indicated that as the term of office of Mr. Remi Dorval would expire at the end of the next general meeting and would not be renewed, Mr. Dorval would remain Chairman of the Board during this transition period to complete the board renewal process which was initiated in the second half of 2017.

In its meeting held on March 8, 2018, the Board therefore confirmed that 8 out of the 11 Directors who were sitting on the Board at that time qualified as independent (i.e. more than half of the Board members, which is compliant with the recommendation of the AFEP-MEDEF Code<sup>1</sup>): Ms. Anne-France Laclide-Drouin, Ms. Colette Lewiner, Ms. Gilberte Lombard and Ms. Kathleen Sendall and Mr. Remi Dorval, Mr. Michael Daly, Mr. Mario Ruscev and Mr. Philippe Salle.

Mr. Patrice Guillaume, in his capacity of Director representing the employees, is not taken into account in the calculation of the independence rate of the Board.

The Board of Directors carries out any controls and checks it deems appropriate.

In 2017, the Board of Directors of the Company met twenty times. The average attendance rate of Directors at these meetings was 92%.

The table below summarizes the individual attendance rate of Directors in office at December 31, 2017 to the Board meetings.

<u>Directors</u>	<u>Attendance rate to the Board meetings in 2017</u>
Remi DORVAL .....	100%
Jean-Georges MALCOR .....	100%
Loren CARROLL .....	90%
Michael DALY .....	90%
Bpifrance Participations, represented by Anne GUERIN <sup>(1)</sup> .....	85%
Didier HOUSSIN .....	80%
Anne-France LACLIDE-DROUIN <sup>(2)</sup> .....	100%
Gilberte LOMBARD .....	100%
Hilde MYRBERG .....	90%
Robert SEMMENS .....	100%
Kathleen SENDALL .....	100%

<sup>(1)</sup> From December 7, 2017, Mrs. Marie-Laetitia Vassort has replaced Mrs. Anne Guérin as permanent representative of Bpifrance Participations.

<sup>(2)</sup> Director since October 31, 2017.

Statutory, consolidated and interim financial statements — General Meetings:

The Board approved the Company's annual financial statements and the 2016 consolidated annual financial statements and reviewed the interim quarterly and half-year results for fiscal year 2017 and the 2017 forecasts, the 2017-2019 outlook, and then the 2018-2020 outlook. The Board also convened the General Meeting of Shareholders held in October 2017 (the Annual Ordinary General Meeting to approve the 2016 financial statements having been postponed with the authorization from the President of the Commercial Court of Paris, in the context of the financial restructuring) and the Extraordinary General Meeting of Shareholders held on second notice on November 13, 2017 to approve the financial restructuring transactions planned in the Safeguard Plan. In this scope, the Board approved the various reports to be presented to the shareholders and the resolutions to be submitted for the shareholders' approval. The Board also prepared the answers to the written questions of the

<sup>1</sup> The AFEP-MEDEF Code recommends that independent Directors should account for half the members of the Board of Directors in widely-held corporations without controlling shareholders.

shareholders prior to said general meetings. Finally, pursuant to the provisions of Article L.225-40-1 of the Commercial Code, the Board reviewed the related-party agreements authorized during previous fiscal years and which had remained in force in 2016.

Governance:

The Board decided to simplify the governance structure of the Group and put an end to the term of office of the three corporate officers on January 4, 2017. The Board also approved the renewal of the term of office of the Chief Executive Officer which was expiring in June 2017. The Board reviewed the qualification of Directors as independent and the method of allocation of Directors' fees and the composition of the Board committees.

Compensation:

The Board approved the compensation components for the Chairman of the Board and the Chief Executive Officer for fiscal year 2017. The Board also reviewed the method of allocation of Directors' fees for 2017 based on the envelop approved by the General meeting of October 31, 2017.

The Board also determined that the performance conditions set out (i) in the stock option plans dated June 24, 2013 (third batch), June 26, 2014 (second batch) and June 25, 2015 (first batch), and (ii) in the performance unit plan dated June 26, 2014, applicable to the Chief Executive Officer and the members of the Corporate Committee were not met.

The Board also amended the triggering events and the performance conditions of the advantages granted to the Chief Executive Officer in case of termination of his term of office. See “— *Contractual indemnity in case of termination*”. Lastly, the Board approved the conditions relating to the termination of the term of office of Mr. Jean-Georges Malcor as Chief Executive Officer following the approval of the early termination of his term of office as Chief Executive Officer by October 1, 2018 at the latest, or any earlier date on which his successor would be appointed.

Financial and strategic transactions:

Throughout the fiscal year 2017, the work of the Board of Directors primarily focused on the financial restructuring of the Group. In this context, the Board of Directors authorized the Company to request from its lenders and senior bondholders the amendment of its credit agreements and bond agreements in order to allow the Company to request the appointment of an *ad hoc* representative, without such amendment any appointment of an *ad hoc* representative constituting an event of default under said agreements and bonds.

The Board subsequently approved the terms of the restructuring plan to be submitted to the creditors of the Group, and approved the final terms and conditions resulting from the negotiations with the creditors. The Board also authorized the Company to sign all documents formalizing the agreement of the Company and its creditors with respect to the restructuring plan (i.e. the term sheet, the lockup agreement, the private placement agreement and the restructuring plan support agreement). Lastly, the Board approved the financial characteristics of the first lien notes to be issued in order to refinance the existing secured debt and the second lien notes to issue new money.

The Board also authorized the Chief Executive Officer to request the opening of safeguard proceedings in respect of the Company and Chapter 11 proceedings in respect of the subsidiaries guaranteeing its debt. The Board also authorized the Chief Executive Officer to seek the recognition of the safeguard judgment in the United States through a Chapter 15 procedure. The Board was regularly kept informed of the progress of these proceedings.

Furthermore, the Board of Directors authorized the Company to issue 6.50% senior notes due 2021 to the owners of certain of the vessels operated by the Group in order to substantially reduce the amounts due under the

charter agreements guaranteed by the Company. The Board also reviewed and approved the draft agreement with Eidesvik and the Nordic lenders of the Group in order to entirely deconsolidate the Nordic debt from the scope of the Group and to reduce the costs of chartering of the fleet operated by the Group.

Lastly, the Board approved the 2017-2019 business plan, the 2017 budget and the strategic directions of the Group for 2017.

#### **Appointment-Remuneration Committee:**

##### **a) Responsibilities:**

The responsibilities of this Committee in terms of propositions and/or recommendations to be made to the Board of Directors relate to:

1. the compensation to be paid to the Senior Executive Officers (“*mandataires sociaux*”) to be appointed from time to time, including the procedures for setting the variable part thereof and the grant of possible benefits in kind;
2. all provisions relative to the retirement of the Senior Executive Officers considered as “*mandataires sociaux*”;
3. for the “*mandataires sociaux*”, the deferred elements of the compensation packages (pension, severance payment) to be submitted to the Shareholders’ Annual Meeting;
4. the evaluation of financial consequences on the Company’s financial statements of all compensation elements for “*mandataires sociaux*”;
5. the contracts between the Company and a “*mandataire social*”;
6. the possible candidacies for filling Director’s positions, positions as Senior Executive Officer considered as “*mandataire social*” or positions as a member of a Board Committee.
7. the periodical review of the independence of Board members;
8. the Directors’ fees level and their allocation rules;
9. the realization of capital increases reserved for the employees; and
10. the installation of cash and/or share compensation plans.

In addition to the responsibilities described above, this Committee is also in charge of:

1. examining compensation of the Corporate Committee (“C-Com”) members and its evolution;
2. carrying out performance evaluation of the Board and its Committees;
3. carrying out performance evaluation of the Chairman of the Board and the Chief Executive Officer;
4. reviewing the succession planning process of C-Com members;
5. ensuring compliance of compensation and benefits policies with all applicable regulations;
6. reviewing the compensation data and other related information to be publicly disclosed by the Company in its annual reports and any other reports to be issued pursuant to applicable laws and regulations; and
7. approving the policy and process of verifying and reimbursing expenses of the Directors and the Senior Executive Officers (“*mandataires sociaux*”).

The Committee may also consider any question submitted to it by the Chairman in connection with one of the matters mentioned above.

The work of the Committee is recorded in its minutes. The Committee reports to the Board on its proceedings after each meeting.

b) Composition:

As of December 31, 2017, the members of the Committee were as follows:

Kathleen Sendall (Chairman)(\*)

Didier Houssin

Robert Semmens

\_\_\_\_\_ (\*) independent director

As of the date of this report, the composition of this Committee is not compliant with the provisions of the AFEP-MEDEF code, as it does not consist half of independent directors.

Further to the departure of Mrs. Agnès Lemarchand from her board position on October 31, 2017, the Appointment-Remuneration Committee is composed of three members and is chaired by the only independent committee member. As the Board has initiated a significant renewal process of its composition in anticipation of the implementation of the financial restructuring plan, the Board has considered that in such circumstances, it was not appropriate to revisit the composition of this Committee before the appointment of the new directors. In addition, the Board believes that, under its current format, the Committee is still in a position to carry out its assignments in a satisfactory manner and in full independence from the management of the company.

The Chairman of the Board and the Chief Executive Officer are closely associated with the works of this Committee relating to the appointment of directors.

c) Activity:

In 2017, this Committee met eleven times. The average meeting attendance rate was 88%.

During these meetings, the Committee examined, *inter alia*, (i) the compensation of the Chairman of the Board, the compensation of the Chief Executive Officer and his 2017 objectives, (ii) the compensation of the other members of the C-Com, (iii) the amount of the Directors' fees, (iv) the report on the qualification of Directors as independent prior to its submission to the Board of Directors, (v) the paragraphs regarding the compensation of the "*mandataires sociaux*" to be included in the annual reports pursuant to Article L.225-37-2 of the Commercial Code (including the management report, *Document de Référence* and our annual report on Form 20-F), (vi) the 2017 bonus plans, (vii) the succession planning and (viii) the implementation of the evaluation process for the Board and the Chief Executive Officer.

In addition, in the context of the financial restructuring and the agreement entered into between the Group and its main creditors, approved by the creditors' committees on July 28, 2017 and by DNCA, it was agreed that, subject to the vote by the General meeting of shareholders of the Company, the structure and composition of the Board of Directors after the completion of the restructuring will be determined in consultation with DNCA and the members of the ad hoc senior noteholder committee who will have become and remain shareholders of the Company. As part of this renewal in the composition of the Board of Directors, the Appointment-Remuneration committee has been entrusted by the Board with the selection of candidates for the position of Directors in consultation with all stakeholders.

Lastly, the Committee also ruled on the conditions relating to the termination of the term of office of Mr. Jean-Georges Malcor as Chief Executive Officer following the approval of the early termination of his term of office as Chief Executive Officer by October 1, 2018 at the latest, or any earlier date on which his successor would be appointed. The Committee's proposal was definitively approved by the Board of Directors on December 1, 2017. See "*Conditions of compensation and benefits granted to the Chief Executive Officer following the Board of Directors' meeting held on December 1, 2017*".

### Technology/Strategy Committee:

#### a) Responsibilities:

The Technology/Strategy Committee's assignments are to study:

- The company's strategic options and orientations in relation to technology, markets and business;
- The technologic development strategy in the various business of the Group,
- The broad lines of the Group's budget;
- The intellectual property protection policy;
- The main R&D programs;
- The strategic M&A transactions;
- The company's organic development;
- The projects related to financial transactions;
- The major investment transactions or disposal of assets.

The Committee regularly invites other Directors who are interested in its work, to participate in its assignments. The Committee reports on its work to the Board of Directors.

#### b) Composition:

As of December 31, 2017, the members of the Committee were:

Remi Dorval<sup>(\*)</sup> (Chairman)

Michael Daly<sup>(\*)</sup>

Bpifrance Participations, represented by Marie-Laetitia Vassort

Didier Houssin

Robert Semmens

<sup>(\*)</sup> independent director

#### c) Activity:

In 2017, the Committee met six times. The attendance rate of Committee members at these meetings was 89%. At these meetings, the Committee reviewed the restructuring plan to be submitted to the Group's creditors and received regular updates from the management as to the state of the discussions with each category of creditors. The Committee also reviewed the 2017-2019 business plan and the 2018-2020 outlook. Lastly, the committee also reviewed the draft agreement with Eidesvik and the Nordic lenders of the Group in order to entirely deconsolidate the Nordic debt from the scope of the Group and to reduce the costs of chartering of the fleet operated by the Group.

### HSE/Sustainable Development Committee:

#### a) Responsibilities:

The Committee's assignments are the following:

- Support General Management in developing a strategic approach to Health, Safety, Security and Environment ("HSE") & Sustainable Development ("SD"). Determine the main axes for the improvement of HSE performance on an ongoing basis. Encourage, assist and counsel General Management in maintaining and improving HSE & SD performance;

- Monitor the performance of CGG’s HSE & SD systems and programs, and at the Committee’s discretion, recommend any changes to the Board;
- Review CGG HSE & SD performance at each regularly scheduled meeting. Benchmark CGG performance against its peers in the industry;
- Review the Group’s high rated HSE & SD operational risks and the controls put in place to manage these risks. Review high impact incidents and near misses such as fatalities and HPIs;
- Review the Group’s SD programs (principally environmental, social and ethical matters) and provide support and direction concerning the mid-term and long-term direction of CGG efforts in this area;
- Monitor the Group’s compliance with applicable laws related to HSE & SD;
- Review the Group’s crisis management preparedness. Monitor any major crisis and support the Board and General Management team as necessary in the event of such a crisis;
- Recommend to the Board and to General Management desirable policies and actions from its review and monitoring activity.

The Committee reports to the Board on its proceedings after each meeting, on all matters within its duties and responsibilities.

b) Composition:

As of December 31, 2017, the members of the Committee were:

Michael Daly<sup>(\*)</sup> (Chairman)

Kathleen Sendall<sup>(\*)</sup>

Gilberte Lombard<sup>(\*)</sup>

Hilde Myrberg

<sup>(\*)</sup> independent director

c) Activity:

In 2017, the Committee met three times. The attendance rate of Committee members was 92%.

During these meetings, the Committee reviewed the following items: (i) the high potential incidents that occurred in the Land and Marine as well the Group HSE indicators, (ii) the review of specific risks (aviation risks, crisis management, environment/sustainable development), (iii) the HSE good practices implemented within the Group and the actions implemented in terms of sustainable development.

**Audit Committee:**

Pursuant to its charter, the Audit Committee is responsible for assisting the Board of Directors and, as such for preparing its assignments.

a) Responsibilities:

The Audit Committee shall report regularly on its duties and responsibilities to the Board of Directors. The Committee also reports on the audit process of the financial statements, on how such process contributed to the integrity of the financial statements and the role the Committee played in such process. The Committee is required to immediately inform the Board of any difficulty encountered in the process.



In this scope, the Committee is specifically in charge of:

- Assignments relating to accounts and financial information:

In accordance with the provisions of Article L.823-19 of the French Commercial Code, the Audit Committee is in charge of monitoring the financial reporting process and shall make any relevant recommendation in order to ensure its integrity, including:

- Reviewing and discussing with General Management and the statutory auditors the following items:
  - the consistency and appropriateness of the accounting methods adopted for establishment of the corporate and consolidated financial statements;
  - the consolidation perimeter;
  - the draft annual and consolidated accounts, semi-annual and quarterly consolidated financial statements along with their notes, and especially off-balance sheet arrangements;
  - the quality, comprehensiveness, accuracy and sincerity of the financial statements of the Group.
- Hearing the statutory auditors report on their review, including any comments and suggestions they may have made in the scope of their audit;
- Examining the draft press releases related to the Group financial results and proposing any modifications deemed necessary;
- Reviewing the “*Document de Référence*” and the annual report on Form 20-F;
- Raising any financial and accounting question that appears important to it.
- Assignments relating to risk management and internal control:

In accordance with the provisions of Article L.823-19 of the French Commercial Code, the Audit Committee shall monitor the effectiveness of the Company’s internal control and risk management systems, and, if need be, of internal audit systems, in relation to the preparation and treatment of accounting and financial information, without prejudicing internal audit’s independence. In connection therewith, the Committee’s responsibilities include:

- Reviewing with the General Management (i) the Company’s policy on risk management, (ii) the analysis made by the Company of its major risks (risk mapping) and (iii) the programs put in place to monitor them;
- Reviewing with the General Management (i) the role and responsibilities with respect to internal control; (ii) the principles and rules of internal control defined by the Company on its general internal control environment (governance, ethics, delegation of authority, information systems...) and on the key processes (treasury, purchase, closing of the accounts, fixed assets...), (iii) the internal control quality as perceived by the Company and (iv) significant deficiencies, if any, identified by the Company or reported by the external auditors (Article L.823-16 of the French Commercial Code) as well as the corrective actions put into place;
- Assignments relating to internal audit:
  - Reviewing with General Management and the EVP Global Operational Excellence, Internal Audit and Risk Management/HSE/SD:
    - the organization and operation of the internal audit;
    - the activities and in particular the missions proposed in the scope of the internal audit plan approved by management and presented to the Committee;

- results of internal audit reviews.
- Assignments relating to external audit:
  - Reviewing with the statutory auditors their annual audit plan;
  - Hearing, if necessary, the statutory auditors without General Management being present;
  - Monitoring the procedure for selection of the auditors and issuing a recommendation to the Board of Directors on the statutory auditors whose appointment or renewal is to be submitted to the Shareholders' Meeting. Such recommendation is to be prepared in accordance with Section 16 of Regulation (EU) n° 537/2014 (the "Regulation"); the Audit Committee is also responsible for issuing a recommendation when the renewal of the auditors is contemplated under the conditions set forth in Article L.823-3-1 of the French Commercial Code;
  - Monitoring the auditors' compliance with the independence conditions defined in Article L.822-9 to L.822-16 of the French Commercial Code and take any measures necessary to the application of paragraph 3 of Section 4<sup>2</sup> of Regulation (EU) n°537/2014 and make sure that the conditions set forth in Section 6 of the Regulation are complied with;
  - Following the way the auditors fulfill their mission and take into account the statements and conclusions issued by the *Haut conseil du commissariat aux comptes* as a result of their review pursuant to Article L.821-9 et seq. of the French Commercial Code;
  - Approving the supply of non-audit services referred to in Article L.822-11-2 of the French Commercial Code, pursuant to the policy prepared by the Audit Committee and ratified by the Board of Directors;
  - Discussing, possibly individually the audit work with the statutory auditors and General Management and reviewing regularly with management the auditors' fees. Within the framework of a procedure that it determines annually, the Committee has sole authority to authorize performance by the auditors and/or by the members of their network of services not directly relating to their auditing mission.
- Other assignments:
  - Reviewing with management and, when appropriate, the external auditors the transactions binding directly or indirectly the Company and its Executive Officers;
  - Handling, anonymously, any feedback relating to possible internal control problem or any problems of an accounting or financial nature.

Finally, the General Management of the Company must report any suspected fraud of a significant amount to the Committee so that the Committee may proceed with any investigation that it deems appropriate.

The following persons attend the Committee meetings: the Chairman of the Board of Directors, the Chief Executive Officer, the Chief Financial Officer, the Chief Operating Officers, the relevant members of the E-Com, the Chief Executive Officer, the Senior Vice President Group Chief Accounting Officer, the auditors, the EVP Global Operational Excellence, Internal Audit and Risk Management/HSE/SD who presents an update on significant missions at least twice a year.

<sup>2</sup> *When the total fees received from a public-interest entity in each of the last three consecutive financial years are more than 15% of the total fees received by the statutory auditor or the audit firm or, where applicable, by the group auditor carrying out the statutory audit, in each of those financial years, such a statutory auditor or audit firm or, as the case may be, group auditor, shall disclose that fact to the audit committee and discuss with the audit committee the threats to their independence and the safeguards applied to mitigate those threats. The audit committee shall consider whether the audit engagement should be subject to an engagement quality control review by another statutory auditor or audit firm prior to the issuance of the audit report.*

The Audit Committee usually meets before each session of the Board of Directors. For practical reasons that are linked to the presence of Director residing abroad, meetings of the Audit Committee are held in general on the eve of the Board of Directors. In order that this constraint does not prevent the proper functioning of the Committee, the Chairman of the Board and the Chief Executive Officer ensure that the members of the Committee receive the necessary documents and information sufficiently in advance in order to have sufficient time to be able to review the accounts.

Minutes of each meeting are taken. Furthermore, the Chairman of the Committee reports on its work at every Board of Directors' meeting. This report is recorded in the minutes of the Board of Directors' meeting.

b) Composition:

As December 31, 2017, the members of the Committee are as follows:

Gilberte Lombard (Chairman)<sup>(\*)</sup>

Loren Carroll<sup>(\*)</sup>

Bpifrance Participations, represented by Marie-Laetitia Vassort

Anne France Laclide-Drouin<sup>(\*)</sup>

<sup>(\*)</sup> independent director

Ms. Gilberte Lombard was appointed as Financial Expert by the Board of Directors in 2013 pursuant to Section 407 of Sarbanes Oxley Act.

Both Ms. Gilberte Lombard and Mr. Loren Carroll qualify as independent members of the Committee with specific competences in financial and accounting matters pursuant to Article L.823-19 of the French Commercial Code.

Ms. Gilberte Lombard developed an extensive financial and accounting expertise through the various financial responsibilities she has held within the HSBC Group (previously *Crédit Commercial de France*), where she spent her career. After the privatization of *Credit Commercial de France* (1987), she was the Investor Relations Officer, in charge of the relation with financial analysts and institutional investors, and coordinated the information policy vis-a-vis the shareholders of the bank: major shareholders as well as individual shareholders. After *Credit Commercial de France* had been taken over by HSBC (2000), she was appointed as head of the financial transactions (*Directeur des Opérations Financières*) in charge of structuring and implementing sales, acquisitions, mergers for HSBC and managing HSBC industrial and financial portfolio. As part of her assignments, she was appointed as member of the Board and the Audit Committee of several companies of the HSBC group in France. In 1990, she was also appointed secretary of the Board and was in charge, in particular, of the relations with the main shareholders of the bank.

Mr. Loren Carroll, through the positions he held over 15 years within Arthur Andersen, developed an extensive accounting and auditing practice, and gained particular experience with public companies. He then became Chief Financial Officer of Smith International, a supplier of products and services to the oil and gas, petrochemical, and other industrial markets. Within Smith International, he was in charge of investor relations, supervision of financial activities of Public Corporation (NYSE) and merger, acquisitions and strategic development.

Both Ms. Gilberte Lombard and Mr. Loren Carroll are therefore very familiar with the financial and accounting specificities of our industrial sector and those linked to our international activities.

In compliance with the provisions of the AFEP-MEDEF Code, two thirds of the Committee is composed of independent Directors.

c) Activity:

In 2017, the Committee met eight times with an average attendance rate of Committee members of 75%.

During these meetings, the Committee reviewed draft versions of the annual consolidated financial statements for 2016 (and in particular the impairment tests, the accounting classification of the financial debt of the Group as current liabilities and the memo relating to the going concern), the statutory financial statements for 2016 and the 2017 half-year statutory financial statements and the consolidated financial statements for the first quarter, the first semester and the third quarter of 2017. It also reviewed the 2017 forecasts. The Committee also provided to the Board its recommendations concerning these financial statements. The Committee reviewed the 2016 annual report on Form 20-F and the *Document de Référence*.

The Committee also met with the external auditors without General Management being present. During this meeting, the auditors and the Committee had an overview of the audit work performed for the closing of the 2016 financial statements. In addition, several discussions involving the external auditors, the Chairman of the Board and certain members of the Committee were held in the course of 2017 with respect to the going concern.

In addition, the Committee closely monitored the Group's situation with respect to cash and cash flow forecasts which was presented at each Committee's meeting. The Board was also regularly kept informed of the Group's situation with respect to debt, mid-term refinancing and Group's hedging policy. The Committee reviewed the multi-client activity.

Regarding the preparation of the Financial Restructuring Plan finally submitted to the approval of the creditors' committees, the French and United States Courts, and the general meeting of shareholders, the Audit committee was kept informed on a regular basis of the progress of the discussions with the various stakeholders and the options to be decided and the outcome of the various technical negotiations. In this context, special attention of the Audit committee was brought on the financial characteristics of the first lien notes to be issued in order to refinance the existing secured debt and the second lien notes to issue new money. In addition, the Audit committee was periodically kept informed on the financial costs related to the implementation of the financial restructuring to be borne by the Company.

The 2017/2016 risk mapping, before and after mitigation has been presented to the Audit Committee. In this scope, the Committee also approved and implemented the annual review plan of the main risks of the Group and of certain specific risks that it determined. In this scope, in particular, the Committee reviewed the risk related to cold stacked vessels, the contractual/third party liability risks, the insurance risk and the information security risk and monitored the Ethics Committee's actions. The Committee also follows the commercial consultants network of the Group on a regular basis.

The Committee also examined the work to be performed by the statutory auditors in the scope of their audit on the 2017 financial statements and approved their fee estimates for this work. The audit reviews are mostly focused on significant risks which may impact the financial statements. In compliance with the Committee's procedures for its prior approval of non-audit services provided by the members of our auditors' network, the Committee reviewed such services performed in 2017 and approved them as necessary.

The Committee reviewed the activities of the internal audit team, which acts according to a plan established by the E-Com and submitted to the Committee. This plan is established in light of perceived operational and financial risks with the goal of systematically reviewing the major entities of each business line on a five-year basis. It includes a review of the risks identified in the risk mapping presented to the Committee by the Enterprise risk management department.

The Committee was also kept regularly informed on the assessment of internal control procedures pursuant to Section 404 of the Sarbanes-Oxley Act and of the results thereof. The external auditors and the internal audit presented their respective conclusions.

The Committee also follows the evolution of the Group's legal perimeter and, in particular the rationalization program for the Group's legal structures.

## **Employees**

As of December 31, 2017, we had 5,266 permanent employees worldwide, of which 1,589 belong to the Equipment business line, 880 to the Acquisition business line, 2,232 to the Geology, Geophysics and Reservoir ("GGR") business line and 565 to the Group functions, which includes shared services and corporate. 30 were employed by the holding company CGG S.A. We have never experienced a material work stoppage and consider our relations with our employees to be constructive. A significant part of our permanent employees are technicians and graduates holding engineering degrees; we have developed significant in-house training programs to sustain this high level of technical skills.

Our workforce of permanent employees decreased from 5,766 at December 31, 2016 to 5,266 at December 31, 2017. This decrease was a consequence of the overall downturn in the oil and gas business and the subsequent Group restructuring.

The 2016 turnover rate was 12.21% (total) or 6.52% (if only voluntary leavers are taken into account). The total turnover rate was 20.17% for 2016.

Our international activity allowed us to recruit 215 employees in 2017. We are looking for experienced technical profiles as well as young graduates, especially for the GGR area. The talents we integrate, coupled with the expertise of our teams, enable us to be at the forefront of innovation.

In the context of our continuous transformation, we are strengthening our focus on internal mobility with the support of our HR Country, Hub and business lines teams to enhance our employees' development.

In accordance with French labor laws, each of our French subsidiaries (representing a total of 1,306 employees) has an Employee Representation Committee (Work Council — *Comité d'Entreprise*) consisting of representatives elected by our employees. The Work Council reports regularly to employees, represents employees in relations with management, is consulted on significant matters relating to working conditions and is regularly informed of economic developments. Elections held in November 2015 within the scope of the *Unité Économique et Sociale* CGG S.A. and CGG Services SAS have led to the composition of a new *Comité d'Entreprise* as of December 2015. Elections in the Sercel Group of Companies in France have been conducted in 2016 and all the Employee Representation Committees have been renewed.

Similarly elected employee representatives are in place for our field and expatriate staff employed by CGG International, set up under the specifications of the Swiss Code des Obligations. Marine Commission election took place in February 2017 and led to the formation of a new Commission in 2017 for a period of three years. The Land Commission will be renewed in March 2018.

In Singapore, 76 people were represented under the collective agreement as of December 31, 2017. These employees are represented by the Singapore Industrial and Services Employees Union (SISEU), an affiliated union of the National Trade Union Congress.

In Norway there is one collective bargaining agreement with a staff representative union. 34 employees are members of this union.

## **Share ownership**

In accordance with French law, we are authorized annually by our shareholders at the Extraordinary General Meeting to issue ordinary shares for sale to our employees and employees of our affiliates who elect to

participate in our Group Employee Savings Plan (*Plan d'Épargne Entreprise Groupe*) instituted in 1997 (the "Group Plan"). Our shareholders, at the Extraordinary General Meeting held on November 13, 2017, renewed our authorization to issue up to 11,580,000 ordinary shares of a nominal value of €0.01 in sales to employees and affiliates who participate in the Group Plan. We may offer ordinary shares pursuant to the Group Plan at a price not higher than the average market price for the 20 business days preceding the date on which the Board of Directors sets the commencement date for the offering, and not lower than 80% of such average market price. As of December 31, 2017, Group employees held 273 shares corresponding to 0.0012% of the share capital and 0.0024% of the voting rights. As of March 15, 2018, they still held 273 shares corresponding to 0.00005% of the share capital and 0.00009% of the voting rights.

### Stock options

Pursuant to resolutions adopted by our Board of Directors on January 6, 2010, March 22, 2010, October 21, 2010, March 24, 2011, June 26, 2012, June 24, 2013, June 26, 2014, June 25, 2015, and June 23, 2016, our Board of Directors has granted options to certain of our employees and Executive Officers to subscribe for an aggregate of 15,850,633 ordinary shares not taking into account the various adjustments made to the number of stock options issued pursuant to French law. Options with respect to 424,383<sup>3</sup> ordinary shares remained outstanding as of December 31, 2017, whereas options with respect to 931,142<sup>4</sup> ordinary shares remained outstanding as of the date of this report.

The following table sets forth certain information relating to these stock options plans as of December 31, 2017:

<u>Date of Board of Directors' resolution</u>	<u>Options granted<sup>(1)</sup></u>	<u>Number of beneficiaries</u>	<u>Options exercised (ordinary shares) at December 31, 2017</u>	<u>Options outstanding at December 31, 2017<sup>(2)(3)</sup></u>	<u>Exercise price per ordinary share<sup>(4)</sup></u>	<u>Expiration date</u>
January 6, 2010 <sup>(6)(5)</sup> .....	220,000	1	0	8,668	€373.44	January 6, 2018
March 22, 2010 <sup>(7)(5)</sup> .....	1,548,150	339	38,382	51,394	€493.44	March 22, 2018
October 21, 2010 <sup>(8)(5)</sup> .....	120,000	3	0	1,564	€428.80	October 21, 2018
March 24, 2011 <sup>(9)(5)</sup> .....	1,164,363	366	0	38,345	€646.72	March 24, 2019
June 26, 2012 <sup>(10)(5)</sup> .....	1,410,625	413	0	19,720	€476.48	June 26, 2020
June 24, 2013 <sup>(11)(5)</sup> .....	1,642,574	672	0	30,817	€493.44	June 24, 2021
June 26, 2014 <sup>(12)(5)</sup> .....	1,655,843	752	0	41,353	€274.88	June 26, 2022
June 25, 2015 <sup>(13)(5)</sup> .....	1,769,890	749	0	47,790	€160.64	June 25, 2023
June 23, 2016 <sup>(14)(5)</sup> .....	6,658,848	683	0	184,732	€ 21.76	June 23, 2024
<b>Total</b> .....	<b>15,850,633</b>		<b>38,382</b>	<b>424,383</b>		

<sup>(1)</sup> Total number of shares initially allocated, not taking into account any adjustment.

<sup>(2)</sup> Pursuant to French law and the terms of the stock option plans, the numbers of options initially granted has been adjusted following (i) our share capital increase in October 2012, (ii) our share capital increase in February 5, 2016 and (iii) our reverse stock split in July 2016. The figures shown are after adjustment. The figures do not take into account the share capital increase dated February 21, 2018.

<sup>(3)</sup> The stock option plans provide for the cancellation of the non-vested options if the holder is no longer our employee, Director or Executive Officer.

<sup>(4)</sup> The exercise price has been adjusted following (i) our share capital increase in October 2012, (ii) our share capital increase in February 5, 2016 and (iii) our reverse stock split in July 2016. The figures do not take into account the share capital increase dated February 21, 2018.

<sup>(5)</sup> The stock option plans provide for the cancellation of the options whether vested or not if the holder is no longer our employee, Director or Executive Officer. reflect the number of options initially allocated, not taking into account any adjustment.

<sup>3</sup> As adjusted further to the capital increase dated February 5, 2016 and the reverse stock split dated July 20, 2016. The figure does not take into account the share capital increase dated February 21, 2018.

<sup>4</sup> As adjusted further to the share capital increase dated February 5, 2016, the reverse stock split dated July 20, 2016 and the share capital increase dated February 21, 2018.



- (6) 110,000 options under this plan vest immediately, 55,000 vest on January 7, 2011 and 55,000 on January 7, 2012. However during the first four years, the resulting shares cannot be sold by French tax residents before January 7, 2013 for the first batch and, January 7, 2014 for the second and third batches.
- (7) Options under the March 2010 plans vest by one-third each year from March 2010 and can be exercised at any time. However the resulting shares cannot be sold by French tax residents before March 23, 2014. The March 2010 plans consist of a plan granting 200,000 options to the Chief Executive Officer (subject to certain performance conditions) and a plan granting 1,348,150 options to certain other officers and employees. These figures reflect the number of options initially allocated, not taking into account any adjustment.
- (8) Options under the October 2010 plan vest by one-third each year from October 2010 and can be exercised at any time. However the resulting shares cannot be sold by French tax residents before October 22, 2014. The October 2010 plan consists of a plan granting 120,000 options to three members of the Executive Committee. These figures reflect the number of options initially allocated, not taking into account any adjustment.
- (9) Options under the March 2011 plans vest by one-third each year from March 2011 and can be exercised at any time. However the resulting shares cannot be sold by French tax residents before March 25, 2015. The March 2011 plans consist of a plan granting 66,667 options to the Chairman and 133,333 options to the Chief Executive Officer (subject to certain performance conditions) and a plan granting 964,363 options to certain other officers and employees. These figures reflect the number of options initially allocated, not taking into account any adjustment.
- (10) Options under the June 2012 plans vest in three batches (50% in June 2014, 25% in June 2015 and 25% in June 2016) and can be exercised at any time. However the resulting shares cannot be sold by French tax residents before June 26, 2016. The June 2012 plans consist of a plan granting 200,000 options to the Chief Executive Officer, 100,000 options to each Corporate Officer (subject to certain performance conditions) and a plan granting 1,010,625 options to certain other officers and employees. These figures reflect the number of options initially allocated, not taking into account any adjustment.
- (11) Options under the June 2013 plans vest in three batches (50% in June 2015, 25% in June 2016 and 25% in June 2017) and can be exercised at any time. The June 2013 plans consist of a plan granting 200,000 options to the Chief Executive Officer, 100,000 options to each Corporate Officer (subject to certain performance conditions) and a plan granting 1,242,574 options to certain other officers and employees. These figures reflect the number of options initially allocated, not taking into account any adjustment.
- (12) Options under the June 2014 plans vest in three batches (50% in June 2016, 25% in June 2017 and 25% in June 2018) and can be exercised at any time. The June 2014 plans consist of a plan granting 200,000 options to the Chief Executive Officer, 100,000 options to each Corporate Officer (subject to certain performance conditions) and a plan granting 1,255,843 options to certain other officers and employees. These figures reflect the number of options initially allocated, not taking into account any adjustment.
- (13) Options under the June 2015 plans vest in three batches (50% in June 2017, 25% in June 2018 and 25% in June 2019) and can be exercised at any time. The June 2015 plans consist of a plan granting 220,600 options to the Chief Executive Officer, 111,000 options to each Corporate Officer (subject to certain performance conditions) and a plan granting 1,327,290 options to certain other officers and employees. These figures reflect the number of options initially allocated, not taking into account any adjustment.
- (14) Options under the June 2016 plans vest in three batches (50% in June 2018, 25% in June 2018 and 25% in June 2020) and can be exercised at any time. The June 2016 plans consist of a plan granting 882,400 options to the Chief Executive Officer, 444,000 options to each Corporate Officer (subject to certain performance conditions) and a plan granting 4,444,448 options to certain other officers and employees. These figures reflect the number of options initially allocated, not taking into account any adjustment.

The stock options allocated to Mr. Malcor, Chief Executive Officer, under the plans implemented by the Company over the last two years are set forth below:

<b>Name of the Executive Officer</b>	<b>Date of the Plan</b>	<b>Nature of stock options</b>	<b>Valuation of options pursuant to the method used for consolidated financial statements (€)</b>	<b>Maximum number of options allocated during fiscal year<sup>(1)(2)</sup></b>	<b>Subscription price<sup>(4)(5)</sup></b>	<b>Exercise period</b>
Jean-Georges Malcor Chief Executive Officer	06.23.2016	Options to subscribe for shares	124,000	27,575 0.12% <sup>(3)</sup>	€21.76	From 06.24.2018 to 06.23.2024 inclusive

<sup>(1)</sup> Subject to the performance conditions described below.

<sup>(2)</sup> Maximum number of shares as adjusted further to the reverse stock split dated July 20, 2016.

<sup>(3)</sup> Proportion of the share capital represented by the allocation as of the date of the allocation.

<sup>(4)</sup> The subscription price corresponds to the average of the opening share price on the last twenty trading days prior to the meeting of the Board of Directors granting the options.

<sup>(5)</sup> Subscription price as adjusted further to the reverse stock split dated July 20, 2016.

Stock options are allocated without any possible discount.

The conditions of the plans applicable to the Executive Officers are those of the general plans, plus those described below.

The valuation of the options pursuant to the method used to prepare the consolidated financial statements does not necessarily correspond to the actual value that the beneficiary could derive from the exercise of the options. The exercise of the options is subject to the fulfillment of certain performance conditions and supposes a subscription price lower than the stock market price (as of the date of this report, the subscription price of all plans is above the stock market price). Moreover, the gain before tax that a stock option beneficiary may derive from the option exercise depends upon the share market price on the exercise date. This gain could be nil if, during the duration of the plan, the exercise price remains above the share market price.

#### Stock option plan dated June 23, 2016

##### *Performance conditions:*

The Board of Directors decided, in accordance with the provisions of the AFEP-MEDEF Code that the rights to the options would be acquired in three batches during the first four years of the plans (50% of the options are allocated after two years, 25% of the options are allocated after three years and 25% of the options allocated after four years) and that the acquisition of options would be subject to the following performance conditions:

1. The average, over the 60 trading days preceding the date of allocation, of the ratio of the CGG ADS price over the PHLX Oil Service Sector<sup>SM</sup> (OSX<sup>SM</sup>) index must equal at least two-thirds of the same average ratio over the same period of sixty trading days three years before the vesting date;
2. The average, over the 60 trading days preceding the date of allocation, of the ratio of the CGG share price over SBF 120 index must equal at least two-thirds of the same average ratio over the same period of sixty trading days three years before the vesting date;
3. Over the vesting period, the market price of the CGG share must have increased at least by 8% on an annual basis;
4. The Group results on average over a period of three years preceding the vesting date must reach at least 90% of the average EBITDAS annual targets as determined by the Board of Directors.

##### *Obligation to keep stock options under the registered form:*

Pursuant to the provisions of Article L.225-185 of the French Commercial Code, the Board of Directors decided that the number of shares resulting from the exercise of stock options that the Chief Executive Officer will have to keep under the registered form until the end of his term shall account for 20% of the amount of the gain on the purchase price realized when exercising the options granted by the Board of Directors on June 23, 2016.

##### *Prohibition of the use of hedging instruments:*

Upon the Committee's proposal and pursuant to the provisions of Code and the recommendations of the AMF, the Board of Directors reminded the Chief Executive Officer that he should not use hedging instruments both on options and on shares resulting from the exercise of options until the end of the retention period of the shares under registered form as set by the Board pursuant to the provisions of Article L.225-185 of the French Commercial Code.

##### *Exercise period:*

The Board noted that the exercise of stock options by the Chief Executive Officer is subject to compliance with the rules prohibiting trading over the shares of the Company set by the Group and which apply to all permanent insiders of the Group.

**Performance shares**

- a) Performance shares allocated to the Chief Executive Officer in 2016 and 2017

Neither the Company nor any of any of its subsidiaries has adopted a performance shares plan since 2012.

- b) Performance shares that have become freely transferable upon expiry of the retention period, for the Chief Executive Officer during 2016 and 2017:

**2016**

<b><u>Name of the Executive Officer ("mandataire social")</u></b>	<b><u>Date of the plan</u></b>	<b><u>Number of shares that have become freely transferable upon expiry of the retention period</u></b>	<b><u>Acquisition conditions</u></b>
Jean-Georges Malcor <i>Chief Executive Officer</i>	06.26.2012	9,534	1 share to purchase for 20 allocated shares

**Transactions in the Company's shares carried out by executives or their close relatives in 2017 and until the date of this report**

Pursuant to Article L.621-18-2 of the French *Code monétaire et financier* and Article 223-26 of the General Regulation of the French Market Authority, summary of the transactions carried out pursuant to the above mentioned Article L.621-18-2 are set out below.

Executive Officers, Directors and members of the corporate committees are forbidden from carrying out any transactions in the Company's shares, whatever the nature, including the exercise of stock options, (i) during the thirty calendar days preceding the publication of quarterly, semi-annual or annual results (transactions in the Company's shares can be carried out the day after the date of publication of such results), and (ii) if such Officers, Directors or Committee members hold any information which could have any influence on the share value in case of public disclosure.

<u>Name</u>	<u>Type of transaction</u>	<u>Date</u>	<u>Number of shares/ADS</u>	<u>Unit price</u>	<u>Amount of the transaction</u>
<b>Jean-Georges MALCOR</b> Chief Executive Officer Director until March 8, 2018 <b>Bpifrance Participations</b> Director until March 23, 2018	Purchase of shares associated with warrants	February 23, 2018	7,423	€1.56	€11,579.88
	Purchase of preferential subscription rights	February 23, 2018	2	€1.08	€2.16
	Purchase of shares associated with warrants	January 30, 2018	17,316	€1.56	€27,012.96
	Purchase of preferential subscription rights	January 30, 2018	1	€1.04	€1.04
	Sale of shares	January 30, 2018	286,370	€3.066	€878,010.42
	Sale of shares	January 30, 2018	17,000	€3.075	€52,275
	Sale of preferential subscription rights	January 30, 2018	633,546	€0.9754	€617,960.77
	Sale of shares	January 31, 2018	398,261	€2.90	€1,154,956.9
	Sale of shares	January 31, 2018	23,924	€2.89	€69,140.36
	Sale of preferential subscription rights	January 31, 2018	799,312	€0.7164	€572,627.12
	Sale of shares	February 1, 2018	192,417	€2.9532	€568,245.88
	Sale of shares	February 2, 2018	615,402	€2.6707	€1,643,554.12
	Exercise of preferential subscription rights	February 2, 2018	471,808	€0	€0
	Purchase of shares associated with warrants	February 12, 2018	1,533,376	€1.56	€2,392,066.56
	<b>Philippe SALLE</b> Director	Purchase of shares	February 28, 2018	18,500	€1.442
Purchase of shares		March 16, 2018	7,450	€1.60	€11,920

*Note: Pursuant to Article 223-23 of the General Regulation of the French Market Authority, the transactions reflected in this table are those*

- (i) carried out by the persons referred to in Article L.621-18-2 of the French code monétaire et financier, and*
- (ii) if the total amount of such transactions exceeds €20,000 per calendar year.*

## Item 7: PRINCIPAL SHAREHOLDERS

### Major shareholders

The table below sets forth certain information with respect to entities known to us or ascertained from public filings to beneficially own a significant percentage of our voting securities as of March 15, 2018 and December 31, 2017, 2016 and 2015.

	March 15, 2018		December 31,					
			2017		2016		2015	
	% of shares	% of voting rights	% of shares	% of voting rights	% of shares	% of voting rights	% of shares	% of voting rights
Boussard et Gavaudan Partners Ltd <sup>(a)</sup> . . . . .	9.14	9.14	—	—	—	—	—	—
Contrarian Capital Management LLC <sup>(b)</sup> . . . . .	8.91	8.91	—	—	—	—	—	—
Alden Global Capital LLC <sup>(c)</sup> . . . . .	8.34	8.34	—	—	—	—	—	—
Attestor Capital LLP <sup>(d)</sup> . . . . .	8.25	8.25	—	—	—	—	—	—
DNCA Finance <sup>(e)</sup> . . . . .	7.94	7.94	7.94	7.72	8.27	8.05	7.07	6.37
Morgan Stanley <sup>(f)</sup> . . . . .	5.05	5.05	—	—	—	—	—	—
Bpifrance Participations <sup>(g)</sup> . . . . .	0.35	0.35	9.35	10.90	9.35	10.81	7.04	12.68
IFP Energies Nouvelles <sup>(h)</sup> . . . . .	0.02	0.02	0.49	0.48	1.27	2.11	3.58	6.46
AMS Energie . . . . .	—	—	—	—	8.30	8.08	—	—
Financière de l'Echiquier <sup>(i)</sup> . . . . .	—	—	—	—	—	—	5.76	5.19
Autodétention . . . . .	0.00427	0	0.11	0	0.11	0	0.45	0
FCPE CGG Actionnariat . . . . .	0.00005	0.00009	0.0012	0.0024	0.0012	0.0024	0.04	0.08
Public . . . . .	51.99568	51.99991	82.1088	80.90	72.6988	70.95	71.24	69.22
<b>TOTAL</b> . . . . .	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

(a) Calculated on the basis of the number of shares owned by Boussard et Gavaudan Partners Ltd as indicated in the notice of threshold crossing dated March 1, 2018.

(b) Calculated on the basis of the number of shares owned by Contrarian Capital Management LLC as indicated in the notice of threshold crossing dated February 27, 2018.

(c) Calculated on the basis of the number of shares owned by Alden Global Capital LLC as indicated in the notice of threshold crossing dated March 12, 2018.

(d) Calculated on the basis of the number of shares owned by Attestor Capital LLP as indicated in the notice of threshold crossing dated March 8, 2018.

(e) Calculated on the basis of the number of shares owned by DNCA Finance as indicated in the notice of threshold crossing dated March 19, 2018.

(f) Calculated on the basis of the number of shares owned by Morgan Stanley as indicated in the notice of threshold crossing dated March 21, 2018.

(g) Calculated on the basis of the number of shares owned by Bpifrance Participations as indicated in the notice of threshold crossing dated February 22, 2018.

(h) Calculated on the basis of the number of shares owned by IFP Energies Nouvelles as indicated in the notice of threshold crossing dated June 28, 2017.

(i) Calculated on the basis of the number of shares owned by Financière de l'Echiquier as indicated in the notice of threshold crossing dated February 9, 2016.

Shares held by the Company are deprived of voting rights for all Shareholders' Meetings.

Our *statuts* provide that each ordinary share that is fully paid and has been held in registered form by the same shareholder for a period of at least two consecutive years will entitle such shareholder to two votes at

Shareholders' Meetings. Other than in this respect, our ordinary shares carry identical voting rights. Our *statuts* provide that fully paid ordinary shares may be held in either registered form or bearer form at the option of the shareholder.

On February 5, 2016, the Company completed a share capital increase through the distribution of preferential subscription rights to existing shareholders to finance its Transformation Plan. The final gross proceeds amounted to €350,589,080.16, corresponding to the issuance of 531,195,576 new shares.

In accordance with the authorization granted by the General Meeting on May 27, 2016, the Company launched a reverse stock split, pursuant to which 32 ordinary shares of the Company, each with a nominal value of €0.40, were exchanged for one new share with a nominal value of €12.80 each. The reverse stock split occurred on July 20, 2016, and resulted in the new number of shares in the Company decreasing from 708,260,768 shares with a €0.40 nominal value, to 22,133,149 shares with a €12.80 nominal value. As a consequence, on July 20, 2016, the share capital of the Company amounted to €283,304,307, divided into 22,133,149 shares of €12.80 each.

On August 11, 2016, in accordance with the authorization granted by the General Meeting on May 27, 2016, the Company reduced the its share capital by €265,597,788 to bring it down from €283,304,307 to €17,706,519 by reducing the nominal value of the Company's shares from €12.80 to €0.80. As a consequence, on August 11, 2016, the share capital of the Company amounted to €17,706,519 divided into 22,133,149 shares of €0.80 each.

More recently, in the framework of our financial restructuring:

- On January 15, 2018, we decreased our share capital by reducing the nominal value of the Company's shares from €0.80 to €0.01. As a consequence, on January 15, 2018, our share capital amounted to €221,331.49.
- On February 21, 2018, we increased our share capital as described further in "Item 4: Information on the Company — History and development of the Company — Financial restructuring process" and summarized in the table below.

See "Item 9: The offer and Listing — Offer and Listing Details" for information regarding holdings of our shares in the United States.



## Changes in share capital during 2017 and first quarter of 2018

<u>Transaction</u>	<u>Nominal value</u>	<u>Number of shares created</u>	<u>Amount of the share premium</u>	<u>Amount of the capital variation</u>	<u>Resulting total share capital</u>
Share capital increase dated March 9, 2018 (as a result of exercise of certain warrants by their holders) . . . . .	€0.01	6,882,395	€15,064.84	€68,823.95	€5,854,537.97
Share capital increase dated February 21, 2018 (reserved to the senior noteholders) . . . . .	€0.01	449,197,594	€1,397,004,517.34	€4,491,975.94	€5,785,750.02
Share capital increase dated February 21, 2018 (reserved to the senior noteholders) . . . . .	€0.01	449,197,594	€1,397,004,517.34	€4,491,975.94	€5,785,750.02
Share capital increase dated February 21, 2018 (reserved to the convertible bondholders) . . . . .	€0.01	35,311,528	€361,943,162.00	€353,115.28	€1,293,774.08
Share capital increase dated February 21, 2018 (with preferential subscription right) . . . . .	€0.01	71,932,731	€111,495,733.05	€719,327.37	€940,658.80
Share capital reduction dated January 15, 2018 . . . . .	€0.01	—	—	-€17,485,187.17	€221,331.49

### Dilutive instruments

#### *Stock options and bonds convertible into new or existing shares*

The number of actions which could derive from our dilutive instruments in circulation on December 31, 2017 and as of the date of this report, on the basis of their modalities in force as of these dates, as well as the corresponding percentage of dilution are presented in the table below.

	<u>12/31/2017</u>	<u>Dilution%</u>	<u>03/29/2018</u>	<u>Dilution%</u>
Convertible bonds due 2019 . . . . .	47,823 <sup>(a)</sup>	0.22%	n.a.	n.a.
Convertible bonds due 2020 . . . . .	1,112,541 <sup>(a)</sup>	5.03%	n.a.	n.a.
Stock options . . . . .	424,383 <sup>(a)</sup>	1.92%	931,142 <sup>(b)</sup>	0.16%
Warrants #1 . . . . .	n.a.	n.a.	29,472,692	5.03%
Warrants #2 . . . . .	n.a.	n.a.	47,955,154	8.19%
Warrants #3 . . . . .	n.a.	n.a.	106,707,725	18.23%
Coordination Warrants . . . . .	n.a.	n.a.	7,099,079	1.21%
Backstop Warrants . . . . .	n.a.	n.a.	10,648,619	1.82%

(a) Adjusted pursuant to the share capital increase on February 5, 2016 and to the reverse stock split on July 20, 2016.

(b) Adjusted pursuant to the capital increase on February 21, 2018.

Since the Safeguard Plan was approved by the Commercial Court of Paris on December 1, 2017, the convertible bonds may now only give right to shares of the Company according to the terms of the Safeguard Plan and have therefore been fully converted into shares of the Company as a consequence of the implementation of the Safeguard Plan.

As of the date of this report, the subscription price of all stock option plans is above the stock market price.

**Warrants**

The following table sets out some of the key characteristics of the warrants issued in the framework of the implementation of our financial restructuring on February 21, 2018:

	<b>Warrants #1</b>	<b>Warrants #2</b>	<b>Warrants #3</b>	<b>Coordination Warrants</b>	<b>Backstop Warrants</b>
<b>Number of warrants issued</b> . . . . .	22,133,149	71,932,731	113,585,276	7,099,079	10,648,619
<b>Exercise ratio</b> . . . . .	3 Warrants #1 for 4 new shares	3 Warrants #2 for 2 new shares	1 Warrant #3 for 1 new share	1 Coordination Warrant for 1 new share	1 Backstop Warrant for 1 new share
<b>Exercise price</b> . . . . .	3.12 euros per new share	4.02 euros per new share	0.01 euro per new share	0.01 euro per new share	0.01 euro per new share
<b>Maximum number of shares to be issued upon exercise of the warrants (subject to adjustments)</b> . . . . .	29,477,536 <sup>(1)</sup>	47,955,154	113,585,276	7,099,079	10,648,619
<b>Expiry date of the warrants</b> . . . . .	21 February 2022	21 February 2023	21 August 2018	21 August 2018	21 August 2018

(1) The 24,996 Warrants #1 allocated to the Company in connection with the treasury shares were cancelled.

(2) Subject to extension cases.

**Warrants #1:** warrants allocated to the shareholders of CGG;

**Warrants #2:** warrants associated to new shares (“ABSA”), all of which were subscribed by holders of preferential subscription rights;

**Warrants #3:** warrants in favor of the subscribers to the Second Lien Notes;

**Coordination Warrants:** allocated to the members of the ad hoc committee of holders of Senior Notes;

**Backstop Warrants:** warrants allocated to the members of the ad hoc committee of holders of Senior Notes.

**Employees shareholding**

Pursuant to Article L.225-102 of the French Commercial Code, we inform you that on December 31, 2017, the number of shares held by the employees of the Group, through the Group Employee Savings Plan instituted in 1997, amounted to 273 shares corresponding to 0.0012% of the share capital and 0.0024% of the voting rights of CGG.

## Related party transactions

	December 31,						
	2017			2016			2015
	Joint Ventures	Associates	Total	Joint Ventures	Associates	Total	Total
	(a)	(b)		(a)	(b)		
	(in millions of US\$)						
Sales of geophysical equipment . . . . .	2.6	31.0	33.6	1.3	3.9	5.2	70.5
Equipment rentals and services rendered . . . . .	13.0	8.4	21.4	9.8	18.2	28.0	60.5
<b>Operating Revenue</b> . . . . .	<b>15.6</b>	<b>39.4</b>	<b>55.0</b>	<b>11.1</b>	<b>22.1</b>	<b>33.2</b>	<b>131.0</b>
Charter expenses . . . . .	(23.6)	—	(23.6)	(28.3)	—	(28.3)	(29.9)
Ship management expenses . . . . .	(24.4)	—	(24.4)	(36.2)	—	(36.2)	(70.6)
Costs of services rendered . . . . .	(2.5)	(1.5)	(4.0)	(4.1)	(3.6)	(7.7)	(14.6)
<b>Cost of operations</b> . . . . .	<b>(50.5)</b>	<b>(1.5)</b>	<b>(52.0)</b>	<b>(68.6)</b>	<b>(3.6)</b>	<b>(72.2)</b>	<b>(115.1)</b>
<b>Other financial income (loss)</b> . . . . .	<b>0.1</b>	<b>—</b>	<b>0.1</b>	<b>(1.3)</b>	<b>1.5</b>	<b>0.2</b>	<b>1.8</b>
Trade accounts and notes receivable, including agency arrangements . . . . .	18.1	18.7	36.8	20.7	15.6	36.3	58.1
Financial assets (see note 7) . . . . .	32.9	—	32.9	14.9	—	14.9	62.4
<b>Receivables</b> . . . . .	<b>51.0</b>	<b>18.7</b>	<b>69.7</b>	<b>35.6</b>	<b>15.6</b>	<b>51.2</b>	<b>120.5</b>
Trade accounts and notes payable, including agency arrangements . . . . .	13.1	5.5	18.6	25.9	33.6	59.5	79.2
Financial liabilities — Finance lease debt . . . . .	—	—	—	15.0	—	15.0	16.8
<b>Payables</b> . . . . .	<b>13.1</b>	<b>5.5</b>	<b>18.6</b>	<b>40.9</b>	<b>33.6</b>	<b>74.5</b>	<b>96.0</b>
Future leases commitments . . . . .	397.0	—	397.0	203.5	—	203.5	236.7
Future ship management costs . . . . .	169.3	—	169.3	66.7	—	66.7	97.7
<b>Contractual Obligations</b> . . . . .	<b>566.3</b>	<b>—</b>	<b>566.3</b>	<b>270.2</b>	<b>—</b>	<b>270.2</b>	<b>334.4</b>

(a) Mainly correspond to investments in companies accounted for using the equity method in our Marine acquisition Segment (see note 8 to our consolidated financial statements).

(b) Mainly correspond to investments in companies accounted for using the equity method in our Land and Multi-Physics acquisition Segment (see note 8 to our consolidated financial statements).

No credit facility or loan was granted to the Company by shareholders during the last three years.

## Interest of experts and counsel

None

## Item 8: FINANCIAL INFORMATION

### Consolidated statements and other financial information

Reference is made to Item 18 for a list of all financial statements and notes thereto filed as a part of this annual report.

## Item 9: THE OFFER AND LISTING

### Offer and listing details

The trading market for our ordinary shares is Euronext Paris S.A. where the ordinary shares have been listed since 1981. American Depositary Shares, or ADSs, representing ordinary shares have been traded on the

New York Stock Exchange since May 1997. Each ADS represents one ordinary share. The ADSs are evidenced by American Depositary Receipts, or ADRs, issued by The Bank of New York, as Depositary, and are traded under the symbol “CGG”. The Bank of New York has advised us that as of February 28, 2018, there were 439,865 ADSs outstanding. On the basis of this information, the ADSs held on such date in the United States represented approximately 0.08% of our outstanding ordinary shares. Our by-laws provide that fully paid ordinary shares may be held in either registered or bearer form at the option of the shareholder.

**Price information on Euronext Paris.**

The tables below set forth, for the periods indicated, the high and low prices for the outstanding ordinary shares on Euronext Paris as reported by NYSE Euronext.

The table below indicates the high and low market prices for our most recent six months:

	Price per Share	
	High	Low
	(€)	
<b>2018</b>		
February	3.01	1.41
January <sup>(1)</sup>	4.10	1.53
<b>2017</b>		
December	4.35	3.68
November	4.82	3.52
October	5.09	3.57
September	5.60	4.24

(1) Restated in the framework of the transactions linked to our financial restructuring.

The table below indicates the quarterly high and low market prices for our two most recent financial years:

	Price per Share	
	High	Low
	(€)	
<b>2017</b>		
First Quarter	15.24	6.11
Second Quarter	6.95	4.37 <sup>(1)</sup>
Third Quarter <sup>1</sup>	6.27	2.83
Fourth Quarter	5.09	3.52
<b>2016</b>		
First Quarter	1.32	0.43
Second Quarter	0.87	0.56
Third Quarter <sup>(2)</sup>	24.68	17.71
Fourth Quarter	27.88	11.10

(1) On June 14, 2017, the trading of our ADSs was suspended pending the announcement of the opening of safeguard proceedings and no trading took place during the day. The theoretical closing price of our ADSs was US\$3.73 per ADS as of June 14, 2017.

(2) On July 20, 2016, the Company carried out a reverse stock split (see Item 7 — “Major Shareholders”). The figures presented for the third quarter of 2016 are adjusted pursuant to this transaction.

The table below indicates the high and low market prices for the five most recent financial years:

	Price per Share	
	High	Low
	(€)	
2017 .....	15.24	2.83
2016 <sup>(1)</sup> .....	27.88	0.43
2015 .....	7.07	2.44
2014 .....	12.85	4.25
2013 .....	23.60	11.49

(1) On July 20, 2016, the Company carried out a reverse stock split (see Item 7 — “Major Shareholders”).

**Price information on the NYSE**

The table below sets forth, for the periods indicated, the high and low sale prices for the ADSs representing our ordinary shares on the New York Stock Exchange.

The table below indicates the high and low market prices for our most recent six months:

	Price per Share	
	High	Low
	(US\$)	
<b>2018</b>		
February .....	7.15	3.27
January .....	6.66	4.45
<b>2017</b>		
December .....	7.50	4.08
November .....	5.12	4.13
October .....	5.66	4.30
September .....	6.44	5.20

The table below indicates the quarterly high and low market prices for our two most recent financial years:

	Price per Share	
	High	Low
	(US\$)	
<b>2017</b>		
First Quarter .....	15.60	6.57
Second Quarter .....	7.67	3.73
Third Quarter .....	7.14	3.26
Fourth Quarter .....	7.50	4.08
<b>2016</b>		
First Quarter .....	2.95	0.59
Second Quarter .....	1.00	0.66
Third Quarter <sup>(1)</sup> .....	26.88	19.86
Fourth Quarter .....	29.70	11.91

(1) On July 20, 2016, the Company carried out a reverse stock split (see Item 7 — “Major Shareholders”). The figures presented for the third quarter of 2016 are adjusted pursuant to this transaction.

The table below indicates the yearly high and low market prices on a yearly basis for the five most recent financial years:

	<u>Price per Share</u>	
	<u>High</u>	<u>Low</u>
	(US\$)	
2017 .....	15.60	3.26
2016 <sup>(1)</sup> .....	29.70	0.59
2015 .....	7.98	2.55
2014 .....	17.55	5.50
2013 .....	31.12	15.77

(1) On July 20, 2016, the Company carried out a reverse stock split (see Item 7 — “Major Shareholders”).

#### **Trading on Euronext Paris**

Official trading of listed securities on Euronext Paris is transacted through stockbrokers and other financial intermediaries, and takes place continuously on each business day from 9:00 a.m. through 5:25 p.m., with a pre-opening session from 7:15 a.m. through 9:00 a.m. during which transactions are recorded but not executed. Any trade effectuated after the close of a stock exchange session is recorded, on the next Euronext Paris trading day, at the closing price for the relevant security at the end of the previous day’s session. Euronext Paris publishes a daily Official Price List that includes price information concerning listed securities. Euronext Paris has introduced continuous trading during trading hours by computer for most listed securities. Shares listed on Euronext Paris are placed in one of three categories depending on the issuer’s market capitalization. Our outstanding ordinary shares are listed on Euronext Paris in the category known as *Continu*, which includes the most actively traded shares.

#### **Plan of distribution**

Not applicable.

#### **Markets**

Our ordinary shares are listed on Euronext Paris. American Depositary Shares representing our ordinary shares are listed on the New York Stock Exchange. Our first lien notes and second lien notes are listed on the Euro MTF market in Luxembourg. Warrants #1 and Warrants #2 are listed on Euronext Paris.

#### **Selling shareholders**

Not applicable.

#### **Dilution**

Not applicable.

#### **Expenses of the issue**

Not applicable.

### **Item 10: ADDITIONAL INFORMATION**

#### **Share capital**

Not applicable.



## **Memorandum and by-laws**

Our company is a *société anonyme*, a form of limited liability company, established under the laws of France. We are registered with the Trade Register of Paris, France under the number 969 202 241 RCS Paris. Our financial year begins on January 1 and ends on December 31 of each calendar year. The following paragraphs set forth information concerning our share capital and provide related descriptions of certain provisions of our by-laws (*statuts*), and applicable French law. This information and description do not purport to be complete and are qualified in their entirety by reference to our by-laws.

### ***Object and purposes***

Under Article 2 of our *statuts*, our object is:

- to develop and operate, in any form and under any conditions whatsoever, any and all businesses relating to the geophysical surveying of soil and subsoil in any and all countries, on behalf of third parties or ourselves;
- to participate directly or indirectly in any business, firm or company whose object would be likely to promote our object; and
- generally, to engage in any commercial, industrial, mining, financial, personal or real property activities relating directly or indirectly to the above objects without limitation or reserve.

### ***Directors***

For a further description of the Board of Directors' powers under French law and our *statuts*, see "Item 6: Directors, Senior Management and Employees."

### ***Transaction with Interested Directors***

French corporate law provides for prior approval and control of transactions entered into between, directly or indirectly, us and (i) any of our Directors, Chief Executive Officer, Corporate Officers, or (ii) any entity in which any of these persons is at the same time an owner, partner with unlimited liability, Managing Director, Deputy Managing Director, Member of the Supervisory Board or an Executive Officer, unless (i) the transaction is entered into in the ordinary course of business and under normal terms and conditions and (ii) the transaction is entered into between us and one of our, directly or indirectly, fully owned subsidiaries. Transactions entered into between us and one of our shareholders who holds, directly or indirectly, more than 10% of our voting rights, or with an entity controlling such a shareholder, are also considered related party transactions requiring the prior approval of our Board of Directors.

The interested party has the obligation to inform our Board of Directors as soon as it is aware of the existence of the related party transaction, and a majority of our disinterested Directors must approve the transaction. This prior approval of our Board of Directors shall be justified, in respect of the interest of the transaction for our Company, including specifying the financial conditions attached to it.

If a related party transaction is pre-approved by the majority of our disinterested Directors, our Chairman must then report the authorized transaction to our statutory auditors within one month following the entering into of this transaction. The auditors must then prepare a special report on the transaction to be submitted to our shareholders at their next General Meeting, during which our shareholders would consider the transaction for ratification (any interested shareholder would be excluded from voting). If the transaction is not ratified by the shareholders, such absence of ratification would normally and except in the case of fraud have no impact on the validity of the transaction, but the shareholders may in turn hold the Board of Directors or interested representative of the Company liable for any damages suffered as a result thereof.

Any related transaction already concluded and duly authorized by our Board of Directors in prior years and which had continued during the previous years shall be reviewed annually by our Board of Directors and must be reported to our statutory auditors for the purposes of the special report described above.

In addition, the report of our Board of Directors presented to our shareholders at the General Meeting, pursuant to Article L.225-37 of the French Commercial Code, must describe all transactions, except those entered into the ordinary course of business and under normal terms and conditions, entered into between, directly or indirectly, (i) our Directors, Chief Executive Officer, Corporate Officers, one of our shareholders who holds, directly or indirectly, more than 10% of our voting rights, and (ii) one of our subsidiary, in which we directly or indirectly held for more than 50% of share capital.

Any related party transaction concluded without the prior consent of a majority of our disinterested Directors can be voided by a court, if we incur a loss as a result. In addition, an interested related party may be held liable on this basis.

#### *Power to Decide Upon the Compensation of Directors, Chairman and Chief Executive Officer*

Under our *statuts*, the Shareholders' Meeting may provide for the payment to the Directors of an annual fixed sum for their attendance at Board meetings (*jetons de présence*). The amount of such compensation remains unchanged until further decision by the Shareholder's Meeting. The Board of Directors allocates this amount between its members in the manner it deems appropriate.

Under our *statuts*, the Board of Directors determines the compensation of its Chairman as well as of our Chief Executive Officer and Corporate Officers. Nevertheless, the shareholders have authority to determine the elements of the compensation and the compensation is allowed to be paid only after the approval of the General Meeting with a double mandatory vote. Under the Law No 2016-1691 of December 9, 2016 relating to transparency, anti-corruption and modernization of the economy, a say-on-pay process applies to compensation granted to its Chairman and its Chief Executive Officer. Henceforth, a resolution ("ex-ante" vote) will be submitted to shareholders, at least each year, during the Annual General Meeting in order to approve the principles and criteria of determination, distribution and awarding of fixed, variable and exceptional elements of the remuneration of the managers under their mandate (including benefits of any kind). If the resolution on the remuneration is rejected, the principles and criteria previously approved by the shareholders will be applied. Then, during the General Meeting of the next financial year, the shareholders will decide on the elements composing the compensation paid and allocated for the precedent financial year ("ex-post" vote). For the purpose of applying that rule, Article R.225-29-1 of the French Commercial Code (created by the Regulation No. 2016-1691 of March 16, 2017) provides a list of the elements of remuneration of the managers, which includes: directors' attendance fees (*jetons de présence*), managers' annual fixed remuneration, annual variable remuneration, the multi-year variable remuneration, the allocation of stock options and free shares, exceptional remuneration, remuneration, indemnity or benefits due or likely to be due as a result of taking up duties, regulated agreements and commitments pursuant to Article L.225-42-1 of the French Commercial Code, elements of the remuneration and benefits of any kind due or likely to be due to our Chief Executive Officer and Corporate Officers as a result of an agreement entered into, directly or indirectly, with us or a company controlled by us, any other element of the remuneration attributable because of their mandate and benefits of any kind.

#### *Borrowing powers exercisable by the Directors*

Under French company law and our *statuts*, Directors other than legal entities are forbidden to take out loans from CGG S.A. in any form whatsoever or to have CGG S.A. grant them an overdraft in current account or otherwise. It is also forbidden to have CGG S.A. stand as surety for them or back their commitments in respect of third parties. This prohibition also applies to Executive Officers and to permanent representatives of legal-entity Directors. It also applies to the spouses, lineal forebearers or descendants of the persons referred to in this paragraph and also to any trustee.

Also, under Article L.225-43 of the French Commercial Code, Directors, Executive Officers and permanent representatives of legal-entity Directors may not borrow money or obtain a guarantee from the Company. Any such loan or guarantee would be void and may not be relied upon by third parties.

#### *Retirement of Directors under an Age Limit Requirement*

Under our *statuts*, the Chairman of the Board's term of office ends, at the latest, after the Annual Ordinary Shareholders' Meeting following the date on which he reaches the age of 65. However, the Board of Directors may further extend the office of the Chairman, one or more times for a total period not to exceed three years. Our *statuts* also provide that when the offices of Chairman and Chief Executive Officer are held by the same person, the Chief Executive Officer's term of office ends on the same date as that of the Chairman. In accordance with Article L.225-19 of the French Commercial Code, no more than one-third of the members of the Board of Directors may be more than 70 years old, unless the *statuts* of the Company provide otherwise. Our *statuts* do not contain any provisions contrary to this limitation.

#### *Number of Shares Required for a Director's Qualification*

Under our *statuts*, throughout his term of office, each Director must own at least one share. Nevertheless, the internal regulations of the Board provide that each Director owns at least 156 shares of the Company.

#### *Share capital*

As of December 31, 2017, our issued share capital amounted to €17,706,519 divided into 22,133,149 shares of the same class with a nominal value of €0.80 per share. The shares are fully paid. Pursuant to our *statuts*, fully paid shares may be held either in registered or in bearer form at the option of the shareholder. The *statuts* also allow us to avail ourselves of a procedure known as *titres au porteur identifiables* by which we may request Euroclear France to disclose the name, nationality, address and the number of shares held by the holders of any of our securities which have, or may in the future have, voting rights. See "Form, Holding and Transfer of Shares."

As of March 15, 2018, our issued share capital amounted to €5,854,573 divided into 585,457,397 shares, with a nominal value of €0.01 per share.

#### *Dividend and liquidation rights*

We may only distribute dividends out of our "distributable profits", plus any amounts held in our reserves which the shareholders decide to make available for distribution, other than those reserves which are specifically required by law. "Distributable profits" consist of our unconsolidated net profit in each fiscal year, as increased or reduced by any profit or loss carried forward from prior years, less any contributions to the reserve accounts pursuant to law.

Under French law, before dividends may be paid with respect to any fiscal year, we must contribute a minimum of 5% of our annual unconsolidated net income to a legal reserve fund, until it reaches an amount equal to 10% of our outstanding share capital. The legal reserve is distributable only upon our liquidation.

Our *statuts* provide that the General Shareholders' Meeting, either on a recommendation from the Board of Directors or on its own initiative, may allocate all or part of our distributable profits, if any, to one or more special or general reserves or to keep such profits as retained earnings to be carried forward to the next fiscal year. Any remaining distributable profits are distributed to shareholders as dividends in proportion to their holdings. However, except in the case of a decrease in share capital which aims to offset losses, no distribution may be made to shareholders when the shareholders' equity is or would become, as a result of the distribution, less than the amount of the share capital increased by amounts held in reserve accounts pursuant to law. The

methods of payment of dividends are determined by the Annual General Meeting of Shareholders or by the Board of Directors in the absence of a decision by the shareholders. According to our *statuts*, the General Meeting has the power to give each shareholder the option of receiving all or part of its dividend payment in either cash or shares.

If we have earned distributable profits since the end of the preceding fiscal year, as shown on an interim income statement certified by our auditors, the Board of Directors has the authority, without the approval of shareholders, to distribute interim dividends to the extent of such distributable profits for the period covered by the interim income statement.

Subject to the statement above regarding interim dividends, the payment of dividends is fixed at the Ordinary General Meeting of Shareholders at which the annual accounts are approved, upon the recommendation of the Board of Directors. Under French law, dividends are normally distributed to shareholders in proportion to their respective holdings. Dividends are payable to all holders of shares, except for treasury stock, issued and outstanding on the date of the Shareholders' Meeting approving the distribution of dividends or, in the case of interim dividends, on the date of the Board of Directors' meeting approving the distribution of interim dividends. We must make annual dividend payments within nine months of the end of our fiscal year, unless otherwise authorized by a court order. Dividends not claimed within five years of the date of payment revert to the French State.

Our Board of Directors may, at any time and for any reason, propose to an Extraordinary General Meeting of Shareholders the early dissolution of the Company and we may be placed in liquidation in compliance with the relevant provisions of the French company law. If the Company is liquidated, those of its assets remaining after payment of our debts, liquidation expenses and all of our remaining obligations will be distributed first to repay in full the nominal value of the shares, and the surplus, if any, will be distributed among the shareholders in proportion to the nominal value of their shareholdings.

### ***Changes in share capital***

#### *Increases in the share capital*

We may increase our share capital either:

- by issuing additional shares (either ordinary or preferred shares) or securities giving access, immediately or in the future, to a portion of our share capital; or
- by increasing the nominal value of our existing shares.

We may issue additional shares:

- for cash;
- for assets contributed in kind;
- upon the conversion of preferred shares, debt securities or other debt instruments previously issued;
- upon the conversion of ordinary shares into preferred shares;
- as a result of a merger or a split;
- by the capitalization of reserves, retained earnings or issuance premiums;
- for cash credits payable by the Company; or
- for any combination of the preceding items.

We may increase our share capital only with the approval of the shareholders at an Extraordinary General Meeting, following a report of the Board of Directors. However, when a capital increase takes place through

capitalization of reserves, retained earnings or issuance premiums, the General Meeting at which the decision to increase the capital is taken follows the quorum and majority requirements of Ordinary General Meetings. Increases effected by an increase in the nominal value of shares require unanimous approval of the shareholders, unless effected by capitalization of reserves, retained earnings or issuance premiums. See “Attendance and Voting at Shareholders’ Meetings.”

The shareholders may delegate to the Board of Directors (i) the decision to increase the share capital or (ii) after authorizing the increase in share capital, the right to carry out any such increase. The Board of Directors may further delegate this right to the Chief Executive Officer. Each time the shareholders decide on a share capital increase or decide to delegate to the Board of Directors the decision to increase the share capital or the right to carry out a capital increase, they must also determine in a separate resolution whether or not to proceed with a capital increase reserved for employees of the Company and its subsidiaries or whether to delegate to the Board of Directors the right to carry out such reserved capital increase.

#### *Decreases in share capital*

An Extraordinary General Meeting of Shareholders also has the power to authorize and implement a reduction in share capital which may be achieved either:

- by decreasing the nominal value of our outstanding shares; or
- by reducing the number of our outstanding shares.

The number of outstanding shares may be reduced either by an exchange or repurchase of shares and cancellation of shares.

According to French company law, any decrease in our share capital requires approval by the shareholders entitled to vote at an Extraordinary General Meeting. In the case of a capital reduction, other than a reduction to absorb losses and a reduction pursuant to a program of acquisition of shares, all holders of shares must be offered the possibility to participate in such a reduction. See “Acquisition of our own Shares”. All holders of shares in a given class of shares must be treated equally unless each affected shareholder agrees otherwise. Our creditors may oppose a capital reduction during the 20-day period following the registration with the Registry of Commerce of the minutes of the Shareholders’ Meeting approving the capital reduction if such reduction does not result from losses. Upon a creditor’s request, the *Tribunal de Commerce* may order us to reimburse our creditors or guarantee our debt.

#### *Preferential rights to subscribe*

According to French law, our current shareholders have preferential rights on a pro rata basis to subscribe (*droit préférentiel de souscription*) for any issue of additional shares to be subscribed in cash or by set-off of cash debts and to subscribe to any issue of other securities which may either directly or indirectly result in, or carry rights to subscribe for, additional shares issued by us. An Extraordinary Shareholders’ Meeting may decide to withdraw the shareholders’ preferential right to subscribe, either in respect of any specific issue of securities, or more generally, with respect to an authorization by the Extraordinary General Meeting, to issue shares or other equity securities, for a duration not to exceed 26 months or 18 months in the case of an authorization given for an issue of securities to identified persons or categories of persons. Shareholders may also individually waive their preferential right to subscribe in respect of any offering. French law requires that the Board of Directors and our statutory auditors present reports that specifically address any proposal to waive preferential subscription rights. In the event of a waiver, the issue of securities must be completed within the period prescribed by law. Preferential rights to subscribe, if not previously waived, are tradable during the subscription period relating to a particular offering of shares and may be quoted on Euronext Paris. In the event that the preferential rights of shareholders are withdrawn, the Shareholders’ Meeting has the power to grant, or to authorize the Board of Directors to grant, existing shareholders a non-transferable priority right (*délai de priorité*) to subscribe for new shares issued during a minimum period of three trading days.

## ***Attendance and voting at Shareholders' Meetings***

### *General*

In accordance with French law, General Shareholders' Meetings may be ordinary or extraordinary. Ordinary General Meetings of Shareholders are required for matters such as:

- the election, replacement and removal of Directors;
- the appointment of statutory auditors;
- the approval of annual accounts;
- more generally, all decisions which do not require the approval of the Extraordinary General Meeting of the Shareholders; and
- the declaration of dividends or the authorization for dividends to be paid in shares.

Extraordinary General Meetings of Shareholders are required for approval of all matters and decisions involving:

- changes in our *statuts* (including changing our corporate purposes);
- increasing or reducing our share capital;
- change of nationality of the Company, subject to certain conditions as described in Article L.225-97 of the French Commercial Code;
- extending or abridging the duration of the Company;
- mergers and spin-offs;
- creation of a new class of shares;
- authorization of notes or other securities giving access, immediately or in the future, to a portion of our share capital;
- transformation of our Company into another legal form; and
- voluntary liquidation of our Company before the end of its statutory term.

### *Annual Ordinary Meetings*

Our Board of Directors must convene the Annual Ordinary General Meeting of Shareholders each year for approval of the annual accounts. This meeting must be held within six months of the end of our fiscal year, unless such time is extended by an order of the President of the *Tribunal de Commerce* pursuant to a request. Other Ordinary or Extraordinary Meetings may be called at any time during the year. Meetings of Shareholders may be convened by the Board of Directors or, in the circumstances prescribed by law, if the Board of Directors fails to call such a meeting, by our statutory auditors or by an administrator appointed by the President of the *Tribunal de Commerce* or by a shareholder holding the majority of the share capital or voting rights following a public offer or the transfer of a block trade. Any of the following may request the President of the *Tribunal de Commerce* to appoint an administrator:

- one or several shareholders holding in the aggregate at least 5% of our share capital;
- any interested parties in case of emergency;
- the Workers' Committee in case of emergency; or
- an association of shareholders who have held the shares in registered form for at least two years and holding, in the aggregate, at least 1% of our voting rights.



### *Notice of Shareholders' Meetings*

French law requires that a preliminary notice (*avis de réunion*) of a General Meeting of a listed company be published in the *Bulletin des Annonces Légales Obligatoires* ("BALO") at least 35 days before the date set for the meeting. Such preliminary notice, the text of the resolutions proposed by the Board of Directors, the resolutions or the points presented by the shareholders together with the aggregate number of voting rights and shares of the Company and certain documents useful for the meeting must be published on the Company's website at least 21 days (or 15 days in case of a takeover bid) before the date of the meeting. A copy of the preliminary notice can first be sent to the *Autorité des marchés financiers* (the "AMF"), the self-regulatory organization that has general regulatory authority over the French regulated exchanges, with an indication of the date of its publication in the BALO. The preliminary notice of a General Meeting must mainly state the details of the Company and information about the voting process and the meeting, the matters to be discussed at the meeting and the draft of the resolutions to be discussed, but also describe how the shareholders can request the inclusion of points or draft resolutions or questions on the agenda of the General Meeting as well as information regarding the vote by proxy, the address of the Company website, the date of registration of the securities and how and when to consult the final text. The agenda of the meeting and the draft of the resolutions to be discussed, such as described in the preliminary notice, may only be modified between the date of publication of the preliminary notice and the twenty-first day preceding the General Meeting. From the date of publication until 25 days before the date of the General Meeting (or within 10 days from the date of the General Meeting in case of a takeover bid), additional resolutions to be submitted for approval by the shareholders or points to be discussed at the meeting may be proposed to the Board of Directors by:

- one or more shareholders holding, in the aggregate, a certain percentage of our share capital (0.5% to 4% determined on the basis of a statutory formula relating to capitalization); or
- a duly authorized association of shareholders who have held their shares in registered form for at least two years and holding, in the aggregate, at least 1% of our voting rights.

The Board of Directors must submit these resolutions to a vote of the shareholders.

At least 15 days before the date set for any General Meeting on first call, and at least 10 days before any General Meeting on second call (and at least 6 and 4 days, respectively, in case of takeover bid), we must send a notice (*avis de convocation*) by mail, or by electronic mail if accepted by the holder of registered shares, to all holders of registered shares who have held such shares for more than one month prior to the date of the notice. Notice of the Meeting must also be given by publication in a journal authorized to publish legal announcements in the local administrative department (*département*) in which we are registered as well as in the BALO, with prior notice having been given to the AMF. Such a notice must mainly include the details of the Company, as well as a description of the type, agenda, place, date and time of the meeting and other information about the voting process. With the sole exception of removal and replacement of Directors (which may be discussed at any meeting), any matter which does not appear on the agenda may not be discussed at the meeting.

### *Attendance and voting at Shareholders' Meetings*

Attendance and exercise of voting rights at both Ordinary and Extraordinary General Meetings of Shareholders are subject to certain conditions. A shareholder does not need to have a minimum number of shares in order to be able to attend or be represented at an Extraordinary General Meeting. Any statutory provision to the contrary is null and void. In order to participate in any General Meeting, a holder of registered shares must have paid up its shares and have its shares registered in his name or in the name of the accredited financial intermediary referred to in Article L.228-1 of the French Commercial Code in a shareholder account maintained by us or on our behalf two business days prior to the meeting. Similarly, a holder of bearer shares must obtain from the accredited financial intermediary (*intermédiaire financier habilité*) with whom such holder has deposited its shares a statement of holdings and send it to the location specified in the notice of the meeting two business days before the meeting convenes.

### *Proxies and Votes by Mail*

Subject to the foregoing, all shareholders have the right to participate in General Meetings, either in person, by a proxy or by mail and, subject only to any applicable laws, may vote according to the number of shares they hold. Proxies may be granted by a shareholder to:

- another shareholder;
- his or her spouse;
- the person with whom the shareholder has entered into a civil solidarity pact (“PACS”);
- any other natural or legal person of his or her choice.

The shareholder must write and send us the proxy.

In case in which the proxy is given to someone else than the shareholder’s spouse or the person with who a PACS has been concluded, the proxy must inform the shareholder of any conflict of interest by registered letter in accordance with Article L.225-106-1 of the French Commercial Code.

Alternatively, the shareholder may send us a blank proxy without nominating any representative. In that case, the Chairman of the Shareholders’ Meeting will vote the shares with respect to which such blank proxy has been given in favor of all resolutions proposed or approved by the Board of Directors and against all others. We will send proxy forms to any shareholder on request, provided such request is received by the Company at least six days before the date of the relevant General Meeting. In order to be counted, we must receive proxy forms at our registered office or at such other address indicated in the notice convening the meeting prior to the date of the relevant General Meeting. With respect to voting by mail, we must send our shareholders a form of such vote and we must receive the form at least three days prior to the date of the relevant General Meeting.

### *Quorum*

Under French law, a quorum requires the presence in person or voting by mail or by proxy of shareholders representing, in the aggregate, not less than:

- 20% of the shares entitled to vote (in the case of an Ordinary General Meeting convened on first call, an Extraordinary General Meeting convened on second call or an Extraordinary General Meeting convened on first call, if deciding upon any capital increase by capitalization of reserves, retained earnings or share premium); or
- 25% of the shares entitled to vote (in the case of any other Extraordinary General Meeting convened on first call).

No quorum is required in the case of an Ordinary General Meeting convened on second call or an Extraordinary General Meeting convened on second call, if deciding upon any capital increase by capitalization of reserves, retained earnings or share premium.

If a quorum is not present at any meeting on first call, the meeting is adjourned and reconvened, and in the case of an Extraordinary General Meeting, for a date not more than two months later. When a General Meeting is reconvened, only questions which were on the agenda of the adjourned meeting may be discussed and voted upon.

Any shareholder may also, if the Board of Directors or its Chairman allows at the time of the convocation to a General Meeting, attend the meeting via video-conference or by means of electronic telecommunication or tele-transmission subject to, and in accordance with, the conditions laid down by the legislation or the regulations then in force. This shareholder is then considered to be present at the meeting when calculating the quorum and the majority.

### *Majority*

At an Ordinary General Meeting or an Extraordinary General Meeting deciding upon any capital increase by capitalization of reserves, retained earnings or share premium, a simple majority of votes cast by the shareholders present or represented at such meeting is required to pass a resolution. At any other Extraordinary General Meeting, a two-thirds majority of votes cast is required to pass a resolution. A unanimous vote, however, is required to increase the liabilities of shareholders. Abstention from voting by those present or represented by proxy or voting by mail is viewed as a vote against the resolutions submitted to a vote.

Our *statuts* provide that, as from May 22, 1997, each share that is fully paid and has been held in registered form by the same shareholder for a period of at least two consecutive years will entitle such shareholder to two votes. The attribution of double voting rights for shares held in registered form by the same shareholder for a period of at least two consecutive years is a legal requirement under French company law, and this provision can be removed only by a decision of an Extraordinary General Meeting. In the event of capital increases effected by an attribution of new shares, as a result of the incorporation of reserves, retained earnings or issuance premiums, the shares attributed by reason of and proportionately to the ownership of shares holding double voting rights are immediately granted double voting rights as if they themselves had fulfilled the requirements therefore. Under French company law, shares that have to be transferred pursuant to laws and regulations applicable to cross-shareholdings, as well as shares held by entities controlled directly or indirectly by us, are not entitled to voting rights. In the latter case, the shares do not count for quorum or majority purposes.

### *Acquisition of our own shares*

Under French law, our Company may not issue shares to itself either directly or through a financial intermediary acting on our behalf. However, exceptionally, we may, either directly or through a financial intermediary acting on our behalf, purchase our shares:

- (1) to reduce our share capital (albeit not to absorb losses), canceling the shares we purchase, with our shareholders' approval at an Extraordinary General Meeting;
- (2) to provide shares to our employees under a profit sharing plan or stock option plan; or
- (3) in the context of a share repurchase program that allows us to acquire up to 10% of our share capital for a maximum period of 18 months. To acquire shares in the context of a share repurchase program, we must first obtain our shareholders' approval at an Ordinary General Meeting and make public a description of such program prior to its launch.

We may not repurchase under either (2) or (3) above an amount of shares that would result in our Company holding, directly or through a person acting on our behalf, more than 10% of our outstanding share capital, without canceling the said 10% first. In addition, we may not cancel more than 10% of our outstanding share capital over any 24-month period.

We must hold any shares we repurchase in registered form. These shares also must be fully paid up. Shares repurchased by us are deemed outstanding under French law but are not entitled to dividends or voting rights and we may not ourselves exercise preferential subscription rights. Such shares do not count for quorum or majority purposes (such repurchase may therefore trigger threshold crossings, see "Requirements for Holdings Exceeding Certain Percentages"). The shareholders, at an Extraordinary General Meeting, may decide not to take such shares into account in determining the preferential rights to subscribe attached to the other shares (if such a decision is not taken, these rights must be either sold on the market before the end of the subscription period or distributed to the other shareholders on a pro rata basis).

A direct subsidiary is generally prohibited by French law from holding shares in its parent and, in the event it becomes a holder of shares, such subsidiary must transfer such shares within one year following the date on which it becomes the holder thereof. An indirect subsidiary may only acquire shares if such subsidiary demonstrates a business purpose for holding the shares but in no event will it be entitled to vote such shares.

At the Shareholders' Meeting held on May 27, 2016, our shareholders renewed the existing authorization to acquire up to 10% of our share capital through purchases of shares and to resell shares so acquired for the 18 months following the date of such meeting this authorization has now expired.

Under such authorization, we were allowed to carry out transactions on our shares with the following objectives:

- to support liquidity of our shares through a liquidity contract entered into with an investment service provider in compliance with the Code of Practice of the French AMF,
- to deliver shares in the scope of securities giving access, immediately or in the future, to shares by redemption, conversion, exchange, presentation of a warrant or by any other means,
- to deliver, immediately or in the future, shares in exchange in the scope of external growth within the limit of 5% of the share capital,
- to allocate shares to employees and officers of the Company or affiliated companies within the meaning of Article L.225-180 of the French Commercial Code, including but not limited to the scope of options to purchase shares of the Company,
- to deliver shares for no consideration to Executive Officers and employees, including but not limited to the scope of Articles L.225-197-1 et seq. of the French Commercial Code,
- to cancel the shares through a capital reduction, subject to a decision of, or an authorization, by the Extraordinary General Meeting.

In accordance with these objectives (save for liquidity contracts), and subject to the provisions of the European Commission Regulation Number 2273/2003 of December 22, 2003, the treasury shares so acquired may be either cancelled, sold or otherwise transferred. The shares may be acquired, sold or transferred, on one or several occasions, by any means, including by individual agreement or market purchase, by an offer to buy, or in a block of shares and at any moment, but not during a take-over bid. The maximum amount of share capital that can be purchased or transferred as block of shares can be up to the total authorized amount under this program.

The General Meeting approved a maximum purchase price of €40 per share.

The maximum number of shares that we are entitled to hold is 10% of our share capital as at the time of the purchase, less any shares acquired under previous authorizations. Notwithstanding the above, pursuant to Article L.225-209, paragraph 6 of the French Commercial Code, the number of shares that may be acquired and retained for possible use for payment or exchange in the context of a merger, demerger or contribution may not exceed 5% of the share capital.

This authorization was granted for a period of 18 months from May 27, 2016 and cancelled and replaced the authorization granted to the Board of Directors by the General Meeting held on May 29, 2015. This share repurchase plan was not implemented in 2017.

As of December 31, 2017, we held 24,996 of our own shares.

### ***Trading in our own shares***

Under European Commission Regulation Number 2273/2003 of December 22, 2003 and Commission delegated Regulation No 2016/1052 (EU) of 8 March 2016, trades by a company in its own shares are deemed valid when the following conditions are met:

- each purchase must not be made at a price higher than the higher of the price of the last independent trade and the highest current independent bid on Euronext Paris or any other trading venues on which the shares are traded and purchased by us; and

- the purchase must not account for more than 25% of the average daily trading volume on Euronext Paris in the shares during the twenty trading days immediately preceding the purchase.

However, there are two periods during which we are not permitted to trade in our own securities: the 15-day period before the date on which we make our consolidated annual accounts public, and the period beginning on the date on which we become aware of information that, if disclosed, would have a significant impact on the market price of our securities and ending on the date this information is made public.

We must file a report with the AMF every six months as well as at entry into force, amendment or termination of the liquidity arrangement containing the assessment of such arrangement. Such report is then posted on our website. In addition, we must also file with the AMF a monthly report containing details of all transactions relating to our shares that we may have carried out during the month.

### ***Form, holding and transfer of shares***

*Form of Shares.* Our *statuts* provide that our fully paid shares may be held in either registered or bearer form at the option of the shareholder. We may avail ourselves of the procedure known as *titres au porteur identifiables*, according to which we are entitled to request Euroclear France to disclose the name, nationality, address and the number of shares held by holders of those securities of ours which have, or which may in the future acquire, voting rights.

*Holding of Shares.* In accordance with French law concerning dematerialization of securities, the ownership rights of holders of shares are represented by book entries rather than by share certificate. According to our *statuts*, registered shares are entered into an account held by us or by a representative nominated by us, while shares in bearer form are placed in an account held by an accredited financial intermediary (*intermédiaire financier habilité*).

We maintain a share account with Euroclear France in respect of all shares in registered form, which, in France, is administered by BNP Paribas Securities Services, acting on our behalf as our agent. Shares held in registered form are inscribed in the name of each shareholder (either directly, or, at the shareholder's request, through such shareholder's accredited financial intermediary) in separate accounts maintained by BNP Paribas Securities Services on our behalf. Each shareholder account shows the name of the holder and the number of shares held and, in the case of shares inscribed through an accredited financial intermediary, shows that they are so held. BNP Paribas Securities Services, as a matter of course, issues confirmations to each registered shareholder as to holdings of shares inscribed in the shareholder's accounts, but these confirmations do not constitute documents of title.

Shares held in bearer form are held and inscribed on the shareholder's behalf in an account maintained by an accredited financial intermediary with Euroclear France separately from our share account with Euroclear France. Each accredited financial intermediary maintains a record of shares held through it and will issue certificates of inscription in respect thereof. Shares held in bearer form may only be transferred through accredited financial intermediaries and Euroclear France. As noted above, our *statuts* allow us to request from Euroclear France details concerning the identity of the holders of shares in bearer form at any time.

*Transfer of Shares.* Our *statuts* do not contain any restrictions relating to the transfer of shares. An owner of shares resident outside France may trade such shares on Euronext Paris. Should such owner (or the broker or other agent) require assistance in this connection, an accredited financial intermediary should be contacted.

Prior to any transfer of shares held in registered form on Euronext Paris, such shares must be converted into bearer form and, accordingly, must be registered in an account maintained by an accredited financial intermediary. A shareholder may initiate a transfer by giving instructions (through an agent if appropriate) to the relevant accredited financial intermediary.

### ***Requirements for holdings exceeding certain percentages***

French company law provides that any individual or entity, who acting alone or in concert with others, acquires, directly or indirectly, more than 5%, 10%, 15%, 20%, 25%, 30%, 33 1/3%, 50%, 66 2/3%, 90% or 95% of our outstanding shares or voting rights thereof or whose shareholding falls below any such percentage must notify us at the latest by the closure of the fourth trading day following the date the threshold has been crossed of the number of shares it holds and of the voting rights attached thereto. Such individual or entity must also notify the AMF within the same period.

In order to permit holders of our shares to give the notice required by law, we must monthly, in accordance with Article 221-3 of the *Règlement Général* of the AMF, post (including on the Company website) information with respect to the total outstanding number of voting rights and shares if these have changed and provide the AMF with a written notice.

If any person fails to comply with the legal notification requirement, the shares or voting rights in excess of the relevant threshold will be deprived of voting rights for all Shareholders' Meeting until the end of a two-year period following the date on which the owner thereof complies with the notification requirements. In addition, any shareholder who fails to comply with the above requirements may have all or part of its voting rights (and not only with respect to the shares in excess of the relevant threshold) suspended for up to five years by the *Tribunal de Commerce* at the request of our Chairman, any shareholder or the AMF, and may be subject to criminal penalties.

French company law imposes additional reporting requirements on persons who acquire more than 10%, 15%, 20% or 25% of our outstanding shares or voting rights. These persons must file a report with us and the AMF at the latest by the closure of the fifth trading day following the date they cross the threshold. In the report, the acquirer must specify his intentions for the following six-month period, including whether or not it intends to continue its purchases, to acquire control of our Company or to seek nomination to our Board of Directors. In addition, the acquirer must also provide information on its strategy, the means of financing its acquisition, any stock lending or stock borrowing agreement and regarding whether or not it is acting in concert with another party. The AMF makes the notice public. The acquirer can amend its stated intentions in case of changes and in such case, this latter must file a new report which opens a new six-month period. Failure to comply with the reporting requirements or to abide by the stated intentions may result in a sanction similar to that applicable to failure to comply with the legal notification requirement.

In addition to the provisions of French company law, our *statuts* provide that any shareholder who directly or indirectly acquires ownership or control of shares representing 1% or any multiple thereof of our share capital or voting rights, or whose shareholding falls below any such limit, must inform us within five trading days of the crossing of the relevant threshold, of the number of shares then owned by such shareholder. Failure to comply with these notification requirements may result, at the request, recorded in the minutes of the General Meeting, of one or several shareholders holding at least 1% of the capital, in the shares in excess of the relevant threshold being deprived of voting rights for all Shareholder Meetings until the end of a two-year period following the date on which the owner thereof has complied with such notification requirements.

**Compulsory Tender.** The AMF Regulations provide that a shareholder, acting alone, or shareholders acting in concert, as these terms are defined in Article L.233-10 of the French Commercial Code, who come to own directly or indirectly more than 30% of the voting rights or share capital of a French company listed on a regulated market in France must immediately notify the AMF, and submit a compulsory tender for all the shares of capital and all securities giving access to the share capital or voting rights of such company. The tender must be submitted on terms acceptable to the AMF. Any person acting alone or in concert is under the same obligation of notification and compulsory offer if, further to a merger or a contribution, he or she ends up holding more than 30% of the shares or voting rights of a French company listed on a regulated market.



In addition, the same obligation applies to any shareholder acting alone or shareholders acting in concert who, owning directly or indirectly between 30% and 50% of the voting rights or share capital of a French company listed on a regulated market in France, increase their interest by at least 1% of the existing total number of shares or voting rights over a maximum period of twelve consecutive months.

The French commercial law requires a 50% minimum threshold for compulsory tenders described above. The tender automatically lapses if a shareholder, acting alone, or shareholders acting in concert, as these terms are defined in Article L.233-10 of the French Commercial Code fails to obtain more than 50% of the voting rights or share capital of a French company listed on a regulated market. When the majority seems impossible or unlikely to be achieved for reasons not related to the characteristics of the tender, the AMF may, at the request of the bidder, allow the threshold to be removed or lowered below 50% of the voting rights or of the share capital. This threshold provides additional adverse consequences on a compulsory tender in case of lapsing: (i) if the mandatory tender offer results from the acquisition of more than 30% of the share capital or voting rights of French company listed on a regulated market in France, the voting rights exceeding the 30% threshold will be suspended, and (ii) if the compulsory tender is triggered by an increase of interest by at least 1% of the existing total number of shares or voting rights over a maximum period of twelve consecutive months (as described above), voting rights exceeding the number of shares held before this acquisition plus 1% will be suspended and the relevant shareholder will not be able to increase its shareholding other than through a tender.

In addition, the French Labor Code requires the issuance of an opinion by our works council (*comité d'entreprise*) in case of a compulsory tender on our Company by any person acting alone or in concert, at the end of an “ad hoc” information and consultation procedure. This opinion shall be issued at the latest within one month from the filing of the draft of the tender. However, the elected members of our works council will be entitled to request from the President of *Tribunal de Grande Instance*, an extension of such one-month period in case of specific difficulties in obtaining the necessary information to be in a position to issue an opinion, except if the problem is caused by our deliberate refusal to disclose the requested information. This opinion will then be provided to our Board of Directors before it takes a decision on the tender. Our works council will be entitled not only to consult the bidder, but also to request the appointment of an expert who will have to issue a report assessing its intentions on our industrial and financial policy and strategic plans, within three weeks from the filing of the draft of the tender.

The AMF is vested with the power to grant relief from the obligation to tender for all of the shares of the target company and may consider certain exemptions when petitioned for such relief by the acquiring shareholders. These exemptions primarily concern previous control of the target company or a commitment to divest within a given period.

## **Material contracts**

The following contracts (not being contracts entered into in the ordinary course of business) have been entered into by us or our subsidiaries within the two years immediately preceding the date of this document and are, or may be, material:

### ***First lien notes due 2023***

As part of the financial restructuring, on February 21, 2018, CGG Holding (U.S.) Inc. issued US\$663.6 million in principal amount of first lien notes due 2023, bearing floating rate interest at LIBOR (with a floor of 1%) plus 6.5% per annum in cash, and 2.05% per annum PIK interest, in exchange for the remaining claims under Credit Facilities, reduced by the cash payment of US\$150 million. See “Item 4: Information on the Company — History and development of the Company — Financial restructuring process — Description of the Safeguard Plan” for more details. In connection with the issuance of the first lien notes, CGG Holding (U.S.) Inc. as Issuer, the Company and certain of its subsidiaries as Guarantors and The Bank of New York Mellon, London Branch as Trustee, among others, executed an indenture dated February 21, 2018.

### ***Second lien notes due 2024***

As part of the financial restructuring, on February 21, 2018, the Company issued US\$355.1 million and €80.4 million in principal amounts of second lien notes due 2024, bearing interest at a rate including a variable component indexed on the LIBOR (for the tranche denominated in US dollars) and EURIBOR (for the tranche denominated in euros), in each case, with a floor of 1%, plus a margin of 4.0% per annum, and PIK interest of 8.5% per annum. In connection with the issuance of the second lien notes, CGG S.A. as Issuer, certain of its subsidiaries as Guarantors, and The Bank of New York Mellon, London Branch as Trustee, among others, executed an indenture dated February 21, 2018. The net proceeds from the issuance of the new money portion of the second lien notes have been or will be used as set forth in “Item 4: Information on the Company — History and development of the Company — Financial restructuring process — Description of the Safeguard Plan”.

### **Exchange controls**

#### ***Ownership of ADSs or shares by Non-French Persons***

Other than as described above, under French law, there is no limitation on the right of non-resident or foreign shareholders to own or to exercise their voting rights attached to the securities they hold in a French company.

Pursuant to the French Monetary and Financial Code, administrative authorization is no longer required of non-European residents prior to acquiring a controlling interest in a French company, with exceptions regarding sensitive economic areas such as defense, public health, etc. However a notice (*déclaration administrative*) must be filed with the French Ministry of the Economy in certain circumstances and in particular for the acquisition of an interest in us by any person not residing in France or any foreign controlled resident if such acquisition would result in (i) the acquisition of a controlling interest of more than 33.33% of our share capital or voting rights or (ii) the increase of a controlling interest in us unless such person not residing in France or group of non-French residents already controls more than 50% of our share capital or voting rights prior to such increase. In certain circumstances (depending upon such factors as the percentage and value of the acquired part of our share capital), an additional declaration, for statistical purposes shall be filled with the *Banque de France*.

#### ***Exchange controls***

Under current French exchange control regulations, there are no limitations on the amount of payments that may be remitted by us to non-residents. Laws and regulations concerning foreign exchange control do require, however, that all payments or transfers of funds (including payments of dividends to foreign shareholders) made by a French resident to a non-resident be handled by an accredited intermediary. In France, all registered banks and substantially all credit establishments are accredited intermediaries.

### **Taxation**

The following summarizes the material French tax and US federal income tax consequences to US Holders (as defined below) of the ownership and disposition of ADSs and shares.

For the purposes of this discussion, a US Holder means a beneficial owner of ADSs or shares that is, for US federal income tax purposes:

- an individual who is a citizen or resident of the United States;
- a corporation, or other entity treated as a corporation, created or organized in or under the laws of the United States, of any state thereof, or the District of Columbia;
- an estate the income of which is subject to US federal income taxation regardless of its source; or

- a trust if a court within the United States is able to exercise primary supervision over the trust and one or more US persons have the authority to control all substantial decisions of the trust, or the trust has validly elected to be treated as a domestic trust for US federal income tax purposes.

This discussion is not a complete description of all of the tax consequences of the ownership or disposition of ADSs or shares.

The summary assumes that each obligation in the deposit agreement between The Bank of New York and us (the “Deposit Agreement”) and any related agreement will be performed in accordance with its terms and is based on the current tax laws of the Republic of France and the United States, including the US Internal Revenue Code of 1986, as amended (the “Code”), its legislative history, existing and proposed Treasury Regulations thereunder published rulings and court decisions as well as the Convention between the Government of the United States of America and the Government of the French Republic for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion with Respect to Taxes on Income and Capital dated August 31, 1994 (the “Treaty”), the 2004 Protocol amending the Treaty entered into force on December 21, 2006, and the 2009 Protocol amending the Treaty entered into force on December 23, 2009, all as of the date hereof and all subject to change, possibly with retroactive effect.

For purposes of the Treaty, French tax law and the Code, US Holders of ADSs generally will be treated as owners of the corresponding number of our shares underlying those ADSs held by The Bank of New York as depository (the “Depository”).

Your individual circumstances may affect the tax consequences of the ownership or disposition of ADSs or shares to you, and your particular facts or circumstances are not considered in the discussion below.

This discussion summary does not address state, local or other tax laws other than French tax law and US federal income tax law. This summary also does not discuss all of the tax considerations that may be relevant to, nor is it intended to apply to, certain holders of ADSs or shares subject to special treatment under the relevant tax laws, such as:

- investors that own (directly, indirectly or by attribution) 5% or more of our shares interests (by vote or value);
- banks;
- dealers in securities or currencies;
- traders in securities who elect to apply a mark-to-market method of accounting;
- financial institutions;
- regulated investment companies;
- real estate investment trusts;
- tax-exempt organizations;
- insurance companies;
- persons that hold ADSs or shares as part of a hedging, straddle, conversion or other integrated transaction;
- US Holders who hold ADSs or shares other than as capital assets;
- persons whose functional currency is not the US dollar;
- certain US expatriates;
- individual retirement accounts and other tax-deferred accounts;

- persons subject to the US alternative minimum tax or net investment income tax;
- investors that hold the ADSs or shares in connection with a trade or business conducted outside the United States; and
- persons who acquired ADSs or shares pursuant to an employee stock option or otherwise as compensation.

The US federal income tax treatment of a partner in an entity or arrangement treated as a partnership for US federal income tax purposes that holds ADSs or shares will depend on the status of the partner and the activities of the partnership. Holders that are entities or arrangements treated as partnerships for US federal income tax purposes should consult their tax advisors concerning the US federal income tax consequences to them and their partners of the ownership and disposition of ADSs or shares by the partnership.

You should consult your own tax advisor regarding the French and US federal, state and local and other tax consequences of the ownership and disposition of ADSs or shares in the light of your particular circumstances, including the effect of any state, local or other tax laws. In particular, you should confirm whether you are eligible for the benefits of the Treaty with your advisor and should discuss any possible consequences of failing to be so eligible. You should also consult your tax advisor in the event that you become entitled to receive any dividend that is approved to be paid.

### ***French taxation***

The following describes the material French tax consequences of owning and disposing of ADSs relevant to US Holders which do not hold their ADSs in connection with a permanent establishment or fixed base in France through which a holder carries on business or performs personal services in France. The statements relating to French tax laws set out below are based on the laws in force as at the date hereof, and are subject to any changes in applicable French tax laws or in any applicable double taxation conventions or treaties with France occurring after such date.

This discussion is intended only as a descriptive summary and does not purport to be a complete analysis or list of all potential tax effects of the ownership of ADSs.

### ***Taxation of dividends***

France generally imposes a 30% withholding tax on dividends distributed in cash or in the form of shares by a French corporation (such as our Company) to shareholders who are residents of the United States (Further to the Law n°2017-1837 (2018 French Finance Act), such 30% withholding tax has been lowered to 12.8% for individuals). Furthermore, dividends paid outside of France in a “non-cooperative state or territory” (*Etat ou territoire non-coopératif*) as defined in Article 238-0 A of the French Tax Code (i.e. a state or territory included in a list to be updated and published each year by way of an order (*arrêté*) of the French Ministers in charge of the economy and the budget) are subject to French withholding tax at a rate of 75%. However, the Treaty generally reduces the withholding tax rate to 15% on dividends paid in cash or in the form of shares to an Eligible US Holder (as defined below).

Under the Treaty, an “Eligible US Holder” is a US Holder whose ownership of ADSs is not attributable to a permanent establishment or fixed base in France and who is:

- an individual or other non-corporate holder; or
- a corporation that does not own, directly or indirectly, 10% or more of the capital of our Company, provided in each case that such holder;
  - is a resident of the United States under the Treaty;

- is the beneficial owner of the dividends and is entitled to Treaty benefits under the limitation on benefits provisions in Article 30 of the Treaty; and
- complies with the procedural rules to obtain Treaty benefits described below under “Taxation of Dividends — Procedure to Obtain Treaty Benefits”.

#### ***Taxation of dividends — procedure to obtain treaty benefits***

Eligible US Holders must follow certain procedures in order to be eligible for the 15% dividend withholding tax under the Treaty.

An Eligible US Holder who wishes to obtain a reduced withholding rate at source must complete and deliver to the US financial institution that is in charge of the administration of the ADSs of that Eligible US Holder a Treaty form establishing that such US Holder is a US resident for the purpose of the Treaty (Form 5000).

If Form 5000 is not filed prior to the dividend payment, we or the French paying agent will withhold tax from the dividend at the above rate of 30%, and the Eligible US Holder will be entitled to claim a refund of the excess withholding tax by filing Form 5001 with the Depository or the French paying agent early enough to enable them to forward that application to the French tax authorities before December 31 of the second year following the calendar year in which the related dividend was paid.

The Depository will provide to all US Holders of ADSs the applications or certificates, together with instructions, and will arrange for the filing with the French tax authorities of all applications and certificates completed by US Holders of ADSs and returned to the Depository in sufficient time to complete the filing.

Form 5000 and Form 5001 and their respective instructions are available at the *trésorerie des non-résidents* (10, rue du Centre, 93160 Noisy-le-Grand, France). Copies of these forms may also be downloaded from the website of the French tax authorities ([www.impots.gouv.fr](http://www.impots.gouv.fr)), and English-language versions of these forms may be downloaded from the website of the French embassy in Washington, D.C. (<http://ambafrance-us.org/spip.php?article1315>).

#### ***Taxation on sale or disposal of ADSs***

Subject to the provisions of any relevant double tax treaty, persons who are not French residents for the purpose of French taxation (as well as, under certain conditions, foreign states, international organizations and certain foreign public bodies), who are not established or domiciled in a non-cooperative state and who have held not more than 25%, directly or indirectly, of the dividend rights (*droits aux bénéfices sociaux*) of our Company at any time during the preceding five years, are not generally subject to any French income tax or capital gains tax on any sale or disposal of ADSs.

If a transfer of listed shares is evidenced by a written agreement, such share transfer agreement is, in principle, subject to registration formalities and therefore to a registration duty assessed on the higher of the purchase price or the market value of the shares, at the rate of 0.1%. Transfers subject to the French financial transaction tax are exempted from the 0.1% registration duty, where applicable.

Transfers of listed shares and certain other equity-linked instruments (including American depository shares) that are admitted to trading on a French or foreign regulated or recognized market, issued by companies having their registered seat in France and whose market capitalization exceeds €1 billion as at December 1 of the year preceding the relevant taxable year, are subject to French financial transaction tax, at the rate of 0.2%, subject to certain exemptions. As at December 1, 2017, the market capitalization of our Company did not exceed €1 billion.

### ***French estate and gift taxes***

Pursuant to “The Convention Between the United States of America and the French Republic for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion with Respect to Taxes on Estates, Inheritance and Gifts” dated November 24, 1978 as amended by a protocol dated December 8, 2004, a transfer of ADSs by gift or by reason of the death of a US Holder will not be subject to French gift or inheritance tax, unless (i) the donor or the transferor is domiciled in France at the time of making the gift or at the time of his or her death, or (ii) the ADSs were used in, or held for use in, the conduct of a business through a permanent establishment or fixed base in France. In such a case, the French gift or inheritance tax may be credited against the US gift or inheritance tax. This tax credit is limited to the amount of the US gift or inheritance tax due on the ADSs.

### ***French wealth tax***

The French wealth tax (*impôt de solidarité sur la fortune*) has been abolished by article 31 of the Law n°2017-1837 (2018 French Finance Act), which has also introduced a new real estate wealth tax (*impôt sur la fortune immobilière*).

### **United States federal income taxation**

Except as otherwise noted, the following summary assumes that we will not be a passive foreign investment company (a “PFIC”) for US federal income tax purposes. We do not believe that we were a PFIC for US federal income tax purposes for our taxable year ended December 31, 2017, but our possible status as a PFIC must be determined annually and therefore may be subject to change. If we were to be a PFIC in any taxable year, material adverse tax consequences could result for US Holders. See “Passive foreign investment company status” below.

**THE SUMMARY OF US FEDERAL INCOME TAX CONSEQUENCES SET OUT BELOW IS FOR GENERAL INFORMATION ONLY. US HOLDERS SHOULD CONSULT THEIR TAX ADVISERS AS TO THE PARTICULAR TAX CONSEQUENCES TO THEM OF OWNING AND DISPOSING OF THE ADSs, INCLUDING THEIR ELIGIBILITY FOR THE BENEFITS OF THE TREATY, THE APPLICABILITY AND EFFECT OF STATE, LOCAL, NON-US AND OTHER TAX LAWS AND POSSIBLE CHANGES IN TAX LAW.**

### ***US Holders of ADSs***

For US federal income tax purposes, a US Holder of ADSs generally will be treated as the owner of the corresponding number of shares held by the Depository, and references herein to shares refer also to ADSs representing the shares. Accordingly, no gain or loss generally will be recognized if a US Holder of ADSs exchanges the ADSs for the underlying shares represented by the ADSs. A US Holder’s adjusted tax basis in the withdrawn shares generally will be the same as the US Holder’s adjusted tax basis in the ADSs surrendered, and the holding period of the shares generally will include the holding period of the ADSs. However, the US Treasury has expressed concern that US holders of depository receipts (such as holders of receipts representing our ADSs) may be claiming foreign tax credits in situations where an intermediary in the chain of ownership between such holders and the issuer of the security underlying the depository receipts, or a party to whom depository receipts or deposited shares are delivered by the depository prior to the receipt by the depository of the corresponding securities, has taken actions inconsistent with the ownership of the underlying security by the person claiming the credit, such as a disposition of such security. Such actions may also be inconsistent with the claiming of the reduced tax rates that may be applicable to certain dividends received by certain non-corporate holders, as described below. Accordingly, (i) the creditability of any French taxes and (ii) the availability of the reduced tax rates for any dividends received by certain non-corporate US Holders, each as described below, could be affected by actions taken by such parties or intermediaries.



### ***Dividends***

General. Distributions paid on our shares out of current or accumulated earnings and profits (as determined for US federal income tax purposes), before reduction for any French withholding tax paid by us with respect thereto, will generally be taxable to a US Holder as dividend income in the year in which the distribution is received (which, in the case of a US Holder of ADSs, will be the year of receipt by the Depositary), and will not be eligible for the dividends received deduction allowed to corporations. Distributions in excess of current and accumulated earnings and profits will be treated as a non-taxable return of capital to the extent of the US Holder's adjusted tax basis in the shares and thereafter as capital gain. However, we do not maintain calculations of our earnings and profits in accordance with US federal income tax accounting principles. US Holders should therefore assume that any distribution by us with respect to our shares will be reported as ordinary dividend income. US Holders should consult their own tax advisors with respect to the appropriate US federal income tax treatment of any distribution received from us.

Dividends paid by us generally will be taxable to a non-corporate US Holder at the reduced rate normally applicable to long-term capital gains, provided either we qualify for the benefits of the Treaty or the shares are considered to be readily tradable on the NYSE, and certain other requirements are met. A US Holder will not be able to claim the reduced rate for any year in which we are treated as a PFIC or any year immediately following a year in which we are treated as a PFIC. See "Passive foreign investment company status" below.

Foreign Currency Dividends. Dividends paid in euro will be included in income in a US dollar amount calculated by reference to the exchange rate in effect on the day the dividends are received by the US Holders (or, in the case of ADSs, by the Depositary), regardless of whether the euro are converted into US dollars at that time. If dividends received in euro are converted into US dollars on the day they are received by the US Holders (or, in the case of ADSs, by the Depositary), the US Holder generally will not be required to recognize foreign currency gain or loss in respect of the dividend income.

### ***Effect of French withholding taxes***

US Holders will be treated as having received the amount of French withholding taxes withheld by us, and as then having paid over the withheld taxes to the French taxing authorities. As a result of this rule, the amount of dividend income included in gross income for US federal income tax purposes by a US Holder with respect to a payment of dividends may be greater than the amount of cash actually received (or receivable) by the US Holder from us with respect to the payment. Please see "Taxation — French taxation — Taxation of dividends" for additional discussion on French withholding taxes.

A US Holder will generally be entitled, subject to certain limitations, to a credit against its US federal income tax liability, or a deduction in computing its US federal taxable income, for any French income taxes withheld from a dividend. Eligible US Holders that are eligible for benefits under the Treaty will not be entitled to a foreign tax credit for the amount of any French taxes withheld in excess of the maximum rate under the Treaty, and with respect to which the holder is entitled to obtain a refund from the French taxing authorities. The rules governing foreign tax credits are complex. US Holders should consult their tax advisors concerning the foreign tax credit implications of the payment of French taxes.

### ***Sale or other Disposition***

Upon a sale or other disposition of shares (other than an exchange of ADSs for shares), a US Holder generally will recognize capital gain or loss for US federal income tax purposes equal to the difference, if any, between the amount realized on the sale or other disposition and the US Holder's adjusted tax basis in the shares. This capital gain or loss will be long-term capital gain or loss if the US Holder's holding period in the shares exceeds one year. Any gain or loss will generally be US source.

A US Holder's adjusted tax basis in a share generally will be its US dollar cost. The amount realized on a sale or other disposition of shares for an amount in foreign currency generally will be the US dollar value of this

amount on the date of sale or other disposition. On the settlement date, the US Holder generally will recognize US source foreign currency gain or loss (taxable as ordinary income or loss) equal to the difference (if any) between the US dollar value of the amount received based on the exchange rates in effect on the date of sale or other disposition and the settlement date. However, in the case of shares traded on an established securities market that are sold by a cash basis US Holder (or an accrual basis US Holder that so elects), the amount realized will be based on the exchange rate in effect on the settlement date for the sale, and no exchange gain or loss will be recognized at that time.

#### ***Passive foreign investment company status***

We do not believe that we were a PFIC for US federal income tax purposes for our taxable year ended December 31, 2017, but our possible status as a PFIC must be determined annually and therefore may be subject to change. A non-US corporation will be a PFIC in any taxable year in which, after taking into account the income and assets of the corporation and certain subsidiaries pursuant to applicable “look-through rules,” either (i) 75% or more of its gross income consists of “passive” income or (ii) the average percentage of its assets (by value) that produce or are held for the production of passive income is at least 50%.

If we were a PFIC in any taxable year during which a US Holder owned shares and the US Holder has not made a mark to market or qualified electing fund election, the US Holder would generally be subject to special rules (regardless of whether we continued to be a PFIC) with respect to (i) any “excess distribution” (generally, any distributions received by the US Holder on shares in a taxable year that are greater than 125% of the average annual distributions received by the US Holder in the three preceding taxable years or, if shorter, the US Holder’s holding period for the shares) and (ii) any gain realized on the sale or other disposition of shares. Under these rules (a) the excess distribution or gain would be allocated ratably over the US Holder’s holding period, (b) the amount allocated to the current taxable year and any taxable year prior to the first taxable year in which we are a PFIC would be taxed as ordinary income, and (c) the amount allocated to each of the other taxable years would be subject to tax at the highest rate of tax in effect for the applicable class of taxpayer for that year and an interest charge for the deemed deferral benefit would be imposed with respect to the resulting tax attributable to each such other taxable year. Additionally, dividends paid by us would not be eligible for the reduced rate of tax described above under “US federal income taxation — Dividends — General”. If we were a PFIC, a US Holder of shares would generally be subject to similar rules with respect to distributions to us by, and dispositions by us of the stock of, any direct or indirect subsidiaries of ours that were also PFICs.

A US Holder who owns, or who is treated as owning, PFIC stock during any taxable year in which we are a PFIC may be required to file Internal Revenue Service (“IRS”) Form 8621. US Holders should consult their tax advisors regarding the potential application of the PFIC regime, including the requirement to file IRS Form 8621.

#### ***Backup withholding and information reporting***

Payments of dividends and other proceeds with respect to shares by a US paying agent or other US intermediary will be reported to the IRS and to the US Holder as may be required under applicable regulations. Backup withholding may apply to these payments if the US Holder fails to provide an accurate taxpayer identification number or certification of exempt status or fails to comply with applicable certification requirements. Certain US Holders (including, among others, corporations) are not subject to backup withholding. US Holders should consult their tax advisors about these rules and any other reporting obligations that may apply to the ownership or disposition of shares, including requirements related to the holding of certain “specified foreign financial assets”.

#### **Dividends and paying agents**

Not applicable.

### **Statement by experts**

Not applicable.

### **Documents on display**

We are subject to the reporting requirements of the Securities Exchange Act of 1934, as amended (the “Exchange Act”) applicable to foreign private issuers. In accordance with the Exchange Act, we electronically file or submit reports, including annual reports on Form 20-F and interim reports on Form 6-K, and other information with the Securities and Exchange Commission. You may obtain these reports and other information by sending a written request to CGG, Tour Maine-Montparnasse, 33, avenue du Maine, BP 191, 75755 Paris cedex 15, France, Attention: Investor Relations Officer, Telephone: (33) 1 64 47 45 00.

You can inspect and copy these reports, and other information, without charge, at the Public Reference Room of the Commission located at 100 F Street, N.E., Washington, D.C. 20549. You can also obtain copies of these materials at prescribed rates from the Public Reference Room of the Commission at 450 Fifth Street, N.W., Washington, D.C. 20549 or by calling the Commission at 1-800-SEC-0330. The Commission also maintains a web site at <http://www.sec.gov> that contains reports and other information regarding registrants that file electronically with the Commission.

In addition, you can inspect material filed by CGG at the offices of the New York Stock Exchange, 20 Broad Street, New York, New York 10005, on which American Depositary Shares representing shares of our common stock are listed. As a foreign private issuer, we are not subject to the proxy rules under Section 14 or the short-swing insider profit disclosure rules under Section 16 of the Exchange Act.

### **Subsidiary information**

Not applicable.

### **Item 11: QUANTITATIVE AND QUALITATIVE DISCLOSURE ABOUT MARKET RISK**

Because we operate internationally, we are exposed to general risks linked to operating abroad. Our major risk exposures are changing interest rates and currency fluctuations.

#### **Interest rate risk**

Our policy is to manage interest rates through maximization of the proportion of fixed rate debt. As of December 31, 2017, 72% of our debt consisted of fixed-rate, high-yield and convertible bonds, along with some fixed-rate finance leases, which were not exposed to interest rate fluctuations. As of December 31, 2017, financial debt with variable rate comprised our Credit Facilities which had interest rates that reset for each interest period (generally every three months).

Following our financial restructuring effective February 21, 2018, the total amount of our first lien notes and second lien notes is subject to variable interest rates that are reset at each interest period (every three months). As a result, our interest expenses vary in line with movements in short-term interest rates. See note 14 to our consolidated financial statements for further details on our variable interest rate exposure.

#### **Foreign Exchange Rate Risk**

As a company that derives a substantial amount of its revenue from sales internationally, we are subject to risks relating to fluctuations in currency exchange rates. Our revenues and expenses are mainly denominated in US dollars and euros, and to a significantly lesser extent, in Canadian dollars, Brazilian reais, Australian dollars, Norwegian kroner, British pounds and Chinese yuan.

We aim to match our foreign currency revenues and expenses in order to balance, to the extent possible, our net position of receivables and payables denominated in foreign currencies, in particular currencies that are not readily available or are difficult to convert. Nevertheless, over past years, the Group did not succeed in totally balancing its foreign currency revenues and expenses, especially for the euros, due to personnel costs payable in euros in France and in certain European countries.

As we are a US\$ company, we maintain our financing primarily in US dollars. As of December 31, 2017 and 2016, our total outstanding debt denominated in US dollars was US\$1,757 million and US\$1,879 million and, respectively, representing 62% and 67% of our total financial debt outstanding at such dates. Following the financial restructuring, our total outstanding debt denominated in US dollars was US\$1,047 million, representing 87% of our total debt outstanding.

In addition, our general policy is, when possible, to hedge major currency exposures related to forecasted excess currency originating from operational contracts at the time such contracts are entered in the backlog. On the contrary, we do not enter into forward foreign currency exchange contracts to hedge recurring fixed expenses in any currency, especially the euros.

As of December 31, 2017, we did not have any material forward exchange contracts.

The table below presents principal amounts and related weighted average interest rates by year of maturity for our debt obligations as of December 31, 2017:

<u>Carrying value<sup>(1)</sup></u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>Thereafter</u>	<u>Total</u>	<u>Fair Value</u>
	(in US\$ million)							
<b>Debt</b>								
U.S. dollar . . . . .	1,099.1	—	—	—	—	—	1,099.1	581.1
<i>Average fixed rate</i> . . . . .		—	—	—	—	—	6.6%	
U.S. dollar . . . . .	659.8	—	—	—	—	—	659.8	669.1
<i>Average variable rate</i> . . . . .		—	—	—	—	—	7.0%	
Euro . . . . .	882.3	5.6	5.9	6.1	34.7	—	934.6	621.7
<i>Average fixed rate</i> . . . . .		—	—	—	—	—	4.0%	
Euro . . . . .	149.4	—	—	—	—	—	149.4	151.9
<i>Average variable rate</i> . . . . .							5.7%	

*Note: For the purposes of the table above, the various components of the financial debt are presented at their normal maturities even though these debts — except finance lease debt — are presented entirely as current due to the application of IAS 1 (see note 13 to our consolidated financial statements, included elsewhere in this document)*

<sup>(1)</sup> *Excluding bank overdrafts, accrued interest, IFRS adjustments and issue premium*

## Commercial risk

Our receivables do not represent a significant credit risk since our main clients are major oil companies and we have a wide variety of customers in the oil and gas industry due to our presence in many geographic areas. Specific procedures have been put in place to monitor customers' payments and reduce risks. In 2017, the Group's two most significant customers accounted for 10.4% and 8.6% of the Group's consolidated revenues compared with 6.7% and 6.4% in 2016 and 5.0% and 4.9% in 2015.

## Item 12: DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES

### American depositary shares

Our ADSs are listed on the New York Stock Exchange under the symbol "CGG". The Bank of New York Mellon is the depositary (the "Depositary") issuing ADSs pursuant to an amended and restated deposit agreement

dated January 11, 2007 among our company, the Depositary and the holders from time to time of ADSs (the “Deposit Agreement”). Each ADS represents the right to receive one share. The table below sets forth the fees payable, either directly or indirectly, by a holder of ADSs as of the date of this annual report.

<u>Category</u>	<u>Depositary Actions</u>	<u>Associated Fee/By Whom Paid</u>
(a) Depositing or substituting the underlying shares	Issuance of ADSs, including issuances resulting from a distribution of shares or rights or other property	US\$5.00 (or less) per 100 ADSs (or portion thereof) charged to person depositing the shares
(b) Receiving or distributing dividends	Any cash distribution to ADS registered holders	US\$0.02 (or less) per ADS
(c) Selling or exercising rights	Distribution of securities distributed to holders of deposited securities which are distributed by the depositary to ADS registered holders	A fee equivalent to the fee that would be payable if securities distributed had been shares and the shares had been deposited for issuance of ADSs
(d) Withdrawing an underlying security	Cancellation of ADSs for the purpose of withdrawal, including if the deposit agreement terminates	US\$5.00 (or less) per 100 ADSs (or portion thereof) charged to person withdrawing the shares
(e) Transferring, splitting or grouping receipts	Transfers, combining or grouping of depositary receipts	Not applicable
(f) General depositary services, particularly those charged on an annual basis	Other services performed by the Depositary in administering the ADSs	Not applicable
(g) Expenses of the Depositary	Expenses incurred on behalf of holders in connection with: <ul style="list-style-type: none"> <li>• taxes and other governmental charges the Depositary or the custodian has to pay on any ADS or share underlying and ADS, for example, stock transfer taxes, stamp duty or withholding taxes;</li> <li>• cable, telex and facsimile transmission (when expressly provided in the Deposit Agreement);</li> <li>• registration or transfer fees for the registration of shares or other deposited securities on the share register and applicable to transfers of shares or other deposited securities to or from the name of the custodian; and</li> <li>• expenses of the Depositary in connection with the conversion of foreign currency into US dollars.</li> </ul>	

The Depositary may remit to us all or a portion of the Depositary fees charged for the reimbursement of certain of the expenses we incur in respect of the ADS program established pursuant to the Deposit Agreement upon such terms and conditions as we may agree from time to time.

However, in the year ended December 31, 2017, the Depositary did not reimburse us for any fees or expenses.



## PART II

### Item 13: DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES

Not applicable.

### Item 14: MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITYHOLDERS AND USE OF PROCEEDS

Not applicable.

### Item 15: CONTROLS AND PROCEDURES

(a) *Disclosure controls and procedures.* As of the end of the period covered by this report, we carried out an evaluation of the effectiveness of our disclosure controls and procedures (as defined in 17 CFR 240.13a-15(e) and 240.15d-15(e)), under the supervision of our management, including our Chief Executive Officer and our Chief Financial Officer. Based on this evaluation, our Chief Executive Officer and our Chief Financial Officer concluded that such controls and procedures are effective to ensure that information required to be disclosed in reports filed with or submitted to the SEC under the Exchange Act, is recorded, processed, summarized and reported within the time periods specified in the Exchange Act and its rules and forms.

There has been no change in our internal control over financial reporting during the period covered by this report that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Pursuant to Article L.225-100-1 of the French Commercial Code, as amended by a French order (*ordonnance N°2017-1102*) issued on July 12, 2017, the management report prepared by the Board of Directors with respect to fiscal year 2017 includes a description of the main characteristics of the internal control and risk management procedures implemented by the Company in relation to the preparation and the treatment of our financial and accounting information.

(b) *Management annual report on internal control over financial reporting.* We are responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) under the Securities and Exchange Act of 1934) for CGG.

Due to its inherent limitations, internal control over financial reporting may not prevent or detect misstatements, and can only provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

We assessed the effectiveness of our internal control over financial reporting as of December 31, 2017, and concluded that our internal control over financial reporting is effective. In making this assessment, we used the criteria established in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our assessment under these criteria, we concluded that, as of December 31, 2017, our internal control over financial reporting was effective to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB) and with IFRS as adopted by the European Union as of December 31, 2017.

The effectiveness of internal control over financial reporting has been audited by Ernst & Young et Autres, our independent registered public accounting firm, as stated in their report, which is included herein.

*(c) Attestation Report of Independent Registered Public Accounting Firm.*

## **Report of Independent Registered Public Accounting Firm on the internal control over financial reporting**

To the Shareholders and the Board of Directors of CGG,

### **Opinion on Internal Control over Financial Reporting**

We have audited CGG's internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, CGG (the "Company") maintained, in all material aspects, effective internal control over financial reporting as of December 31, 2017, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated statement of financial position of the Company as of December 31, 2017, 2016 and 2015, and the related consolidated statements of operations, comprehensive income (loss), changes in equity and cash flows for each of the three years in the period ended December 31, 2017, and the related notes and our report dated March 29, 2018, expressed an unqualified opinion thereon.

### **Basis for Opinion**

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying management annual report on internal control over financial reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

### **Definition and Limitations of Internal Control Over Financial Reporting**

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ERNST & YOUNG et Autres

Paris-La Défense, France

March 29, 2018

(d) *Changes in Internal Control Over Financial Reporting.*

Not Applicable

**Item 16A: AUDIT COMMITTEE FINANCIAL EXPERT**

Pursuant to Section 407 of the Sarbanes Oxley Act of 2002, Mrs. Lombard was appointed Financial Expert of the Audit Committee by a Board resolution dated May 3, 2014. Mrs. Lombard is “independent”, as that term is defined by the listing standards of the New York Stock Exchange.

**Item 16B: CODE OF ETHICS**

The Board of Directors has adopted a Code of Ethics that applies to our Chief Executive Officer, our Chief Financial Officer, other Senior Financial Officers (including our principal Accounting Officer), the members of the Executive Committee and the Disclosure Committee to promote honest and ethical conduct, full, fair, accurate, timely and understandable disclosure in periodic reports required to be filed by us and compliance with applicable governmental rules and regulations. A copy of this Code of Ethics is filed as an exhibit to this annual report.

**Item 16C: PRINCIPAL ACCOUNTANT FEES AND SERVICES**

	December 31,			
	2017		2016	
	EY	Mazars	EY	Mazars
	(in thousands of US\$)			
Audit Fees <sup>(a)</sup>	3,095	1,196	2,642	1,170
Audit-Related Fees <sup>(b)</sup>	492	241	252	51
Tax Fees <sup>(c)</sup>	94	—	23	14
All Other Fees <sup>(d)</sup>	—	—	25	—
<b>Total</b>	<b><u>3,681</u></b>	<b><u>1,437</u></b>	<b><u>2,942</u></b>	<b><u>1,235</u></b>

Notes:

<sup>(a)</sup> *Audit fees are the aggregate fees billed by our independent auditors for the audit of the individual and consolidated annual and semi-annual financial statements and the provision of services that are normally provided by our independent auditors in connection with statutory and regulatory filings or engagements.*

<sup>(b)</sup> *Audit-related fees are the aggregate fees billed by our independent auditors for services that are reasonably related to the performance of the audit or review of our financial statements and are not reported under “audit fees”. They include consultations relating to accounting principles and internal controls. In addition, they include in particular audit-related services provided in connection with the financial restructuring process.*

- (c) *Tax fees are the aggregate fees billed by our independent auditors for services rendered by our auditors for tax compliance, tax advice, and tax planning. They include assistance when dealing with local authorities, advice regarding tax audit and litigation, expatriate taxation and tax advice relating to mergers and acquisitions.*
- (d) *All other fees are the aggregate fees billed by our independent auditors other than the services reported in notes (a) through (c) of this table. They include training services as well as general and specific advice.*

The Board of Directors and the Audit Committee have adopted an audit and non-audit services pre-approval policy. This policy requires the Audit Committee to pre-approve the audit and non-audit services performed by the independent auditors in order to assure that they do not impair the auditors' independence from us.

Pursuant to this policy, a list of proposed services is pre-approved, on an annual basis, without consideration of specific case-by-case services by the Audit Committee. Unless a type of service has received such general pre-approval, it will require specific pre-approval by the Audit Committee or by its Chairman. In addition, any proposed services exceeding pre-approved cost levels or budgeted amounts will also require specific pre-approval by the Audit Committee. The services list and the cost levels are reviewed annually by the Audit Committee.

The annual audit services engagement terms and fees as defined in note (a) of table above are subject to the specific pre-approval of the Audit Committee.

**Item 16D: EXEMPTIONS FROM THE LISTING STANDARDS FOR AUDIT COMMITTEES**

Not applicable.

**Item 16E: PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS**

Not applicable.

**Item 16F: CHANGE IN REGISTRANT'S CERTIFYING ACCOUNTANT**

In February 2013, the Audit Committee recommended to streamline the audit and to retain Ernst & Young et Autres as sole certifying registered accountant, while recommending to the Board to have Ernst & Young et Autres and Mazars re-appointed by the 2013 Shareholders' General Meeting as joint statutory auditors for domestic reporting purposes of the Group as a public company in France. This recommendation was endorsed and implemented by the Board of Directors on February 27, 2013.

**Item 16G: CORPORATE GOVERNANCE**

The corporate governance rules of the New York Stock Exchange differ from the regulations and recommendations applicable in France, especially those governing the definition of Director independence and the role and operation of the Board's committees. As a non-US listed company, we are exempted from many of these corporate governance rules, which are applicable to US listed companies. For example, notwithstanding our conclusions as to independence under the AFEP-MEDEF Code, our Board has not formally determined which of our Directors meet NYSE independence standards. The Board's internal charter does not address Committee purposes and responsibilities in the manner specified by the NYSE rules applicable to Nominating, Compensation and Audit Committees, and our Appointment-Remuneration Committee has not been given independent authority and funding to hire compensation advisors. However, our Audit Committee members meet the independence test for Audit Committee members established by the SEC, and we believe that they also meet the definition of "independence" under the NYSE rules.

**Item 16H: MINE SAFETY DISCLOSURE**

Not applicable.

**PART III**

**Item 17: FINANCIAL STATEMENTS**

Not applicable

**Item 18: FINANCIAL STATEMENTS**

The following audited financial statements of the Group and related schedules, together with the report of Ernst & Young et Autres, are filed as part of this annual report:

	<u>Page</u>
Report of Independent Auditors . . . . .	F-1
Consolidated Financial Statements:	
Consolidated Statement of Financial Position as at December 31, 2017, 2016 and 2015 . . . . .	F-2
Consolidated Statements of Operations for the years ended December 31, 2017, 2016 and 2015 . . . . .	F-3
Consolidated Statements of Comprehensive Income (Loss) for the years ended December 31, 2017, 2016 and 2015 . . . . .	F-4
Consolidated Statements of Changes in Equity for the years ended December 31, 2017, 2016 and 2015 . . .	F-5
Consolidated Statements of Cash Flows for the years ended December 31, 2017, 2016 and 2015 . . . . .	F-7
Notes to the Consolidated Financial Statements . . . . .	F-8

## Item 19: EXHIBITS

Exhibit No	Exhibit
1.1*	English translation of our Articles of Association ( <i>statuts</i> ).
2.1	Indenture dated as of February 21, 2018 between CGG Holding (U.S.) Inc. as Issuer, CGG S.A. and certain of its subsidiaries as Guarantors and The Bank of New York Mellon, London Branch as Trustee. (Exhibit 99.1 to the Registrant's report on Form 6-K, dated February 22, 2018, is incorporated herein by reference).
2.2	Indenture dated as of February 21, 2018 between CGG S.A. as Issuer, certain of its subsidiaries as Guarantors, and The Bank of New York Mellon, London Branch as Trustee. (Exhibit 99.2 to the Registrant's report on Form 6-K, dated February 22, 2018, is incorporated herein by reference).
4.1	Mixed Capital Company Contract dated November 26, 2003 by and among Sercel SA, the Committee of the Hebei JunFeng Prospecting Equipment Company, the Dongfang Geological Prospecting Limited Liability Company, and the Xian General Factory for Oil Prospecting Equipment (Exhibit 10.1 to the Report on Form 6-K, dated May 13, 2004, is incorporated herein by reference).
4.3	Joint Venture Agreement <sup>(1)</sup> relating to Seabed Geosolutions B.V. between Fugro Consultants International N.V. and CGGVeritas S.A. dated January 27, 2013 (Exhibit 4.5 to the Registrant's Annual Report on Form 20-F for the fiscal year ended December 31, 2012, dated April 25, 2013, is incorporated herein by reference).
4.4	Amendment dated February 16, 2013 <sup>(1)</sup> to the Joint Venture Agreement relating to Seabed Geosolutions B.V. between Fugro Consultants International N.V. and CGGVeritas S.A. (Exhibit 4.6 to the Registrant's Annual Report on Form 20-F for the fiscal year ended December 31, 2012, dated April 25, 2013, is incorporated herein by reference).
8*	Our subsidiaries.
11	Code of Ethics (Exhibit 11 to the Registrant's Annual Report on Form 20-F for the fiscal year ended December 31, 2013, dated April 10, 2014, is incorporated herein by reference).
12.1*	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes Oxley Act of 2002.
12.2*	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes Oxley Act of 2002.
13.1*	Certification of Chief Executive Officer pursuant to Section 906 of the Sarbanes Oxley Act of 2002 (10 U.S.C. § 1350).
13.2*	Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes Oxley Act of 2002 (10 U.S.C. § 1350).
15.1*	Consent of Ernst & Young et Autres.

\* Filed herewith.

<sup>(1)</sup> Pursuant to the rules of the SEC, the schedules and similar attachments to the agreement have not been filed herewith. The Company agrees to furnish supplementally a copy of any omitted schedule to the SEC upon request.



**SIGNATURES**

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

CGG  
(Registrant)

/s/ JEAN-GEORGES MALCOR

Jean-Georges Malcor  
Chief Executive Officer

/s/ STEPHANE-PAUL FRYDMAN

Stéphane-Paul Frydman  
Chief Financial Officer

Date: March 29, 2017

**CGG**

**ERNST & YOUNG**

1-2 place des Saisons, Paris La Défense 1  
92400 Courbevoie

**Report of Independent Registered Public Accounting Firm on the consolidated financial statements**

To the Shareholders and the Board of Directors of CGG,

**Opinion on the Consolidated Financial Statements**

We have audited the accompanying consolidated statement of financial position of CGG (the “Company”) as of December 31, 2017, 2016 and 2015, and the related consolidated statements of operations, comprehensive income (loss), changes in equity and cash flows for each of the three years in the period ended December 31, 2017, and the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2017, 2016 and 2015, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2017, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), CGG’s internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), and our report dated March 29, 2018 expressed an unqualified opinion thereon.

**Basis for Opinion**

These financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ERNST & YOUNG et Autres

We have served as the Company’s auditor since 1977.

Paris-La Défense, France

March 29, 2018

CGG

CONSOLIDATED STATEMENT OF FINANCIAL POSITION

	Notes	December 31,		
		2017	2016	2015
(In millions of US\$)				
<b>ASSETS</b>				
Cash and cash equivalents	28	315.4	538.8	385.3
Trade accounts and notes receivable, net	3	522.6	434.8	812.5
Inventories and work-in-progress, net	4	239.3	266.3	329.3
Income tax assets		61.6	112.2	91.2
Other current assets, net	5	117.0	105.8	119.2
Assets held for sale, net	5	14.6	18.6	34.4
<b>Total current assets</b>		<b>1,270.5</b>	<b>1,476.5</b>	<b>1,771.9</b>
Deferred tax assets	24	21.9	26.0	52.2
Investments and other financial assets, net	7	62.6	51.9	87.6
Investments in companies under equity method	8	192.7	190.5	200.7
Property, plant and equipment, net	9	330.3	708.6	885.2
Intangible assets, net	10	1,152.2	1,184.7	1,286.7
Goodwill, net	11	1,234.0	1,223.3	1,228.7
<b>Total non-current assets</b>		<b>2,993.7</b>	<b>3,385.0</b>	<b>3,741.1</b>
<b>TOTAL ASSETS</b>		<b>4,264.2</b>	<b>4,861.5</b>	<b>5,513.0</b>
<b>LIABILITIES AND EQUITY</b>				
Bank overdrafts	13	0.2	1.6	0.7
Current portion of financial debt <sup>(1)</sup>	2, 13	2,902.8	2,782.1	96.5
Trade accounts and notes payables		169.9	157.4	267.8
Accrued payroll costs		153.6	138.9	169.2
Income taxes payable		38.7	31.6	47.0
Advance billings to customers		25.9	24.4	56.0
Provisions — current portion	16	58.3	110.7	219.5
Current liabilities associated with funded receivables	3	9.8	—	—
Other current liabilities	12	123.1	140.2	198.6
<b>Total current liabilities</b>		<b>3,482.3</b>	<b>3,386.9</b>	<b>1,055.3</b>
Deferred tax liabilities	24	62.0	67.6	136.3
Provisions — non-current portion	16	121.6	162.1	155.9
Financial debt <sup>(1)</sup>	2, 13	52.3	66.7	2,787.6
Other non-current liabilities	17	17.9	21.4	19.5
<b>Total non-current liabilities</b>		<b>253.8</b>	<b>317.8</b>	<b>3,099.3</b>
Common stock: 41,690,360 shares authorized and 22,133,149 shares with a €0.80 nominal value issued and outstanding at December 31, 2017	15	20.3	20.3	92.8
Additional paid-in capital		1,850.0	1,850.0	1,410.0
Retained earnings		(1,354.6)	(845.7)	(268.5)
Other Reserves		37.6	171.1	138.0
Treasury shares		(20.1)	(20.1)	(20.6)
Cumulative income and expense recognized directly in equity		(0.8)	(0.8)	(0.6)
Cumulative translation adjustment		(43.3)	(54.1)	(38.9)
<b>Equity attributable to owners of CGG S.A.</b>		<b>489.1</b>	<b>1,120.7</b>	<b>1,312.2</b>
Non-controlling interest		39.0	36.1	46.2
<b>Total equity<sup>(2)</sup></b>		<b>528.1</b>	<b>1,156.8</b>	<b>1,358.4</b>
<b>TOTAL LIABILITIES AND EQUITY</b>		<b>4,264.2</b>	<b>4,861.5</b>	<b>5,513.0</b>

(1) On completion of the financial restructuring on February 21, 2018, the financial debt decreased from US\$2,955 million as of December 31, 2017 down to US\$1,205 million, out of which US\$10 million are current and US\$1,195 million are non-current. See note 2 and 13.

(2) On completion of the financial restructuring on February 21, 2018, equity was increased by c. US\$2.05 billion including a c.US\$0.75 billion positive net income impact arising mainly from the equitization of unsecured senior debt. See note 2.

The accompanying notes are an integral part of the consolidated financial statements

CGG

CONSOLIDATED STATEMENTS OF OPERATIONS

	Notes	Year		
		2017	2016	2015
		(In millions of US\$, except per share data)		
Operating revenues	19	1,320.0	1,195.5	2,100.9
Other income from ordinary activities	19	0.8	1.4	1.4
<b>Total income from ordinary activities</b>		<b>1,320.8</b>	<b>1,196.9</b>	<b>2,102.3</b>
Cost of operations		(1,239.4)	(1,250.4)	(1,817.2)
<b>Gross profit</b>		<b>81.4</b>	<b>(53.5)</b>	<b>285.1</b>
Research and development expenses — net	20	(28.8)	(13.6)	(68.7)
Marketing and selling expenses		(55.5)	(62.2)	(87.2)
General and administrative expenses		(81.7)	(84.3)	(98.5)
Other revenues (expenses) — net	21	(178.9)	(182.9)	(1,188.3)
<b>Operating income</b>	<b>19</b>	<b>(263.5)</b>	<b>(396.5)</b>	<b>(1,157.6)</b>
Expenses related to financial debt		(214.0)	(176.9)	(180.2)
Income provided by cash and cash equivalents		3.0	2.7	1.7
<b>Cost of financial debt, net</b>	<b>22</b>	<b>(211.0)</b>	<b>(174.2)</b>	<b>(178.5)</b>
Other financial income (loss)	23	4.2	(11.4)	(54.5)
<b>Income (loss) of consolidated companies before income taxes</b>		<b>(470.3)</b>	<b>(582.1)</b>	<b>(1,390.6)</b>
<b>Income taxes</b>	<b>24</b>	<b>(23.7)</b>	<b>13.7</b>	<b>(77.0)</b>
<b>Net income (loss) from consolidated companies</b>		<b>(494.0)</b>	<b>(568.4)</b>	<b>(1,467.6)</b>
Share of income (loss) in companies accounted for under equity method		(20.1)	(8.2)	21.4
<b>Net income (loss)</b>		<b>(514.1)</b>	<b>(576.6)</b>	<b>(1,446.2)</b>
<i>Attributable to:</i>				
Owners of CGG S.A.	\$	(514.9)	(573.4)	(1,450.2)
Owners of CGG S.A. <sup>(1)</sup>	€	(458.6)	(518.6)	(1,302.0)
Non-controlling interests	\$	0.8	(3.2)	4.0
Weighted average number of shares outstanding <sup>(2)(3)(4)</sup>	29	46,038,287	43,255,753	12,647,881
Dilutive potential shares from stock options	29	<sup>(5)</sup>	<sup>(5)</sup>	<sup>(5)</sup>
Dilutive potential shares from performance share plans	29	<sup>(5)</sup>	<sup>(5)</sup>	<sup>(5)</sup>
Dilutive potential shares from convertible bonds	29	<sup>(5)</sup>	<sup>(5)</sup>	<sup>(5)</sup>
Dilutive weighted average number of shares outstanding adjusted when dilutive <sup>(2)(3)(4)</sup>		46,038,287	43,255,753	12,647,881
<b>Net income (loss) per share</b>				
— Basic	\$	(11.18)	(13.26)	(114.66)
— Basic <sup>(1)</sup>	€	(9.96)	(11.99)	(102.94)
— Diluted	\$	(11.18)	(13.26)	(114.66)
— Diluted <sup>(1)</sup>	€	(9.96)	(11.99)	(102.94)

- (1) Converted at the average exchange rate of US\$1.1227, US\$1.1057 and US\$1.1138 per € for 2017, 2016 and 2015 respectively.
- (2) As a result of the February 5, 2016 CGG S.A. capital increase via an offering of preferential subscription rights to existing shareholders, the calculation of basic and diluted earnings per share for 2015 has been adjusted retrospectively. Number of ordinary shares outstanding has been adjusted to reflect the proportionate change in the number of shares.
- (3) As a result of the July 20, 2016 reverse stock split the calculation of basic and diluted earnings per share for 2015 has been adjusted retrospectively. Number of ordinary shares outstanding has been adjusted to reflect the proportionate change in the number of shares.
- (4) As a result of the February 21, 2018 CGG S.A. capital increase via an offering of preferential subscription rights to existing shareholders, the calculation of basic and diluted earnings per share for 2017, 2016 and 2015 has been adjusted retrospectively. Number of ordinary shares outstanding has been adjusted to reflect the proportionate change in the number of shares.
- (5) As our net result was a loss, stock options and performance shares plans had an anti-dilutive effect; as a consequence, potential shares linked to those instruments were not taken into account in the dilutive weighted average number of shares or in the calculation of diluted loss per share.

The accompanying notes are an integral part of the consolidated financial statements

**CGG**

**CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)**

	Year		
	2017	2016	2015
	(In millions of US\$)		
<b>Net income (loss) from statements of operations</b> .....	<b>(514.1)</b>	<b>(576.6)</b>	<b>(1,446.2)</b>
<b>Other comprehensive income to be reclassified in profit (loss) in subsequent period:</b>			
Net gain (loss) on cash flow hedges .....	—	(0.2)	0.7
Net gain (loss) on available-for-sale financial assets .....	—	—	(0.7)
Exchange differences on translation of foreign operations .....	12.9	(17.7)	(16.8)
<b>Net other comprehensive income to be reclassified in profit (loss) in subsequent period<sup>(1)</sup></b> .....	<b>12.9</b>	<b>(17.9)</b>	<b>(16.8)</b>
<b>Other comprehensive income not to be classified in profit (loss) in subsequent period:</b>			
Net gain (loss) on actuarial changes on pension plan .....	5.2	(6.6)	(3.3)
<b>Net other comprehensive income not to be reclassified in profit (loss) in subsequent period<sup>(2)</sup></b> .....	<b>5.2</b>	<b>(6.6)</b>	<b>(3.3)</b>
<b>Total other comprehensive income (loss) for the period, net of taxes<sup>(1)+(2)</sup></b> .....	<b>18.1</b>	<b>(24.5)</b>	<b>(20.1)</b>
<b>Total comprehensive income (loss) for the period</b> .....	<b>(496.0)</b>	<b>(601.1)</b>	<b>(1,466.3)</b>
<i>Attributable to:</i>			
<i>Owners of CGG</i> .....	(498.9)	(595.4)	(1,467.4)
<i>Non-controlling interests</i> .....	2.9	(5.7)	1.1

The accompanying notes are an integral part of the consolidated financial statements

CGG

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

	Number of Shares issued (a)	Share capital	Additional paid-in capital	Retained earnings	Other reserves	Treasury shares	Income and expense recognized directly in equity	Cumulative Translation Adjustment	Equity attributable to owners of CGG S.A.	Non- controlling interests	Total equity
<b>Balance at January 1, 2015</b> . . . . .	<u>5,533,287</u>	<u>92.8</u>	<u>3,180.4</u>	<u>(592.4)</u>	<u>64.7</u>	<u>(20.6)</u>	<u>(7.6)</u>	<u>(24.3)</u>	<u>2,693.0</u>	<u>53.2</u>	<u>2,746.2</u>
Net gain (loss) on actuarial changes on pension plan <sup>(1)</sup> . . . . .				(3.3)					(3.3)		(3.3)
Net gain (loss) on cash flow hedges <sup>(2)</sup> . . . . .							0.7		0.7		0.7
Net gain (loss) on available-for-sale financial assets <sup>(3)</sup> . . . . .							(0.7)		(0.7)		(0.7)
Exchange differences on foreign currency translation <sup>(4)</sup> . . . . .							0.7	(14.6)	(13.9)	(2.9)	(16.8)
<b>Other comprehensive income<sup>(1)+(2)+(3)+(4)</sup></b> . . . . .				(3.3)			0.7	(14.6)	(17.2)	(2.9)	(20.1)
Net income <sup>(5)</sup> . . . . .				(1,450.2)					(1,450.2)	4.0	(1,446.2)
<b>Comprehensive income<sup>(1)+(2)+(3)+(4)+(5)</sup></b> . . . . .				(1,453.5)			0.7	(14.6)	(1,467.4)	1.1	(1,466.3)
Dividends . . . . .									—	(7.5)	(7.5)
Cost of share-based payment . . . . .				3.2					3.2		3.2
Exchange differences on foreign currency translation generated by the parent company . . . . .					73.3				73.3		73.3
Public exchange offer of convertible bonds, net of tax . . . . .				8.5					8.5		8.5
Transfer to retained earnings of the parent company . . . . .			(1,770.4)	1,770.4					—		—
Changes in consolidation scope and other . . . . .				(4.7)			6.3		1.6	(0.6)	1.0
<b>Balance at December 31, 2015</b> . . . . .	<u>5,533,287</u>	<u>92.8</u>	<u>1,410.0</u>	<u>(268.5)</u>	<u>138.0</u>	<u>(20.6)</u>	<u>(0.6)</u>	<u>(38.9)</u>	<u>1,312.2</u>	<u>46.2</u>	<u>1,358.4</u>

<sup>(a)</sup> Number of shares as of January 1, 2015 and December 31, 2015 has been restated to reflect the 32-for-one stock split on July 20, 2016.

	Number of Shares issued (a)	Share capital	Additional paid-in capital	Retained earnings	Other reserves	Treasury shares	Income and expense recognized directly in equity	Cumulative Translation Adjustment	Equity attributable to owners of CGG S.A.	Non- controlling interests	Total equity
<b>Balance at January 1, 2016</b> . . . . .	<u>5,533,287</u>	<u>92.8</u>	<u>1,410.0</u>	<u>(268.5)</u>	<u>138.0</u>	<u>(20.6)</u>	<u>(0.6)</u>	<u>(38.9)</u>	<u>1,312.2</u>	<u>46.2</u>	<u>1,358.4</u>
Net gain (loss) on actuarial changes on pension plan <sup>(1)</sup> . . . . .				(6.6)					(6.6)		(6.6)
Net gain (loss) on cash flow hedges <sup>(2)</sup> . . . . .							(0.2)		(0.2)		(0.2)
Net gain (loss) on available-for-sale financial assets <sup>(3)</sup> . . . . .									—		—
Exchange differences on foreign currency translation <sup>(4)</sup> . . . . .								(15.2)	(15.2)	(2.5)	(17.7)
<b>Other comprehensive income<sup>(1)+(2)+(3)+(4)</sup></b> . . . . .				(6.6)			(0.2)	(15.2)	(22.0)	(2.5)	(24.5)
Net income <sup>(5)</sup> . . . . .				(573.4)					(573.4)	(3.2)	(576.6)
<b>Comprehensive income<sup>(1)+(2)+(3)+(4)+(5)</sup></b> . . . . .				(580.0)			(0.2)	(15.2)	(595.4)	(5.7)	(601.1)
Capital increase . . . . .	16,599,862	231.6	135.9			0.5			368.0		368.0
Share capital reduction (see note 15) . . . . .		(304.1)	304.1						—		—
Dividends . . . . .									—	(4.4)	(4.4)
Cost of share-based payment . . . . .				2.6					2.6		2.6
Exchange differences on foreign currency translation generated by the parent company . . . . .					33.1				33.1		33.1
Changes in consolidation scope and other . . . . .				0.2					0.2		0.2
<b>Balance at December 31, 2016</b> . . . . .	<u>22,133,149</u>	<u>20.3</u>	<u>1,850.0</u>	<u>(845.7)</u>	<u>171.1</u>	<u>(20.1)</u>	<u>(0.8)</u>	<u>(54.1)</u>	<u>1,120.7</u>	<u>36.1</u>	<u>1,156.8</u>

<sup>(a)</sup> Number of shares as of January 1, 2016 and capital increase have been restated to reflect the 32-for-one stock split on July 20, 2016.



	Number of Shares issued	Share capital	Additional paid-in capital	Retained earnings	Other reserves	Treasury shares	Income and expense recognized directly in equity	Cumulative Translation Adjustment	Equity attributable to owners of CGG S.A.	Non- controlling interests	Total equity
<b>Balance at January 1, 2017</b> . . . . .	<u>22,133,149</u>	<u>20.3</u>	<u>1,850.0</u>	<u>(845.7)</u>	<u>171.1</u>	<u>(20.1)</u>	<u>(0.8)</u>	<u>(54.1)</u>	<u>1,120.7</u>	<u>36.1</u>	<u>1,156.8</u>
Net gain (loss) on actuarial changes on pension plan <sup>(1)</sup> . . . . .				5.2					5.2		5.2
Net gain (loss) on cash flow hedges <sup>(2)</sup> . . . . .									—		—
Net gain (loss) on available-for-sale financial assets <sup>(3)</sup> . . . . .									—		—
Exchange differences on foreign currency translation <sup>(4)</sup> . . . . .								10.8	10.8	2.1	12.9
<b>Other comprehensive income<sup>(1)+(2)+(3)+(4)</sup></b> . . . . .				5.2				10.8	16.0	2.1	18.1
Net income <sup>(5)</sup> . . . . .				(514.9)					(514.9)	0.8	(514.1)
<b>Comprehensive income<sup>(1)+(2)+(3)+(4)+(5)</sup></b> . . . . .				(509.7)				10.8	(498.9)	2.9	(496.0)
Cost of share-based payment . . . . .				1.0					1.0		1.0
Exchange differences on foreign currency translation generated by the parent company . . . . .					(133.5)				(133.5)		(133.5)
Changes in consolidation scope and other . . . . .				(0.2)					(0.2)		(0.2)
<b>Balance at December 31, 2017</b> . . . . .	<u>22,133,149</u>	<u>20.3</u>	<u>1,850.0</u>	<u>(1,354.6)</u>	<u>37.6</u>	<u>(20.1)</u>	<u>(0.8)</u>	<u>(43.3)</u>	<u>489.1</u>	<u>39.0</u>	<u>528.1</u>

*Note: On completion of the financial restructuring on February 21, 2018, equity was increased by c. US\$2.05 billion including a c.US\$0.75 billion positive net income impact arising mainly from the equitization of unsecured senior debt. See note 2*

The accompanying notes are an integral part of the consolidated financial statements

CGG

CONSOLIDATED STATEMENTS OF CASH FLOWS

	Notes	Year		
		2017	2016	2015
(In millions of US\$)				
<b>OPERATING</b>				
Net income (loss)		(514.1)	(576.6)	(1,446.2)
Depreciation and amortization	28	181.2	293.2	1,310.6
Multi-client surveys depreciation and amortization	10, 28	297.7	417.2	369.5
Depreciation and amortization capitalized in multi-client surveys	10	(30.0)	(42.3)	(72.8)
Variance on provisions		(16.7)	(105.6)	98.5
Stock based compensation expenses		0.7	2.0	3.1
Net (gain) loss on disposal of fixed and financial assets		(30.4)	0.1	(27.2)
Equity (income) loss of investees		20.1	8.2	(21.4)
Dividends received from investments in companies under equity method		2.0	13.0	5.1
Other non-cash items		49.2	0.3	(3.0)
<b>Net cash flow including net cost of financial debt and income tax</b>		<b>(40.3)</b>	<b>9.5</b>	<b>216.2</b>
Less net cost of financial debt		211.0	174.2	178.5
Less income tax expense		23.7	(13.7)	77.0
<b>Net cash flow excluding net cost of financial debt and income tax</b>		<b>194.4</b>	<b>170.0</b>	<b>471.7</b>
Income tax paid	28	43.5	(12.6)	(19.2)
<b>Net cash flow before changes in working capital</b>		<b>237.9</b>	<b>157.4</b>	<b>452.5</b>
— change in trade accounts and notes receivables		(97.9)	320.2	76.8
— change in inventories and work-in-progress		54.5	60.2	53.2
— change in other current assets		(15.8)	(27.3)	25.7
— change in trade accounts and notes payable		(0.4)	(98.2)	(144.1)
— change in other current liabilities		19.6	(58.2)	(33.5)
Impact of changes in exchange rate on financial items		—	1.0	(22.5)
<b>Net cash flow provided by operating activities</b>		<b>197.9</b>	<b>355.1</b>	<b>408.1</b>
<b>INVESTING</b>				
Total capital expenditures (including variation of fixed assets suppliers, excluding multi-client surveys)	9	(81.2)	(104.5)	(145.6)
Investments in multi-client surveys, net cash	10	(251.0)	(295.1)	(284.6)
Proceeds from disposals of tangible and intangible assets		22.3	12.3	46.2
Total net proceeds from financial assets	28	4.5	6.1	4.4
Acquisition of investments, net of cash & cash equivalents acquired	28	—	—	(19.3)
Variation in loans granted	28	(1.5)	18.3	(27.8)
Variation in subsidies for capital expenditures		(0.5)	(0.6)	(0.7)
Variation in other non-current financial assets		4.2	(17.7)	4.1
<b>Net cash flow used in investing activities</b>		<b>(303.2)</b>	<b>(381.2)</b>	<b>(423.3)</b>
<b>FINANCING</b>				
Repayment of long-term debt		(26.9)	(496.1)	(231.6)
Total issuance of long-term debt		2.3	458.1	466.0
Lease repayments		(5.7)	(8.7)	(8.2)
Change in short-term loans		(1.4)	0.9	(2.1)
Financial expenses paid		(85.0)	(141.8)	(153.8)
<i>Net proceeds from capital increase:</i>				
— from shareholders	28	—	367.5	—
— from non-controlling interests of integrated companies		—	—	—
<i>Dividends paid and share capital reimbursements:</i>				
— to shareholders		—	—	—
— to non-controlling interests of integrated companies		—	(4.4)	(7.5)
Acquisition/disposal from treasury shares		—	0.5	—
<b>Net cash flow provided by (used in) financing activities</b>		<b>(116.7)</b>	<b>176.0</b>	<b>62.8</b>
Effect of exchange rates on cash		6.1	3.6	(21.4)
Impact of changes in consolidation scope		(7.5)	—	—
<b>Net increase (decrease) in cash and cash equivalents</b>		<b>(223.4)</b>	<b>153.5</b>	<b>26.2</b>
Cash and cash equivalents at beginning of year	28	538.8	385.3	359.1
<b>Cash and cash equivalents at end of period</b>	28	<b>315.4</b>	<b>538.8</b>	<b>385.3</b>

The accompanying notes are an integral part of the consolidated financial statements

## CGG

### NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

#### NOTE 1 — SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

CGG S.A. (“the Company”), along with its subsidiaries (together, the “Group”) is a global participant in the geophysical and geological services industry, providing a wide range of data acquisition, processing and interpretation services as well as related imaging and interpretation software to clients in the oil and gas exploration and production business. It is also a global manufacturer of geophysical equipment.

Given that the Company is listed on a European Stock Exchange and pursuant to European Regulation n(o)1606/2002 dated July 19, 2002, the accompanying consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (“IFRS”) and its interpretations as issued by the International Accounting Standards Board (IASB) and as adopted by the European Union at December 31, 2017.

The consolidated financial statements were authorized for issue by the Board of Directors on March 8, 2018 and are subject to the approval of our General Meeting to be convened to approve the 2017 financial statements.

#### 1.1 — Critical Accounting Policies

Our accounting policies, which we have applied consistently, are described below. However, the accounting policies related to the accounts impacted by the judgments and estimates described below are particularly important to reflect our financial position and results of operations. As we must exercise significant judgment when we apply these policies, their application is subject to an inherent degree of uncertainty.

Those accounting policies are consistent with those used to prepare our consolidated financial statements as of December 31, 2016, except for the first adoption of the following Standards, Amendments, and Interpretations:

- Amendments to IAS 7 — Disclosure initiative
- Amendments to IAS 12 — Recognition of deferred tax assets for unrealized losses

The adoption of these Standards, Amendments, and Interpretations had no impact on the Group’s financial statements.

The Group decided not to early adopt those Standards, Amendments and Interpretations that the European Union adopted but that were not effective as of December 31, 2017, namely:

- IFRS 9 — Financial instruments
- IFRS 15 — Revenue from Contracts with Customers
- IFRS 16 — Leases
- Annual Improvements (2014-2016)
- Amendments to IFRS 15 — Revenue from Contracts with Customers
- Amendments to IFRS 2 — Share-based payment

The applications of IFRS 15 (Revenue from Contracts with Customers) and IFRS 9 (Financial instruments) are described below.

A first analysis of the application of IFRS 16 (Leases) is described below.

At the date of issuance of these consolidated financial statements, the following Standards, Amendments, and Interpretations were issued but not yet adopted by the European Union and were thus not effective:

- Amendments to IAS 28 — Long-term interests in associates and joint ventures

- Amendments to IFRS 9 — Prepayment features with negative compensation and modifications of financial liabilities
- Amendments to IAS 19 — Employee Benefits
- Annual Improvements (2015-2017)
- IFRIC 22 — Foreign Currency Transactions and Advance Consideration
- IFRIC 23 — Uncertainty over income tax treatments

We are currently reviewing these Standards, Amendments, and Interpretations to measure their potential impact on our consolidated financial statements.

### **IFRS 15 — Revenue from Contracts with Customers**

The IASB issued a new revenue recognition standard, IFRS 15, replacing all existing IFRS standards on revenues. This standard is effective on January 1, 2018 with a full retrospective application (i.e. financial statements must be presented as if this standard had always been in force) or limited retrospective application (i.e. with cumulative impact reflected in the opening statement of financial position of the year of first adoption). CGG will implement IFRS 15 on January 1, 2018 with limited retrospective application.

IFRS 15 defines the framework of revenue recognition as a five step process: i) identify the contract, ii) identify the performance obligations, iii) determine the transaction price, iv) allocate the transaction price, v) recognize revenue. The second step still allows the revenue recognition over time provided certain criteria are met, depending on how control of the goods or services provided is transferred to the customer.

The Group analyzed this new standard at the corporate level starting in 2014. Because CGG includes various business lines and considering that the application of this new standard requires significant familiarity with operations the Group initiated a bottom up assessment in June 2016 with the aim to go through the five steps of the standard for each business line.

CGG does not expect significant changes in revenue recognition policies for exclusive surveys sales and after-sales of multi-client surveys.

Revenue recognition for multi-clients original participants contracts (formerly ‘pre-commitments’) has been subject to an in-depth analysis of the industry practice and of the multi-client business model with CGG’s auditors. In line with what was disclosed recently by other seismic players, a preliminary analysis, based purely on IFRS 15 form and applied to present contracts letter, is showing that there is a high risk that all the revenues related to multi-clients original participants contracts would have, under the new norm, to be recognized only at delivery of the final processed data, which may be more than one year after acquisition of the data. Subject to certain contractual documentation improvements and clarifications and consistent with former accounting applied throughout the seismic industry that differentiates original participants from after sales revenue recognition, CGG concluded that original participants contracts contain two different performance obligations. The first is an obligation to provide services for which revenue should be recognized over time based on the data acquisition and processing progress of the survey. The second obligation is to deliver the license for the final processed data, for which revenue should be recognized at final delivery. The value of the license delivery would represent 10% of the total contract on average, potentially rising to 20% or falling to 5% depending on the complexity level of the survey. This conclusion has been shared and discussed with other seismic companies. However, this conclusion has not yet been endorsed by CGG’s auditors and the regulators of the financial markets where CGG securities are publicly listed.

The Group’s revenues related to multi-client original participants amounted to US\$269 million in 2017.

## **IFRS 9 — Financial instruments**

IFRS 9 issued on July 24, 2014 will replace IAS 39—Financial Instruments: Recognition and Measurement. The Group is required to adopt IFRS 9 Financial Instruments from January 1, 2018. IFRS 9 application will have no material impact on the Group consolidated Financial Statements.

### Impairment of financial assets and contract assets

IFRS 9 introduces a new forward-looking “expected loss” impairment model which will replace the existing “incurred loss” impairment model. The Group has assessed the actual credit losses experienced over the past several years. Since our customers are generally large national or international oil and gas companies our credit losses were insignificant over those years and we estimate that the application of IFRS 9’s “expected loss” impairment model would not generate material differences as compared to the existing model. As a result, the Group will continue using the current impairment model and will continue to regularly monitor the absence of material credit losses.

## **First analysis of the application of IFRS 16 — Leases, applicable as from January 1, 2019 (approved by the European Union in November 2017)**

IFRS 16 standard updates the accounting of leases, mainly for lessees. All leases will have to be on balance-sheet by recognizing the present value of the lease payments over the expected lease term and a corresponding right-of-use asset. Short-term leases and leases of low-value assets are exempted from this requirement.

CGG, as a lessee, will have to recognize a right-of-use asset representing its right to use the underlying asset and a lease liability representing its obligation to make lease payments.

The inventory of the Group leases and the assessment of IFRS 16 impact on our consolidated financial statements are in progress.

## **1.2 — Use of judgment and estimates**

The preparation of consolidated financial statements in accordance with IFRS requires management to make estimates, assumptions and judgments that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ materially from those estimates due to the change in economic conditions, changes in laws and regulations, changes in strategy and the inherent imprecision associated with the use of estimates.

Key judgments and estimates used in the financial statements are summarized in the following table:

Note	Judgments and estimates	Key assumptions
Note 1.3	Going concern	Assessment of going concern considering financial restructuring progress
Note 2	Fair value of assets and liabilities acquired through purchase accounting	Pattern used to determine the fair value of assets and liabilities
Note 3	Recoverability of client receivables	Assessment of clients' credit default risk
Notes 7 and 8	Valuation of investments	Financial assets fair value Equity method companies fair value
Note 10	Amortization and impairment of multi-client surveys	Expected margin rate for each category of surveys
Note 10	Depreciation and amortization of tangible and intangible assets	Assets useful lives
Note 11	Recoverable value of goodwill and intangible assets	Expected geophysical market trends and timing of recovery Discount rate (WACC)
Note 13	Classification of financial debt as current or non-current	Progress of the negotiations on Financial Restructuring
Note 16	Post-employment benefits	Discount rate Participation rate to post employment benefit plans Inflation rate
Note 16	Provisions for restructuring and onerous contracts	Assessment of future costs related to restructuring plans and onerous contracts
Note 16	Provisions for risks, claims and litigations	Assessment of risks considering court rulings and attorney's positions
Note 19	Revenue recognition	Contract completion rates Assessment of fair value of customer loyalty programs Assessment of fair value of contracts identifiable parts
Note 20	Development costs	Assessment of future benefits of each project
Note 24	Deferred tax assets	Hypothesis supporting the achievement of future taxable benefits

### 1.3 — Going concern assumptions

The consolidated financial statements as of December 31, 2017 were approved by the Board of Directors on March 8, 2018 on a going concern basis.

The main steps of the implementation of the restructuring plan were implemented successfully (see note 2 for more detail) and the legal proceedings that have been initiated relating to the French safeguard procedure and to the US Chapter 11 procedure are terminated. On February 21, 2018, CGG finalized the implementation of its financial restructuring plan, which meets the Company's objectives of strengthening its balance sheet and



providing financial flexibility to continue investing in the future. This plan comprised (i) the equitization of all the unsecured senior debt, (ii) the extension of the maturities of the secured senior debt and (iii) the provision of additional liquidity (c. US\$305m after partial repayment of the secured senior debt) to meet various business scenarios.

The Board of Directors considered that (i) the Group no longer faces material uncertainties that may cast doubt upon its ability to continue as a going concern and that (ii) the Group's liquidity and cash flow are sufficient to meet our expected cash requirements until at least December 31, 2018.

Having considered the above, the Board of Directors concluded that preparing the December 31, 2017 consolidated financial statements on a going concern basis is an appropriate assumption.

## **1.4 — Accounting policies**

### ***1 — Basis of consolidation***

Our consolidated financial statements include CGG S.A. and all its subsidiaries.

Subsidiaries are fully consolidated from the date of acquisition, being the date on which we obtain control, and continue to be consolidated until the date when such control ceases. Control is achieved when we are exposed or have rights to variable returns from our involvement with the investee and have the ability to affect those returns through our power over the investee. When we have less than a majority of the voting or similar rights of an investee, we consider all relevant facts and circumstances in assessing whether we have power over the investee, including contractual arrangements with the other holders or potential voting rights.

The financial statements of the subsidiaries are prepared for the same reporting period as the parent company, using consistent accounting policies. All intra-group balances, transactions, unrealized gains and losses resulting from intra-group transactions and dividends are eliminated in full.

Losses within a subsidiary are attributed to the non-controlling interest even if that results in a deficit balance. A change in the ownership interest of a subsidiary, without a loss of control, is accounted for as an equity transaction. If we lose control over a subsidiary, we:

- derecognize the assets (including goodwill) and liabilities of the subsidiary,
- derecognize the carrying amount of any non-controlling interest,
- derecognize the cumulative translation differences, recorded in equity,
- recognize the fair value of the consideration received,
- recognize the fair value of any investment retained,
- recognize any surplus or deficit in profit or loss, and
- reclassify the parent's share of components previously recognized in other comprehensive income to profit or loss or retained earnings, as appropriate.

We use the equity method for investments classified as joint venture. A joint venture is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the arrangement. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require the unanimous consent of the parties sharing control.

### ***2 — Foreign currency***

Effective January 1, 2012, we changed the presentation currency of our consolidated financial statements from the euro to the US dollar to better reflect the profile of our revenues, costs and cash flows, which are primarily generated in US dollars, and hence, to better present the financial performance of the Group.

The financial statements of all of our subsidiaries are maintained in the local currency, with the exception of the financial statements of subsidiaries for which the functional currency is not the local currency. The functional currency is the currency in which they primarily conduct their business. Goodwill attributable to subsidiaries is accounted for in the functional currency of the applicable entities.

When translating the financial statements of subsidiaries to US dollars, year-end exchange rates are applied to the statement of financial position items, while average annual exchange rates are applied to income statement items. Adjustments resulting from this process are recorded in a separate component of shareholders' equity.

With respect to affiliates accounted for using the equity method, the effects of exchange rates changes on the net assets of the affiliates are recorded in a separate component of shareholders' equity.

Transactions denominated in currencies other than the functional currency of a given entity are recorded at the exchange rate prevailing on the date of the transaction. Monetary assets and liabilities denominated in foreign currencies other than the functional currency are revalued at year-end exchange rates and any resulting unrealized exchange gains and losses are included in income. Unrealized exchange gains and losses arising from monetary assets and liabilities for which settlement in neither planned nor likely to occur in the foreseeable future are recorded in a separate component of shareholder's equity.

### **3 — Business combinations**

Business combinations are accounted for using the acquisition method. The cost of an acquisition is measured as the aggregate of the consideration transferred, measured at acquisition date fair value and the amount of any non-controlling interest in the acquiree. For each business combination, we measure the non-controlling interest in the acquiree either at fair value or at the proportionate share in the recognized amounts of the acquiree's identifiable net assets. Acquisition costs incurred are expensed and included in administrative expenses.

If the business combination is achieved in stages, the acquisition date fair value of the acquirer's previously held equity interest in the acquiree is remeasured to fair value at the acquisition date through profit or loss. Any contingent consideration to be transferred by us will be recognized at fair value at the acquisition date. Subsequent changes to the fair value of the contingent consideration which is deemed to be a financial instrument will be recognized in accordance with IAS 39 either in profit or loss or as a change in other comprehensive income. If the contingent consideration is classified as equity, it should not be remeasured until it is finally settled within equity. Goodwill is initially measured at cost being the excess of the aggregate of the consideration transferred measured at fair value and the amount recognized for non-controlling interest over the net identifiable assets acquired and liabilities assumed.

If this consideration is lower than the fair value of the net assets of the subsidiary acquired, the difference is recognized in profit or loss.

After initial recognition, goodwill is measured at cost less any accumulated impairment losses. For the purpose of impairment testing, goodwill acquired in a business combination is, from the acquisition date, allocated to each of the Group's cash-generating units that are expected to benefit from the combination, irrespective of whether other assets or liabilities of the acquiree are assigned to those units.

Where goodwill forms part of a cash-generating unit and part of the operation within that unit is disposed of, the goodwill associated with the operation disposed of is included in the carrying amount of the operation when determining the gain or loss on disposal of the operation. Goodwill disposed of in this circumstance is measured based on the relative values of the operation disposed of and the portion of the cash-generating unit retained.

#### 4 — Operating revenues

Operating revenues are recognized when they can be measured reliably, and when it is likely that the economic benefits associated with the transaction will flow to the entity, which is at the point that such revenues have been realized or are considered realizable.

- Multi-client surveys

Revenues related to multi-client surveys result from (i) pre-commitments and (ii) licenses after completion of the surveys (“after-sales”).

*Pre-commitments* — generally, we obtain commitments from a limited number of customers before a seismic project is completed. These pre-commitments cover part or all of the survey area blocks. In return for the commitment, the customer typically gains the right to direct or influence the project specifications, advance access to data as it is being acquired, and favorable pricing.

We recognize pre-commitments as revenue when production has started based on the physical progress of the project, as services are rendered.

*After sales* — generally, we grant a license entitling non-exclusive access to a complete and ready for use, specifically defined portion of our multi-client data library in exchange for a fixed and determinable payment. We recognize after sales revenue upon the client executing a valid license agreement and being granted access to the data.

In case after sales agreements contain multiple deliverable elements, the revenue is allocated to the various elements based on specific objective evidence of fair value, regardless of any separate allocations stated within the contract for each element.

*After sales volume agreements* — we enter into a customer arrangement in which we agree to grant licenses to the customer for access to a specified number of blocks of the multi-client library. These arrangements typically enable the customer to select and access the specific blocks for a limited period of time. We recognize revenue when the blocks are selected and the client has been granted access to the data and if the corresponding revenue can be reliably estimated.

- Exclusive surveys

In exclusive surveys, we perform seismic services (acquisition and processing) for a specific customer. We recognize proprietary/contract revenues as the services are rendered. Revenue is recognized using the percentage of completion method (or “proportional performance method”).

The billings and the costs related to the transit of seismic vessels at the beginning of the survey are deferred and recognized over the duration of the contract by reference to the technical stage of completion.

In some exclusive survey contracts and a limited number of multi-client survey contracts, we are required to meet certain milestones. We defer recognition of revenue on such contracts until all milestones before which the customer has a right of cancellation or refund of amounts paid have been achieved.

- *Equipment sales*

We recognize revenues on equipment sales upon delivery to the customer when risks and rewards are fully transferred. Any advance billings to customers are recorded in current liabilities.

- *Software and hardware sales*

We recognize revenues from the sale of software and hardware products following acceptance of the product by the customer at which time we have no further significant vendor obligations remaining. Any advance billings to customers are recorded in current liabilities.

If an arrangement to deliver software, either alone or together with other products or services, requires significant production, modification, or customization of software, the entire arrangement is accounted for as a production-type contract, i.e. using the percentage of completion method.

If the software arrangement provides for multiple deliverables (e.g. upgrades or enhancements, post-contract customer support such as maintenance, or services), the revenue is allocated to the various elements based on specific objective evidence of fair value, regardless of any separate allocations stated within the contract for each element.

Maintenance revenues consist primarily of post contract customer support agreements and are recorded as advance billings to customers and recognized as revenue on a proportional performance basis over the contract period.

- *Other geophysical sales/services*

Revenues from our other geophysical sales/services are recognized as the services are performed and, when related to long-term contracts, using the proportional performance method of recognizing revenues.

- *Customer loyalty programs*

We may grant award credits to our main clients. These award credits are contractually based on cumulative services provided during the calendar year and attributable to future services.

These credits are considered as a separate component of the initial sale and measured at their fair value by reference to the contractual rates and the forecasted cumulative revenues for the calendar year. These proceeds are recognized as revenue only when the obligation has been fulfilled.

## **5 — Cost of net financial debt**

Cost of net financial debt includes expenses related to financial debt, composed of bonds, the debt component of convertible bonds, bank loans, capital-lease obligations and other financial borrowings, net of income provided by cash and cash equivalents.

Borrowing costs that relate to assets that take a substantial period of time to get ready for use or sale are capitalized as part of the acquisition cost of such assets.

## **6 — Income taxes and deferred taxes**

Income taxes includes all tax based on taxable profit.

Deferred taxes are recognized on all temporary differences between the carrying value and the tax value of assets and liabilities, as well as on carry-forward losses, using the balance sheet liability method. Deferred tax assets are recognized only when their recovery is considered as probable or when there are existing taxable temporary differences, of an appropriate type, that reverse in an appropriate period. When tax laws limit the extent to which unused tax losses can be recovered against future taxable profits in each year, the amount of deferred tax assets recognised from unused tax losses as a result of suitable existing taxable temporary differences is restricted as specified by the tax law.

Deferred tax liabilities are recognized on intangible assets identified and recognized as part of business combinations (technological assets, customer relationships).

Deferred tax assets and deferred tax liabilities are not discounted.

### 7 — *Intangible and tangible assets*

In accordance with IAS 16 “Property, Plant and equipment” and IAS 38 “Intangible assets” only items for which cost can be reliably measured and for which the future economic benefits are likely to flow to us are recorded in our consolidated financial statements.

- *Property, plant and equipment*

Property, plant and equipment are valued at historical cost less accumulated depreciation and impairment losses. Depreciation is generally calculated over the following useful lives:

— equipment and tools	3 to 10 years
— vehicles	3 to 5 years
— aircrafts	5 to 10 years
— seismic vessels	12 to 30 years
— buildings for industrial use	20 years
— buildings for administrative and commercial use	20 to 40 years

Depreciation expense is determined using the straight-line method.

We include residual value, if significant, when calculating the depreciable amount. We segregate tangible assets into their separate components if there is a significant difference in their expected useful lives, and depreciate them accordingly.

- *Lease agreements*

Assets under a finance lease agreement or a long-term lease agreement that transfers substantially all the risks and rewards incidental to ownership to the Group are accounted for as fixed assets at the commencement of the lease term, at amounts equal to the fair value of the leased property or, if lower, the present value of the minimum lease payments, each determined at the inception of the lease. Minimum lease payments are apportioned between the finance charge and the reduction of the outstanding liability and the finance charge is allocated to each period during the lease term so as to produce a constant periodic rate of interest on the remaining balance of the liability. Assets under finance lease are depreciated over the shorter of its useful life and the lease term, if there is no reasonable certainty that the Group will obtain ownership by the end of the lease term. Depreciation is determined on the same basis as owned-assets and is included in depreciation expense.

Rent payments under operating leases are recognized as operating expenses on a straight-line basis over the lease term.

- *Goodwill*

Goodwill is determined according to IFRS 3 Revised — Business Combinations. Goodwill is not amortized but subject to an impairment test at least once a year at the statement of financial position dates or when a triggering event occurs.

- *Multi-client surveys*

Multi-client surveys consist of seismic surveys to be licensed to customers on a non-exclusive basis. All costs directly incurred in acquiring, processing and otherwise completing seismic surveys are capitalized into the

multi-client surveys (including transit costs when applicable). The carrying amount of our multi-client library is stated on our statement of financial position at the aggregate of those costs less accumulated amortization. Whenever there is an indication that a survey may be impaired, an impairment test is performed. A systematic impairment test of all delivered surveys is performed at least for the yearly closing.

Each survey is amortized in a manner that reflects the pattern of consumption of its economic benefits during both prefunding and after-sale periods. An amortization rate of 80% corresponding to the ratio of capitalized costs to total expected sales over the accounting life of the survey is applied to each normative sale, unless specific indications lead to application of a different rate. If that is the case, the amortization rate is adjusted to reflect the commercial effects of price elements. Given the life cycle of a multi-client project, our surveys are generally fully amortized or impaired within five years after delivery.

Multi-client surveys are classified into a same category when they are located in the same area with the same estimated sales ratio—with such estimates generally relying on historical patterns.

- *Development costs*

Expenditures on research activities undertaken with the prospect of gaining new scientific or technological knowledge and understanding are recognized in the income statement as expenses as incurred and are presented as “Research and development expenses — net”. Expenditures on development activities, whereby research findings are applied to a plan or design for the production of new or substantially improved products and processes, are capitalized if:

- the project is clearly defined, and costs are separately identified and reliably measured,
- the product or process is technically and commercially feasible,
- we have sufficient resources to complete development, and
- the intangible asset is likely to generate future economic benefits, either because it is useful to us or through an existing market for the intangible asset itself or for its products.

The expenditures capitalized include the cost of materials, direct labor and an appropriate proportion of overhead. Other development expenditures are recognized in the income statement as expenses as incurred and are presented as “Research and development expenses — net”.

Capitalized development expenditures are stated at cost less accumulated amortization and impairment losses.

Capitalized development costs are amortized over 5 years.

Research and development expenses in our income statement represent the net cost of development costs that are not capitalized, of research costs, offset by government grants acquired for research and development.

- *Other intangible assets*

Other intangible assets consist primarily of customer relationships, technology and trade name acquired in business combinations. Customer relationships are generally amortized over periods ranging from 10 to 20 years and acquired technology are generally amortized over periods ranging from 5 to 10 years.

- *Impairment*

The carrying values of our assets (excluding inventories, assets arising from construction contracts, non-current assets classified as held for sale in accordance with IFRS 5, deferred tax assets, assets arising from



employee benefits and financial assets) are reviewed at each statement of financial position date or if any indication exists that an asset may be impaired, in compliance with IAS 36 “Impairment of assets”. Factors we consider important that could trigger an impairment review include the following:

- significant underperformance relative to expected operating results based upon historical and/or projected data,
- significant changes in the manner of our use of the tested assets or the strategy for our overall business, and
- significant negative industry or economic trends.

The recoverable amount of tangible and intangible assets is the greater of their net fair value less costs of disposal and value in use.

Goodwill, assets that have an indefinite useful life and intangible assets are allocated to cash generating units or groups of cash generating units. We estimate the recoverable amount of these cash generating units at each statement of financial position closing date and whenever any indication exists that the cash generating unit may be impaired.

We determine the value in use by estimating future cash flows expected from the assets or from the cash generating units, discounted to their present value using the sector weighted average cost of capital (WACC) estimated on a yearly basis by the Group. When the recoverable value retained is a fair value less cost of disposal, the fair value is determined by reference to an active market.

We recognize an impairment loss whenever the carrying amount of an asset exceeds its recoverable amount. For an asset that does not generate largely independent cash inflows, the recoverable amount is determined for the cash-generating unit to which the asset belongs.

Impairment losses are recognized in the statement of operations. Impairment losses recognized in respect of a group of non-independent assets allocated to a cash-generating unit are allocated first to reduce the carrying amount of any goodwill allocated to cash-generating units (group of units) and then, to reduce the carrying amount of the other assets in the unit (group of units) on a pro rata basis provided that the carrying amount of an individual asset is not reduced below its value in use or fair value less costs of disposal.

A previously recognized impairment loss is reversed only if there has been a change in the assumptions used to determine the asset’s recoverable amount since the last impairment loss was recognized. The reversal is limited so that the carrying amount of the asset does not exceed its recoverable amount, nor exceed the carrying amount that would have been determined, net of depreciation or amortization, had no impairment loss been recognized for the asset in prior years. Such reversal is recognized in the income statement unless the asset is carried at a revalued amount, in which case the reversal is treated as a revaluation increase.

Impairment losses recognized on goodwill cannot be reversed.

- *Assets held for sale*

Assets classified as assets held for sale correspond to non-current assets for which the net book value will be recovered by a sale rather than by their use in operations. Assets held for sale are valued at the lower of historical cost and fair value less cost to sell.

#### **8 — Investments in companies under equity method**

Under the equity method, the investments in our associates or joint ventures are carried in the statement of financial position at cost plus post acquisition changes in our share of net assets of the associates or joint ventures. Goodwill relating to the associates is included in the carrying amount of the investment and is neither amortized nor individually tested for impairment.

After application of the equity method, we determine whether it is necessary to recognize an additional impairment loss on our investment in the associates. We determine at each reporting date whether there is any objective evidence that the investments in our associates are impaired. If this is the case we calculate the amount of impairment as the difference between the recoverable amount of the associates and their carrying value and usually recognize the amount in the ‘share of profit of an associate’ in the statement of operations.

Upon loss of significant influence over the associate, we measure and recognize any retaining investment at its fair value. Any difference between the carrying amount of the associate upon loss of significant influence and the fair value of the retaining investment and proceeds from disposal is recognized in profit or loss.

From the date when an investment ceases to be an associate or a joint venture and becomes a financial asset we discontinue the use of the equity method. The retained interests are measured at fair value. We recognize in profit or loss any difference between (i) the fair value of any retained interest and any proceeds from disposing of a part interest in the associate or joint venture; and (ii) the carrying amount of the investment at the date the equity method was discontinued.

### ***9 — Investments and other financial assets***

Investments and other financial assets include investments in non-consolidated entities, loans and non-current receivables.

- *Investments in non-consolidated entities*

In accordance with IAS 39 “Financial instruments”, we classify investments in non-consolidated entities as available-for-sale and therefore present them on the statement of financial position at their fair value. The fair value for listed securities is their market price at the statement of financial position date. If a reliable fair value cannot be established, securities are valued at historical cost.

Gains or losses on disposal of impaired investments in non-consolidated entities classified as available for sale are not recognized through profit and loss.

- *Loans and non-current receivables*

Loans and non-current receivables are accounted for at amortized cost.

- *Impairment*

We examine available-for-sale securities and other financial assets at each statement of financial position date to detect any objective evidence of impairment. Where this is the case, we record an impairment loss in the statement of operations.

Where there is objective evidence of impairment of an investment in a non-consolidated entity (for instance in case of significant or prolonged decline of the value of the asset) we record an irreversible impairment loss in the statement of operations.

- *Derecognition*

We derecognize a financial asset (or, where applicable, a part of a financial asset or part of a group of similar financial assets) when:

- The rights to receive cash flows from the asset have expired, or
- We have transferred the rights to receive cash flows from the asset or have assumed an obligation to pay the received cash flows in full without material delay to a third party under a ‘pass-through’

arrangement; and either (a) we have transferred substantially all the risks and rewards of the asset, or (b) we have neither transferred nor retained substantially all the risks and rewards of the asset, but have transferred control of the asset.

When we have transferred the rights to receive cash flows from an asset, we evaluate if and to what extent we have retained the risks and rewards of ownership. When we have neither transferred nor retained substantially all of the risks and rewards of the asset, nor transferred control of the asset, the asset is recognized to the extent of our continuing involvement in the asset. In that case, we also recognize an associated liability. The transferred asset and the associated liability are measured on a basis that reflects the rights and obligations that we have retained.

Continuing involvement that takes the form of a guarantee over the transferred asset is measured at the lower of the original carrying amount of the asset and the maximum amount of consideration that we could be required to repay.

### ***10 — Treasury shares***

We value treasury shares at their cost, as a reduction of shareholders' equity. Proceeds from the sale of treasury shares are included in shareholders' equity and have no impact on the statement of operations.

### ***11 — Inventories***

We value inventories at the lower of cost (including direct production costs where applicable) and net realizable value.

We calculate the cost of inventories on a weighted average price basis for our Equipment segment and on a first-in first-out basis for Contractual Data Acquisition and Geology, Geophysics & Reservoir ("GGR") segments.

The additions and deductions in valuation allowances for inventories and work-in-progress are presented in the consolidated statements of operations as "Cost of sales".

### ***12 — Trade accounts and Notes receivable***

In the Contractual Data Acquisition and Geology, Geophysics & Reservoir ("GGR") segments, customers are generally large national or international oil and gas companies, which management believes reduces potential credit risk.

In the Equipment segment, a significant portion of sales is paid by irrevocable letters of credit.

The Group maintains an allowance for doubtful accounts based upon factors surrounding the credit risk of specific customers, historical trends and other information. Credit losses have not been material for the periods presented and have consistently been within management's expectations.

Recoverable costs and accrued profit not billed comprise amounts of revenue recognized under the percentage of completion method on contracts for which billings had not been presented to the contract owners. Such unbilled accounts receivable are generally billed over the 30 or 60 days after services has been delivered.

### ***13 — Provisions***

We record a provision when the Group has a present obligation (legal or constructive) as a result of a past event for which it is probable that an outflow of resources embodying economic benefits (that can be reliably determined) will be required to settle the obligation.

- *Onerous contracts*

We record a provision for onerous contracts equal to the excess of the unavoidable costs of meeting the obligations under the contract over the economic benefits expected to be received under it, as estimated by the Group.

- *Pension, post-employment benefits and other post-employment benefits*

We record obligations for contributions to defined contribution pension plans as an expense in the income statement as incurred. We do not record any provision for such plans as we have no further obligation.

Our net obligation in respect of defined benefit pension plans is calculated separately for each plan by estimating the amount of future benefit that employees have earned in return for their service in the current and prior periods. We perform the calculation by using the projected unit credit method.

- That benefit is discounted to determine its present value, and the fair value of any plan assets is deducted.
- Net interest is calculated by applying the discount rate to the net defined benefit liability or asset. Interest is recorded in the profit and loss.
- Unvested past services costs are recognized immediately if the benefits have vested immediately following the introduction of, or changes to, a pension plan.
- We record actuarial gains and losses on defined benefits plans directly in equity.

#### **14 — Financial debt**

Financial debt is accounted for:

- As of the date of issuance, at the fair value of the consideration received, less issuance fees and/or issuance premium;
- Subsequently, at amortized cost, corresponding to the fair value at which it is initially recognized, less repayments at the nominal amount and increased or decreased for the amortization of all differences between this original fair value recognized and the amount at maturity; differences between the initial fair value recognized and the amount at maturity are amortized using the effective interest rate method.

#### **15 — Convertible debt**

- The Company recognizes separately the components of convertible debt as respectively (i) a financial liability and (ii) an option to the holder of the instrument to convert it into an equity instrument of the Company.
- The Company first determines the carrying amount of the liability component by measuring the fair value of a similar liability (including any embedded non-equity derivative features) that does not have an associated equity component.
- The carrying amount of the equity instrument represented by the option to convert the instrument into ordinary shares is then determined by deducting the fair value of the financial liability from the fair value of the compound financial instrument as a whole. The carrying amount is presented net of associated deferred taxes.
- The sum of the carrying amounts assigned to the liability and equity components on initial recognition is always equal to the fair value that would be ascribed to the instrument as a whole.

## ***16 — Derivative financial instruments***

We use over-the-counter derivative financial instruments to hedge our exposure to foreign exchange fluctuations from operational, financing and investment activities denominated in a currency different from the functional currency. In accordance with our treasury policy, we do not hold or issue derivative financial instruments for trading purposes. However, derivatives that do not qualify for hedge accounting are accounted for as trading instruments in “Other financial income (loss)”.

Over-the-counter derivatives are entered into in the frame master agreements that provide a right of set-off in the event of default, insolvency or bankruptcy of one of the parties to the agreement (those netting agreements do not fulfill IAS 32 criteria to offset the fair value of derivatives on the balance sheet).

Exchange gains or losses on foreign currency financial instruments that represent the efficient portion of an economic hedge of a net investment in a foreign subsidiary are reported as translation adjustments in shareholder’s equity under the line item “Cumulative translation adjustments”, the inefficient portion being recognized in the statement of operations. The cumulative value of foreign exchange gains and losses recognized directly in equity will be transferred to statement of operations when the net investment is sold.

Derivative financial instruments are stated at fair value. The gain or loss on reassessment to fair value is recognized immediately in the statement of operations. However, where derivatives qualify for cash flow hedge accounting, we account for changes in the fair value of the effective portion of the hedging instruments in shareholder’s equity. The ineffective portion is recorded in “Other financial income (loss)”. Amounts recorded in other comprehensive income are reclassified into the statement of operations when the hedged risks impact the statement of operations.

When derivatives do not qualify for cash flow hedge accounting, we account for changes in the fair value into the statement of operations in “Other financial income (loss)”.

## ***17 — Cash flow statement***

The cash flows of the period are presented in the cash flow statement within three activities: operating, investing and financing activities:

- *Operating activities*

Operating activities are the principal revenue-producing activities of the entity and other activities that are not investing or financing activities.

- *Investing activities*

Investing activities are the acquisition and disposal of long-term assets and other investments not included in cash equivalents. When a subsidiary is acquired, a separate item, corresponding to the consideration paid net of cash and cash equivalents held by the subsidiary at the date of acquisition, provides the cash impact of the acquisition.

Investments in multi-client surveys are presented net of depreciation and amortization capitalized in multi-client surveys, in order to reflect actual cash outflows. Depreciation and amortization capitalized in multi-client surveys are also restated in operating activities.

- *Financing activities*

Financing activities are activities that result in changes in the size and composition of the contributed equity and borrowings of the entity.

They include the cash impact of financial expenses.

- *Cash and cash equivalents*

Cash and cash equivalents in the consolidated statement of financial position comprise cash at banks and on hand and short-term deposits with a maturity of three months or less that are readily convertible to known amounts of cash.

### **18 — Share-based payments, including stock options**

Employees (including senior executives) of the Group receive remuneration in the form of share-based payments. These rights can be settled either in equity (equity-settled transactions) or in cash (cash-settled transactions).

- *Equity-settled transactions*

We include stock options granted to employees in the financial statements using the following principles: the stock option's fair value is determined on the grant date and is recognized in personnel costs, with a corresponding increase in equity, on a straight-line basis over the period between the grant date and the end of the vesting period. We calculate stock option fair value using the Black-Scholes mathematical model.

- *Cash-settled transactions*

The cost of cash-settled transactions is measured initially at the grant date using a binomial model. A provision is recognized over the period until the vesting date. This liability is re-measured to fair value at each reporting date up to and including the settlement date, which changes in fair value recognized in the statement of operations.

### **19 — Grants**

Government grants, including non-monetary grants at fair value, are not recognized until there is reasonable assurance that the entity will comply with the conditions of the grant and that the grants will be received.

Government grants are recognized as income over the periods necessary to match them with the related costs which they are intended to compensate. They are presented as a reduction of the corresponding expenses in the item "Research and development expenses, net" in the statement of operations.

Refundable grants are presented in the statement of financial position as "Other non-current liabilities".

### **20 — Earnings per share**

Basic per share amounts are calculated by dividing net income for the year attributable to ordinary equity holders of the Company by the weighted average number of ordinary shares outstanding during the year.

Diluted earnings per share amounts are calculated by dividing the net income attributable to ordinary equity holders of the Company and adjusted for the after-tax amounts of preference dividends, differences arising on the settlement of preference shares, and other similar effects of preference shares classified as equity, by the weighted average number of ordinary shares outstanding during the year plus the weighted average number of ordinary shares that would be issued on the conversion of convertible bonds, the exercise of stock options and shares from performance share plans.



## NOTE 2 — SIGNIFICANT EVENTS, ACQUISITION AND DIVESTURES

### — During 2017

#### *a- Proactive management of maritime liabilities*

On January 20, 2017, CGG entered into agreements to substantially reduce the cash burden of the charter agreements in respect of three cold-stacked seismic vessels. As part of the agreements to settle those amounts on a non-cash basis, CGG issued US\$58.6 million of its 2021 Notes bearing a 6.5% interest to the relevant charter counterparties. On March 13, 2017, CGG entered into an agreement to substantially reduce the cash burden of the charter agreement in respect of the “Oceanic Champion”, an active seismic vessel. As part of the agreements to settle those amounts on a non-cash basis, CGG issued US\$12.1 million of its 2021 Notes bearing a 6.5% interest to the relevant charter counterparties. The consequences of these agreements are reflected in note 21 – “Other revenues and expenses” of this document.

#### *b- New ownership set up for our seismic fleet*

In April 2017, we entered into agreements with Eidesvik, the lenders under our Nordic credit facility and the lenders under the credit facilities of Eidesvik Seismic Vessels AS (“ESV”) and Oceanic Seismic Vessels AS (“OSV”) for the implementation of a new ownership set up for our seismic fleet.

Under the new arrangements, Global Seismic Shipping AS (“GSS”), a company organized under the laws of Norway and 50% owned by CGG (through our subsidiary, Exploration Investment Resources II AS) and Eidesvik, holds (i) Geo Vessels AS, our former wholly-owned subsidiary, which owns the five previously cold-stacked vessels (Geo Coral (re-rigged in March 2017), Geo Caribbean, Geo Celtic, CGG Alize and Oceanic Challenger), and (ii) ESV and OSV (in which we previously held 49% stakes), which respectively own the Oceanic Vega and Oceanic Sirius. Global Seismic Shipping AS is accounted for using the equity method.

The following table summarizes the consideration received and the carrying value of the assets and liabilities contributed:

	<u>(in millions of US\$)</u>
<b>Consideration received</b> . . . . .	
Fair value of our shares in Global Seismic Shipping AS . . . . .	71.9
<b>Total consideration received<sup>(a)</sup></b> . . . . .	<b>71.9</b>
<b>Carrying value of the contributed assets and liabilities</b>	
Cash and cash equivalents . . . . .	7.5
Investments in companies under equity method <sup>(1)</sup> . . . . .	48.3
Property, plant and equipment, net . . . . .	301.0
Finance lease net . . . . .	(3.1)
Current portion of financial debt <sup>(2)</sup> . . . . .	(182.5)
Provisions — current portion . . . . .	(4.8)
Provisions — non-current portion . . . . .	(13.4)
Other Current Liabilities . . . . .	(30.0)
Liabilities linked to charter agreements . . . . .	(72.1)
<b>Total carrying value of the contributed assets and liabilities<sup>(b)</sup></b> . . . . .	<b>50.9</b>
<b>Net gain realized<sup>(c) = (a) - (b)</sup></b> . . . . .	<b>21.0</b>
Reduction of the cash burden of the charter agreement <sup>(d)</sup> . . . . .	(72.1)
<b>Net impact of the transaction in operating income<sup>(3) (e) = (c) + (d)</sup></b> . . . . .	<b>(51.1)</b>
Other financial income (loss) . . . . .	(15.0)
Cost of financial debt, net . . . . .	(3.3)
<b>Net impact of the transaction in financial income (loss)<sup>(4) (f)</sup></b> . . . . .	<b>(18.3)</b>
<b>Net impact of the transaction in the Net Income<sup>(e) + (f)</sup></b> . . . . .	<b>(69.4)</b>

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- (1) *This relates to the 49% equity in income that we held in ESV and OSV, accounted for under the equity method as of March 31, 2017.*
  - (2) *This relates to the Nordic credit facility.*
  - (3) *The net impact of the transaction in operating income is a loss of US\$51.1 million broken-down as follows:*
    - *a gain of US\$21.0 million arising from our contribution to GSS is recorded in the line item “Gains (losses) on sales of assets” in our statement of operations (see note 21 — “Other revenues and expenses”),*
    - *a loss of US\$72.1 million linked to the renegotiation and extension of the charter agreement in respect of the operated seismic vessels “Vega” and “Sirius” to reduce the cash burden. This loss corresponds to the compensation granted to ESV and OSV following the renegotiation of the charter agreements. It is recorded in the line item “Other revenues (expenses) net” in our statement of operations (see note 21 — “Other revenues and expenses”).*
  - (4) *The net impact of the transaction in financial income is a loss of US\$18.3 million broken-down as follows:*
    - *a loss of US\$15.0 million recorded in the line item “Other financial income (loss)” in our statement of operations,*
    - *a loss of US\$3.3 million recorded in the line item “Cost of financial debt, net” in our statement of operations.*

*c- Financial restructuring process*

On February 6 2017, CGG solicited consents from the holders of each series of Senior Notes and the creditors under the Term Loan B to permit the appointment of a ‘mandataire ad hoc’ without such action constituting an Event of Default. CGG had previously received consents from the creditors under its French and US RCFs for the appointment.

On February 20, 2017, CGG announced the receipt of the requisite majority consent from holders of its Term Loan B, 2020 Notes, 2021 Notes and 2022 Notes and the extension of the consent solicitation in respect of its 2017 Notes.

On February 23, 2017, CGG announced execution of supplemental indentures in respect of its 2020 Notes, 2021 Notes and 2022 Notes to allow for appointment of a ‘mandataire ad hoc’ and its intention to discharge and satisfy the indenture in respect of its 2017 Notes. The payment to the indenture trustee, in trust for the bondholders, of the aggregate outstanding principal (US\$8.3 million) and interest on the 2017 Notes was done on Friday, February 24, 2017. Following this operation, the amount of unsecured debt (Senior Notes and Convertibles) reached US\$1,884 million.

On February 27, 2017, a ‘mandataire ad hoc’ was appointed to better organize and facilitate discussions with and between all stakeholders for the financial restructuring of the Group.

On March 3, 2017, CGG entered into a financial restructuring process with the aim of significantly reducing debt levels and related cash interest costs to align them with its cash flows. In order to facilitate such restructuring discussions held under the aegis of a mandataire ad hoc, CGG executed non-disclosure agreements (“NDAs”) and initiated discussions with stakeholders.

Pursuant to the NDAs, CGG was required to publicly disclose, by May 12, 2017, the status at that date of the negotiations regarding the financial restructuring and certain previously confidential information, including selected financial targets and additional information on its business segments.

On June 2, 2017, CGG announced an agreement in principle on a financial restructuring plan that met the Company’s objectives with its main creditors and DNCA, a creditor and shareholder.

On June 14, 2017, CGG announced that following agreement with key financial creditors, it has begun legal processes to implement balance sheet restructuring and create sustainable capital structure with the opening of a safeguard proceeding in France and Chapter 11 and Chapter 15 filings in the U.S.

As part of this process, the French Court which opened the safeguard proceedings appointed the former mandataire ad hoc, as judicial administrator of CGG S.A.

Prior to the legal proceedings in the U.S. and France, CGG and certain of its financial creditors entered into a lock-up agreement on June 13, 2017, pursuant to which the relevant parties committed to take all actions reasonably necessary and appropriate to support, implement and consummate the restructuring. The terms of the lock-up agreement are relatively customary and include a requirement for creditors to vote in favor of the safeguard and Chapter 11 plan (subject to receiving appropriate disclosure materials), to provide various waivers, to enter into the required documentation to effect the restructuring and not to sell their debt holdings unless the transferee enters into the lock-up agreement or is already a signatory (and is therefore bound by such terms). The lock-up agreement as of that date had been signed by (i) an ad hoc committee of secured lenders, who hold collectively approximately 53.8% of the aggregate principal amount of the Group's Secured Debt, (ii) an ad hoc committee of senior noteholders, who collectively hold approximately 52.4% of the aggregate principal amount of the Company's Senior Notes, and (iii) DNCA, which holds 5.5% of the aggregate principal amount of the Company's Senior Notes and approximately 20.7% of the aggregate principal amount of its convertible bonds. In addition, the Company entered into a restructuring support agreement with DNCA (in its capacity as shareholder) in connection with its holding of 7.9% of the Company's share capital, pursuant to which DNCA committed to take all reasonably, necessary and appropriate actions as a shareholder to support, implement and consummate the restructuring, including voting in favor of the relevant shareholder resolutions and not selling its shares in the Company during the restructuring process. In October 2017, following certain commitments made by us which are described in detail in the press release dated October 17, 2017, long-standing shareholder Bpifrance Participations (which represented approximately 9.35% of the share capital and 10.9% of the voting rights) undertook to vote in favor of the resolutions required to implement the financial restructuring.

Results of the private placement agreement: on July 13, 2017, CGG announced that as of July 7, 2017 (the end of the placement period) eligible holders representing 86.08% of the aggregate principal amount of the Senior Notes had committed to subscribe to the new secured lien senior notes with Warrants of US\$375 million pursuant to the terms of a private placement agreement, and had acceded to the lock-up agreement. The issuance of the new secured lien senior notes with Warrants has been backstopped by members of the ad hoc committee of the holders of the Senior Notes holding, as of the date of the private placement agreement, 52.4% of the aggregate principal amount of the Senior Notes, who have also committed to subscribe for their pro rata shares of the new secured lien senior notes with warrants.

Approval of the draft safeguard plan by creditors' committees in France: on July 28, 2017, lenders' committee unanimously approved the draft safeguard plan, and the bondholder general meeting approved it with a majority of 93.5% of the creditors who cast a vote.

Acceptance by creditors entitled to vote on Chapter 11 plan: late September, all creditor classes entitled to vote on the Chapter 11 plan proposed in the Chapter 11 cases commenced on June 14, 2017 in the US Bankruptcy Court for the Southern District of New York by CGG's 14 main foreign, direct and indirect subsidiaries, each a borrower or guarantor in respect of the Group's funded financial indebtedness, voted to overwhelmingly accept the plan.

Specifically, 97.14% of holders who cast ballots in respect of the Secured Loans, and 97.96% of holders who cast ballots in respect of the Senior Notes, voted in favor of the plan.

On October 13, 2017, we made available to the public a prospectus (in the French language) in connection with certain issuances provided for under the draft safeguard plan and the Chapter 11 plan in the context of the

financial restructuring plan of CGG (AMF visa n°17-551). The prospectus comprised the CGG 2016 reference document (document de référence), filed with the French Financial Markets Authority (the “AMF”) on May 1, 2017, the update of the Company’s Reference Document filed with the AMF on October 13, the securities note (including a summary of the prospectus) dated October 13, 2017, and a summary of the prospectus.

On October 16, 2017, the relevant U.S. Bankruptcy court confirmed the Chapter 11 plan.

On October 17, 2017, a Securities Note Supplement was made available. It describes the undertaking of Bpifrance Participations to vote in favor of the resolutions required to implement the financial restructuring plan, as well as the related undertakings made by the Company and certain of its creditors in the context of the safeguard proceedings.

On October 31, 2017, a quorum of 22.48% of the share capital was present at the general meeting of shareholders, which allowed a vote on the ordinary part of the agenda, i.e. mainly approval of the 2016 consolidated annual financial statements. However, such representation was not sufficient to allow the general meeting to vote on the resolutions required to implement the financial restructuring plan. The required quorum for the extraordinary part of the general meeting on first notice is 25% of the share capital, and 20% on second notice.

On November 13, 2017, the extraordinary general meeting of shareholders, convened on second notice, approved all the resolutions required to implement the financial restructuring plan.

On December 1, 2017, the Commercial Court of Paris approved the safeguard plan of CGG, after finding the claims filed by certain holders of CGG’s convertible bonds against this draft plan inadmissible.

On December 21, 2017, by an order in CGG’s Chapter 15 Case, the US Bankruptcy Court recognized the ruling of the Commercial Court of Paris dated December 1, 2017 approving its safeguard plan.

*The following milestones are 2018 events. To facilitate the understanding of the process they are presented below instead of in note 30 — subsequent events.*

The extraordinary general meeting of shareholders held on November 13, 2017 decided to reduce the share capital by a total amount of €17,485,188, by reducing the nominal value of each share from €0.80 to €0.01. The completion of such share capital reduction was acknowledged by the Board of Directors on January 15, 2018, with the Board’s approval of a reduction of the share capital from €17,706,519 to €221,331 by reducing the nominal value of the Company’s shares from €0.80 to €0.01. The amount of €17,485,188, corresponding to the share capital reduction, will be allocated in full to the “additional paid in capital” account.

CGG successfully completed a rights issue with preferential subscription rights for an amount of €112,215,060.36 (including the share premium), through the issuance of 71,932,731 shares of the Company (the “New Shares”) each with one warrant attached (the “Warrants #2” and together with the New Shares, the “ABSA”) at a subscription price of €1.56 per ABSA (i.e. €0.01 nominal value and €1.55 share premium).

At the end of the subscription period, on February 2, 2018, the total demand, which amounted to €132.5 million, was €20.3 million higher than the target amount, i.e. a subscription rate of 118.06%. The number of ABSA subscribed on a non-reducible basis (“à titre irréductible”) was 65,283,036 and represented 90.76 % of the ABSA to be issued. Additionally, 19,639,466 ABSA were subscribed on a reducible basis and such subscription has therefore been only partially satisfied, up to 6,649,695 ABSA.

On February 21, 2018, CGG finalized the implementation of its financial restructuring plan, which meets the Company’s objectives of strengthening its balance sheet and providing financial flexibility to continue investing in the future. This plan comprised (i) the equitization of nearly all of the unsecured debt, (ii) the extension of the maturities of the secured debt and (iii) the provision of additional liquidity to meet various business scenarios.

As part of the implementation of its financial restructuring plan, the Company issued on February 21, 2018:

- US\$663.6 million in principal amount of first lien secured senior notes due 2023, bearing floating rate interest at Libor (floor of 1%) + 6.5% in cash, and 2.05% paid-in-kind (PIK) issued by CGG Holding (U.S.) Inc. in exchange for the balance of the Secured Loans taking into account an upfront paydown of US\$150 million;
- US\$355.1 million and €80.4 million in principal amount of second lien secured senior notes due 2024, bearing floating rate interest at Libor (floor of 1%) + 4% in cash, and 8.5% paid-in-kind (PIK) issued by CGG S.A. This issuance comprises US\$275 million and €80.4 million as new money and US\$80.2 million in exchange for part of the accrued interest claims under the Senior Notes (with the US\$ new money notes and accrued interest notes being fungible);
- 71,932,731 shares of the Company (the “New Shares”) each with one share purchase warrant (the “Warrants #2” and together with the New Shares, the “ABSA”), all of which were subscribed by holders of preferential subscription rights. The final gross proceeds amounted to €112 million;
- 35,311,528 new shares (Creditor Shares 1) resulting from the equitization of the Convertible Bonds;
- 449,197,594 new shares (Creditor Shares 2) resulting from the equitization of the Senior Notes;
- 22,133,149 warrants allocated to the shareholders of CGG (the “Warrants #1”);
- 113,585,276 warrants in favor of the subscribers to the Second Lien Notes (the “Warrants #3”);
- 7,099,079 warrants allocated to the members of the ad hoc committee of holders of Senior Notes (the “Coordination Warrants”);
- 10,648,619 warrants allocated to the members of the ad hoc committee of holders of Senior Notes (the “Backstop Warrants”).

Following the issuance of New Shares, Creditor Shares 1 and Creditor Shares 2, the Company’s share capital will amount to €5,785,750.02, divided into 578,575,002 shares with a nominal value of €0.01 per share.

	<b>Warrants #1</b>	<b>Warrants #2</b>	<b>Warrants #3</b>	<b>Coordination Warrants</b>	<b>Backstop Warrants</b>
<b>Number of warrants issued</b> . . . . .	22,133,149	71,932,731	113,585,276	7,099,079	10,648,619
<b>Exercise ratio</b> . . . . .	3 Warrants #1 for 4 new shares	3 Warrants #2 for 2 new shares	1 Warrant #3 for 1 new share	1 Coordination Warrant for 1 new share	1 Backstop Warrant for 1 new share
<b>Exercise price</b> . . . . .	3.12 euros per new share	4.02 euros per new share	0.01 euro per new share	0.01 euro per new share	0.01 euro per new share
<b>Maximum number of shares to be issued upon exercise of the warrants (subject to adjustments)</b> . . . . .	29,477,536	47,955,154	113,585,276	7,099,079	10,648,619
<b>Expiry date of the warrants</b> . . . . .	21 February 2022	21 February 2023	21 August 2018	21 August 2018	21 August 2018

Prior to the equitization of the unsecured senior debt, the Senior Notes and the Convertible Bonds have been delisted from the Euro MTF market of the Luxembourg Stock Exchange and Euronext Paris, respectively.

On December 1, 2017, the Commercial Court of Paris approved the safeguard plan of CGG and on February 21, 2018 the 14 guarantor’s subsidiaries exited from Chapter 11 in the US.

CGG financial restructuring plan is thus now finalized.

Following its financial restructuring, and with the completion of the financial restructuring with settlement-delivery of all securities and instruments, CGG benefits from a healthier balance sheet with notably:

- Cash and cash equivalent as of December 31, 2017 of US\$315.4 million converted at the December 31, 2017 exchange rate of US\$1.1993,

	<u>Part denominated in Euros</u> <u>In millions of Euro</u>	<u>Other currencies(*)</u> <u>In millions of US\$</u>	<u>Total</u> <u>In millions of US\$</u>
Cash and cash equivalent . . . . .	19.1	292.5	315.4

(\*): includes mainly USD and other currencies converted in USD

- net proceeds from the completion of the financial restructuring on February 21, 2018 of US\$307.9 million (or US\$259.1 million after payment of financial restructuring fees) converted at the February 21, 2018 exchange rate of US\$1.2312,

	<u>Part denominated in Euros</u> <u>In millions of Euro</u>	<u>Part denominated in US\$</u> <u>In millions of US\$</u>	<u>Total</u> <u>In millions of US\$</u>
Rights issue with preferential subscription rights net proceeds . . . . .	103.0	—	126.8
Second lien secured senior notes due 2024 net proceeds . . . . .	72.1	247.8	336.5
First lien secured senior notes due 2023 repayment . . . . .	—	(150.0)	(150.0)
Convertible Bonds interests payment . . . . .	(4.5)	—	(5.5)
<b>Net proceeds from restructuring . . . . .</b>	<b>170.7</b>	<b>97.8</b>	<b>307.9</b>
Financial restructuring fees payment . . . . .	(21.3)	(22.6)	(48.8)
<b>Net proceeds . . . . .</b>	<b>149.4</b>	<b>75.2</b>	<b>259.1</b>

- Financial debt (gross) level reduced to about US\$1,205.1 million converted at the February 21, 2018 exchange rate of US\$1.2312,

	<u>Part denominated in Euros</u> <u>In millions of Euro</u>	<u>Part denominated in US\$</u> <u>In millions of US\$</u>	<u>Total</u> <u>In millions of US\$</u>
<b>Financial debt (gross) as of December 31, 2017<sup>(1)</sup> . . . . .</b>	<b>935.7</b>	<b>1,833.1</b>	<b>2,985.1</b>
Equitization of the Convertible Bonds and Senior Notes . . . . .	(762.6)	(1,169.1)	(2,108.0)
Senior secured debt replacement . . . . .	(124.7)	(659.2)	(812.7)
Second lien secured senior notes due 2024 . . . . .	80.4	355.1	454.1
First lien secured senior notes due 2023 . . . . .	—	663.6	663.6
First lien secured senior notes due 2023 rollover fee . . . . .	—	19.9	19.9
Term out debt . . . . .	—	3.0	3.0
<b>Total changes in gross financial debt . . . . .</b>	<b>(806.9)</b>	<b>(786.6)</b>	<b>(1,780.0)</b>
<b>Financial debt (gross) as of February 21, 2018 . . . . .</b>	<b>128.8</b>	<b>1,046.5</b>	<b>1,205.1</b>

<sup>(1)</sup>: The Financial debt (gross) as of December 31, 2017 converted at December 31, 2017 exchange rate of US\$1.1993 amounts to US\$2,955.3 million



- In the first quarter 2018, the financial restructuring with settlement-delivery of all securities and instruments will result in a c. US\$0.75 billion gain in our consolidated statement of operations. In addition, the equity will increase by c. US\$1.3 billion through the issuance of new shares (coming from the equitization of the unsecured debt, the rights issue and the future exercise of warrants<sup>3</sup>, Coordination Warrants and Backstop Warrants), to reach a total equity increase of c. US\$2.05 billion.
- For information: 2017 impacts linked to this financial restructuring are:
  - c. US\$102 million professional fees (see note 21)
  - c. US\$23 million of acceleration of the amortization of the historical issuing fees (see note 13)

## — *During 2016*

### *Initiation of the financial restructuring process*

In November 2016 CGG announced that it would take steps to evaluate its short- and long-term alternatives to address its capital structure constraints.

### *Issued shares*

CGG increased its share capital through the distribution of preferential subscription rights to existing shareholders launched on January 13, 2016. The final gross proceeds amounted to €350,589,080.16, corresponding to the issuance of 531,195,576 new shares. The net proceeds of the issuance amounted to €337 million (or US\$367.5 million) and were used to reinforce the shareholders' equity of CGG and improve its liquidity as it finances its Transformation Plan.

The transaction was fully underwritten (excluding the Bpifrance Participations and IFP Energies Nouvelles subscription commitments) by a syndicate of banks. The fees and costs related to this transaction amounted to €13 million (US\$14 million).

The listing of the new shares on the regulated market of Euronext Paris (Segment B) on the same line as the existing shares (FR0000120164) took place on February 5, 2016. As from that date, the share capital of CGG was composed of 708,260,768 shares with a nominal value of €0.40 each, for a total nominal share capital of €283,304,307.20.

### *Reverse stock split*

The Company carried out on July 20, 2016 the reverse stock split that the Combined General Shareholders' Meeting approved on May 27, 2016. All shareholders received one new share (with all rights pertaining to shares), in exchange for 32 former shares. The first share price on July 20 was calculated on the basis of the last share price traded on July 19 (€0.69) multiplied by 32.

The listing of the new shares on the regulated market of Euronext Paris (Segment B) on a new line (FR0013181864) took place on July 20, 2016. As from that date, the share capital of CGG was composed of 22,133,149 shares with a nominal value of €12.80 each, for a total nominal share capital of €283,304,307.20.

### *Change of nominal value of ordinary shares*

The Company carried out on August 11, 2016 the change of nominal value of ordinary shares that the Combined General Shareholders' Meeting approved on May 27, 2016. The Company's share capital was reduced by €265,597,788 (or US\$304.1 million at historical exchange rate) to bring it down from €283,304,307.20 to €17,706,519 (or US\$20.3 million) by reducing the nominal value of the Company's shares after realization of the reverse split from €12.80 to €0.80.



The amount of €265,597,788, corresponding to the share capital reduction, was allocated in full to the “additional paid in capital” account.

*Sale of the Multi-Physics Business Line*

CGG announced on April 29, 2016, that it had entered into a binding agreement with NEOS for the sale of the Multi-Physics Business Line. On December 12, 2016, the transaction between NEOS and CGG did not proceed and the agreement for this sale was terminated.

*Gardline CGG Pte Ltd*

On March 24, 2016, CGG sold its 49% stake in Gardline CGG Pte Ltd., which was accounted for using the equity method in our financial statements. See note 8—investments in companies under equity method.

— *During 2015*

In accordance with the Framework Agreement signed in late 2013 with Industrialization & Energy Services Company (TAQA), 98% of Ardiseis capital has been brought to Argas by CGG and TAQA (49% by CGG and TAQA, respectively). Through this Agreement, Argas has become the main shareholder of Ardiseis, with Argas and Ardiseis pooling all their resources to create a more efficient and powerful combined Argas Group. The new Argas group has a stronger capital base, covered a larger business scope, and is 51% owned by TAQA and 49% owned by CGG.

On October 31, 2015, CGG sold its Canadian Multi-Client Library and cashed-in the proceeds.

**NOTE 3 — TRADE ACCOUNTS AND NOTES RECEIVABLE**

Analysis of trade accounts and notes receivables by maturity is as follows:

	<u>December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
	(In millions of US\$)		
Trade accounts and notes receivable gross — current portion	391.9	330.9	662.0
Less: allowance for doubtful accounts — current portion	(33.1)	(37.1)	(42.3)
<b>Trade accounts and notes receivables net — current portion</b>	<b><u>358.8</u></b>	<b><u>293.8</u></b>	<b><u>619.7</u></b>
Trade accounts and notes receivable gross — non-current portion	3.1	6.9	0.7
Less: allowance for doubtful accounts — non-current portion	—	—	—
<b>Trade accounts and notes receivables net — non-current portion</b>	<b><u>3.1</u></b>	<b><u>6.9</u></b>	<b><u>0.7</u></b>
Recoverable costs and accrued profit, not billed	160.7	134.1	192.1
<b>Total accounts and notes receivables</b>	<b><u>522.6</u></b>	<b><u>434.8</u></b>	<b><u>812.5</u></b>

Allowances for doubtful accounts only relate to overdue receivables as of December 31, 2017.

As of December 31, 2017 the ageing analysis of net trade accounts and notes receivables is as follows:

	<u>Not past due</u>	<u>30 days</u>	<u>30 - 60 days</u>	<u>60 - 90 days</u>	<u>90 - 120 days</u>	<u>&gt; 120 days</u>	<u>Total</u>
	(In millions of US\$)						
<b>2017</b>	248.8	32.9	23.5	10.2	4.1	42.4	<b>361.9</b>
<b>2016</b>	189.1	33.6	17.5	3.1	6.5	50.9	<b>300.7</b>
<b>2015</b>	<u>390.6</u>	<u>98.9</u>	<u>26.2</u>	<u>17.3</u>	<u>24.3</u>	<u>63.1</u>	<b><u>620.4</u></b>

### *Litigation*

On March 18, 2013, CGG Services SAS, a fully owned subsidiary of CGG S.A., initiated arbitration proceedings against ONGC, an Indian company, to recover certain unpaid amounts under three commercial contracts entered into by the two entities between 2008 and 2010. The Arbitration Tribunal issued an award in favor of CGG on July 26, 2017. ONGC appealed this decision on October 27, 2017. We believe that the on-going procedure will allow us to recover at a minimum the amount of the receivables that are recorded on our balance sheet as unpaid receivables as of December 31, 2017.

### *Factoring agreements*

In 2017, we entered into an agreement with a financial institution to obtain advance payments for a marine acquisition and processing project with a client. The collection right of the invoices to be issued is transferred to the financial institution, based on monthly client's acceptance of the work in progress. Nonetheless the terms of this agreement do not allow for de-recognition of the funded work in progress (which is thus recorded in "Trade accounts and notes receivables"). The debt corresponding to the cash received has been accounted for in "Current liabilities associated with funded receivables" in the consolidated statement of financial position.

As of December 31, 2017, an amount of US\$9.8 million has been accounted for in "Current liabilities associated with funded receivables" in the consolidated statement of financial position in respect of the above agreement.

We also entered into a factoring agreement with the same financial institution. We have transferred US\$76.0 million of notes receivable as part of this agreement. The risks retained by the Group were mainly the risk of payment delay up to 60 days and the risk of commercial litigation. These risks were historically low with the transferred client. As a consequence, the Group retained an amount of US\$7.6 million to the extent of its continuing involvement. Related costs recorded in operating income are not significant.

There were no factoring agreements as of December 31, 2016 and 2015.

## **NOTE 4 — INVENTORIES AND WORK IN PROGRESS**

	<u>December 31, 2017</u>			<u>December 31, 2016</u>			<u>December 31, 2015</u>		
	<u>Cost</u>	<u>Valuation Allowance</u>	<u>Net</u>	<u>Cost</u>	<u>Valuation Allowance</u>	<u>Net</u>	<u>Cost</u>	<u>Valuation Allowance</u>	<u>Net</u>
	(In millions of US\$)								
Consumables and spares parts . . . . .	12.7	(0.6)	12.1	12.0	(0.9)	11.1	15.2	(0.6)	14.6
Raw materials and sub-assemblies . .	68.6	(20.6)	48.0	67.0	(17.2)	49.8	76.0	(14.9)	61.1
Work in progress . . . . .	117.4	(33.3)	84.1	138.4	(28.5)	109.9	159.0	(25.8)	133.2
Finished goods . . . . .	115.8	(20.7)	95.1	110.0	(14.5)	95.5	134.5	(14.1)	120.4
<b>Inventories and work in progress . . . . .</b>	<b>314.5</b>	<b>(75.2)</b>	<b>239.3</b>	<b>327.4</b>	<b>(61.1)</b>	<b>266.3</b>	<b>384.7</b>	<b>(55.4)</b>	<b>329.3</b>

*Variation of inventories and work in progress*

<u>Variation of the period</u>	<u>December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
	(In millions of US\$)		
<b>Balance at beginning of period</b> .....	<b>266.3</b>	<b>329.3</b>	<b>417.3</b>
Variations .....	(47.7)	(52.6)	(45.0)
Movements in valuation allowance .....	(6.8)	(7.6)	(8.2)
Change in exchange rates .....	27.5	(6.8)	(33.0)
Change in consolidation scope .....	—	—	—
Others .....	—	4.0	(1.8)
<b>Balance at end of period</b> .....	<b><u>239.3</u></b>	<b><u>266.3</u></b>	<b><u>329.3</u></b>

**NOTE 5 — OTHER CURRENT ASSETS AND ASSETS HELD FOR SALE**

*Other current assets*

	<u>December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
	(In millions of US\$)		
Personnel and other tax assets .....	46.5	31.8	40.8
Fair value of financial instruments .....	—	—	0.3
Restricted cash .....	12.1	4.0	0.7
Other miscellaneous receivables .....	22.7	42.7	42.6
Supplier prepayments .....	19.6	12.0	20.9
Prepaid expenses .....	16.1	15.3	13.9
<b>Other current assets</b> .....	<b><u>117.0</u></b>	<b><u>105.8</u></b>	<b><u>119.2</u></b>

*Assets held for sale*

	<u>December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
	(In millions of US\$)		
Massy headquarters land .....	—	—	7.6
Seismic vessels .....	13.4	15.0	22.0
Equipment and others .....	1.2	3.6	4.8
<b>Assets held for sale</b> .....	<b><u>14.6</u></b>	<b><u>18.6</u></b>	<b><u>34.4</u></b>

In 2016, we sold the remaining part of Massy headquarters. We also recognized a US\$7.0 million impairment on a seismic vessel (see note 21).

In 2015, we sold a part of these headquarters, and two of the three seismic vessels that were previously classified as assets held for sale in 2014 as part of our transformation plan.

## NOTE 6 — ASSET VALUATION ALLOWANCE

	December 31, 2017					Balance at end of period
	Balance at beginning of year	Additions	Deductions	Unused Deductions	Others <sup>(a)</sup>	
	(In millions of US\$)					
Trade accounts and notes receivables	37.1	5.9	(11.3)	—	1.4	33.1
Inventories and work-in-progress	61.1	7.4	(0.6)	—	7.3	75.2
Tax assets	6.5	1.6	—	—	0.1	8.2
Other current assets	3.6	0.2	—	—	—	3.8
<b>Total assets valuation allowance</b>	<b>108.3</b>	<b>15.1</b>	<b>(11.9)</b>	<b>—</b>	<b>8.8</b>	<b>120.3</b>

<sup>(a)</sup> Includes the effects of exchange rate changes and changes in the scope of consolidation.

	December 31, 2016					Balance at end of period
	Balance at beginning of year	Additions	Deductions	Unused Deductions	Others <sup>(a)</sup>	
	(In millions of US\$)					
Trade accounts and notes receivables	42.3	12.3	(17.2)	—	(0.3)	37.1
Inventories and work-in-progress	55.4	9.0	(1.4)	—	(1.9)	61.1
Tax assets	6.9	0.5	(0.1)	—	(0.8)	6.5
Other current assets	7.5	0.3	(4.2)	—	—	3.6
<b>Total assets valuation allowance</b>	<b>112.1</b>	<b>22.1</b>	<b>(22.9)</b>	<b>—</b>	<b>(3.0)</b>	<b>108.3</b>

<sup>(a)</sup> Includes the effects of exchange rate changes and changes in the scope of consolidation.

	December 31, 2015					Balance at end of period
	Balance at beginning of year	Additions	Deductions	Unused Deductions	Others <sup>(a)</sup>	
	(In millions of US\$)					
Trade accounts and notes receivables	34.8	12.2	(6.4)	—	1.7	42.3
Inventories and work-in-progress	51.7	9.3	(1.1)	—	(4.5)	55.4
Tax assets	8.0	1.3	(2.1)	—	(0.3)	6.9
Other current assets	9.8	1.1	(1.1)	—	(2.3)	7.5
<b>Total assets valuation allowance</b>	<b>104.3</b>	<b>23.9</b>	<b>(10.7)</b>	<b>—</b>	<b>(5.4)</b>	<b>112.1</b>

<sup>(a)</sup> Includes the effects of exchange rate changes and changes in the scope of consolidation.

## NOTE 7 — INVESTMENTS AND OTHER FINANCIAL ASSETS

	December 31,		
	2017	2016	2015
	(In millions of US\$)		
Non-consolidated investments	3.8	8.8	15.3
Loans and advances	38.4	18.2	65.1
Deposits and other	20.4	24.9	7.2
<b>Total</b>	<b>62.6</b>	<b>51.9</b>	<b>87.6</b>

In 2017, the Group has pledged US\$21.4 million of its other financial assets in 2017 in order to fulfil some collateral requirements.

*Non-consolidated investments*

	<u>Country</u>	<u>2017 % of interests</u>	<u>December 31,</u>		
			<u>2017</u>	<u>2016</u>	<u>2015</u>
			<u>(In millions of US\$)</u>		
Tronic's Microsystems SA .....	France	—	—	—	3.4
Geokinetics Inc. ....	USA	16.0%	1.7	6.0	9.0
Other investments in non-consolidated companies .....			<u>2.1</u>	<u>2.8</u>	<u>2.9</u>
<b>Total non-consolidated investments .....</b>			<b><u>3.8</u></b>	<b><u>8.8</u></b>	<b><u>15.3</u></b>

On December 31, 2017, our non-consolidated investments decreased due to a US\$4.3 million depreciation of our financial stake in Geokinetics Inc.

On December 31, 2016, our non-consolidated investments decreased due to a US\$3.0 million depreciation of our financial stake in Geokinetics Inc. and the sale of our remaining 9.17% financial stake in Tronic's Microsystems SA.

On December 31, 2015, our non-consolidated investments decreased mainly due to a US\$40.0 million depreciation of our financial stake in Geokinetics Inc. During 2015, the Group's shareholding in Tronic's Microsystems SA decreased from 15.43% to 9.17%.

No restriction or commitment exists between CGG and the non-consolidated investments.

*Loans and advances*

Loans and advances include a loan granted by CGG Services (Norway) AS to Global Seismic Shipping AS for a net discounted amount of US\$15.6 million as of December 31, 2017 and a loan granted by CGG Holding BV to PTSC CGGV Geophysical Survey Limited for a net discounted amount of US\$13.7 million as of December 31, 2017, US\$13.0 million as of December 31, 2016 and US\$24.0 million as of December 31, 2015.

CGG also granted a loan amounting to US\$38.0 million as of December 31, 2015 to Seabed Geosolutions BV. CGG participated in Seabed Geosolutions BV capital increase through the conversion of part of the existing loan for US\$19.0 million and the other US\$19.0 million has been fully repaid by Seabed Geosolutions BV as of December 31, 2016.

**NOTE 8 — INVESTMENTS IN COMPANIES UNDER EQUITY METHOD**

	Country / Head office	2017 % of interests	December 31,		
			2017	2016	2015
(In millions of US\$)					
<b>Marine acquisition</b>					
CGG Eidesvik Ship Management AS . . . . .	Norway / Bergen	49.0%	0.2	0.2	0.2
Eidesvik Seismic Vessels AS <sup>(1)</sup> . . . . .	Norway / Bomlo	—	—	21.0	19.0
Gardline CGG Pte Ltd <sup>(2)</sup> . . . . .	Singapore	—	—	—	7.7
Geo Ship Management Services SAS (formerly Geofield Ship Management Services SAS) <sup>(3)</sup> . . . . .	France / Massy	—	—	—	(0.1)
Global Seismic Shipping AS <sup>(1)</sup> . . . . .	Norway / Bomlo	50.0%	63.5	—	—
Oceanic Seismic Vessels AS <sup>(1)</sup> . . . . .	Norway / Bomlo	—	—	27.0	25.4
PT Elnusa-CGGVeritas Seismic . . . . .	Indonesia / Jakarta	49.0%	0.2	0.4	0.3
PTSC CGGV Geophysical Survey Limited . . .	Vietnam / Vung Tau City	49.0%	—	9.6	18.9
<b>Land and Multi-Physics acquisition</b>					
Argas . . . . .	Saudi Arabia / Al-Khobar	49.0%	68.3	64.5	73.4
Seabed Geosolutions BV . . . . .	The Netherlands /Amsterdam	40.0%	60.1	67.5	53.4
Veri-Illuq Geophysical Ltd. . . . .	Canada / Calgary	49.0%	(0.1)	(0.1)	(0.1)
Yamoria Geophysical Ltd. . . . .	Canada / Calgary	49.0%	(0.3)	(0.3)	(0.3)
<b>GGR</b>					
Petroleum Edge Limited . . . . .	UK / London	50.0%	(2.3)	(1.1)	—
Reservoir Evaluation Services LLP <sup>(4)</sup> . . . . .	Kazakhstan / Almaty	49.0%	3.1	1.8	2.9
<b>Investments in companies under the equity method . . . . .</b>			<b>192.7</b>	<b>190.5</b>	<b>200.7</b>

<sup>(1)</sup> On April, 2017, CGG entered into agreements with Eidesvik, the lenders under our Nordic credit facility and the lenders under the credit facilities of “ESV” and “OSV” for the implementation of a new ownership set up for our seismic fleet, through the creation of Global Seismic Shipping AS (“GSS”) company. This new company, “GSS”, holds 100% stake in “ESV” and “OSV” (see note 2).

<sup>(2)</sup> On March 24, 2016, CGG sold its 49% stake in Gardline CGG Pte Ltd.

<sup>(3)</sup> On June 13, 2016, CGG bought the remaining 50% stake in Geofield Ship Management Services SAS. Shortly after, the company was renamed Geo Ship Management Services SAS.

<sup>(4)</sup> On February 23, 2017, CGG acquired an additional 13% stake in Reservoir Evaluation Services LLP.

The variation of “Investments in companies under equity method” is as follows:

	December 31,		
	2017	2016	2015
(In millions of US\$)			
<b>Balance at beginning of period . . . . .</b>	<b>190.5</b>	<b>200.7</b>	<b>137.7</b>
Change in consolidation scope . . . . .	23.6	(8.6)	4.9
Investments made during the year . . . . .	0.7	19.0	40.0
Equity in income . . . . .	(20.1)	(8.2)	21.4
Dividends received during the period, reduction in share capital . . . . .	(2.0)	(13.0)	(5.1)
Change in exchange rate and other . . . . .	—	0.6	1.8
<b>Balance at end of period . . . . .</b>	<b>192.7</b>	<b>190.5</b>	<b>200.7</b>

The changes in consolidation scope in 2017 correspond for US\$23.6 million to the implementation of the new ownership set up for our seismic fleet (see note 2 — New ownership set up for our seismic fleet). The

changes in consolidation scope in 2016 corresponded for US\$(8.6) million to the disposal of the shares we held in Gardline CGG PTE Ltd. In 2015, the changes in consolidation scope corresponded for US\$4.9 million to the disposal of the shares we held in Magnitude Microseismic LLC.

The investments in 2016 corresponded for US\$19.0 million to our participation in Seabed Geosolutions BV capital increase through the conversion of part of the existing debt. In 2015, the investments corresponded for US\$40.0 million to our participation in Seabed Geosolutions BV capital increase through the conversion of part of the existing debt.

***Main contributive companies under equity method***

The following tables illustrate summarized financial information as of December 31, 2017 of the main contributive entities operating in the Land and Marine acquisition business:

	<u>Argas</u>	<u>Global Seismic Shipping AS</u>	<u>Seabed Geosolutions BV</u>
	(In millions of US\$)		
Revenue . . . . .	131.9	19.6	89.9
Depreciation and amortization . . . . .	(31.7)	(23.7)	(23.7)
Cost of financial debt . . . . .	(0.4)	(11.9)	(0.9)
Tax income (expense) . . . . .	(1.3)	—	(1.5)
<b>Net income (loss) . . . . .</b>	<b><u>11.3</u></b>	<b><u>(17.1)</u></b>	<b><u>(18.7)</u></b>
Cash and cash equivalents . . . . .	38.2	24.1	(0.9)
Current assets . . . . .	52.2	1.8	41.5
Total non-current assets . . . . .	99.2	457.6	209.8
Current financial liabilities . . . . .	—	13.2	—
Current liabilities . . . . .	31.2	0.7	47.7
Non-current financial liabilities . . . . .	—	342.7	5.2
Non-current liabilities . . . . .	14.4	—	0.2
<b>Equity . . . . .</b>	<b><u>144.0</u></b>	<b><u>126.9</u></b>	<b><u>197.3</u></b>
<b>Dividends paid to CGG . . . . .</b>	<b><u>—</u></b>	<b><u>—</u></b>	<b><u>—</u></b>

CGG Services (Norway) AS granted a loan to Global Seismic Shipping AS for a net discounted amount of US\$15.6 million as of December 31, 2017. CGG granted a loan amounting to US\$38.0 million as of December 31, 2015 to Seabed Geosolutions BV. This loan was repaid for US\$19.0 million and for the remaining US\$19.0 million converted in capital as of December 31, 2016.

For transactions with investments in companies under the equity method, please see note 27 — Related party transactions.



Reconciliation of the summarized financial information above with the carrying amount of the main contributive entities in our statement of financial position and with our share of income as of December 31, 2017 is as follows:

	Argas	Global Seismic Shipping AS	Seabed Geosolutions BV	Other entities	Total
	(In millions of US\$)				
Equity of main contributive entities . . . . .	144.0	126.9	197.3		
% of interest . . . . .	49%	50%	40%		
% of equity of main contributive entities . . . . .	70.6	63.5	78.9		
Adjustments and eliminations . . . . .	(2.3)	—	(18.8)		
<b>Investments in companies under the equity method . . . . .</b>	<b>68.3</b>	<b>63.5</b>	<b>60.1</b>	<b>0.8</b>	<b>192.7</b>

	Argas	Global Seismic Shipping AS	Seabed Geosolutions BV	Other entities	Total
	(In millions of US\$)				
Net income of main contributive entities . . . . .	11.3	(17.1)	(18.7)		
% of interest . . . . .	49%	50%	40%		
% of income of main contributive entities . . . . .	5.5	(8.6)	(7.5)		
Adjustments and eliminations . . . . .	(1.7)	0.1	—		
<b>Share of income (loss) in companies accounted for under the equity method . . . . .</b>	<b>3.8</b>	<b>(8.5)</b>	<b>(7.5)</b>	<b>(7.9)</b>	<b>(20.1)</b>

#### NOTE 9 — PROPERTY, PLANT AND EQUIPMENT

	December 31,						
	2017			2016			2015
	Gross	Accumulated depreciation	Net	Gross	Accumulated depreciation	Net	Net
	(In millions of US\$)						
Land . . . . .	15.2	—	15.2	17.4	—	17.4	17.1
Buildings . . . . .	244.0	(129.6)	114.4	223.2	(114.9)	108.3	122.8
Machinery & equipment . . . . .	874.1	(741.6)	132.5	982.5	(750.5)	232.0	320.5
Vehicles & vessels . . . . .	167.7	(124.7)	43.0	607.4	(289.7)	317.7	373.8
Other tangible assets . . . . .	108.0	(92.5)	15.5	113.5	(92.9)	20.6	30.3
Assets under constructions . . . . .	9.7	—	9.7	12.6	—	12.6	20.7
<b>Total Property, plant and equipment . . . . .</b>	<b>1,418.7</b>	<b>(1,088.4)</b>	<b>330.3</b>	<b>1,956.6</b>	<b>(1,248.0)</b>	<b>708.6</b>	<b>885.2</b>

*Variation of the period*

	December 31,		
	2017	2016	2015
	(In millions of US\$)		
<b>Balance at beginning of period</b> .....	<b>708.6</b>	<b>885.2</b>	<b>1,238.2</b>
Acquisitions .....	45.4	57.2	78.5
Depreciation .....	(116.1)	(221.6)	(393.6)
Disposals .....	(18.7)	(4.4)	(13.3)
Change in exchange rates .....	15.6	(4.5)	(18.4)
Change in consolidation scope .....	(301.0)	—	—
Reclassification of tangible assets as “Assets held for sale” .....	(3.5)	(0.5)	(4.4)
Other .....	—	(2.8)	(1.8)
<b>Balance at end of period</b> .....	<b>330.3</b>	<b>708.6</b>	<b>885.2</b>

In 2017, the “Change in consolidation scope” line item is related to the implementation of a new ownership set up for our seismic fleet (see note 2 — New ownership set up for our seismic fleet).

In 2016, the “Depreciation” line item included a US\$24.4 million impairment of vessels. In 2015, the “Depreciation” line item included a US\$110.0 million impairment of vessels and related equipment’s. The net book value of our owned vessels has been aligned on recoverable value assessed as fair value less cost of disposal.

Disposals of assets mainly relate to marine seismic equipment scrapped or damaged.

*Reconciliation of acquisitions with the consolidated statements of cash flows*

	December 31,		
	2017	2016	2015
	(In millions of US\$)		
Acquisitions of tangible assets, excluding finance lease .....	45.4	57.2	78.5
Development costs capitalized (see notes 10 and 20) .....	34.1	34.0	41.5
Additions in other intangible assets, excluding non-exclusive surveys (see note 10) .....	4.7	9.0	10.6
Variance of fixed assets suppliers .....	(3.0)	4.3	15.0
<b>Total purchases of tangible and intangible assets according to cash flow statement</b> ..	<b>81.2</b>	<b>104.5</b>	<b>145.6</b>

*Land, buildings and geophysical equipment recorded under finance leases*

	December 31,						
	2017			2016			2015
	Gross	Accumulated depreciation	Net	Gross	Accumulated depreciation	Net	Net
	(In millions of US\$)						
Geophysical equipment and vessels under finance leases .....	5.6	(5.1)	0.5	7.9	(2.5)	5.4	7.3
Land and buildings under finance leases .....	92.5	(21.9)	70.6	80.7	(16.3)	64.4	69.7
<b>Total Property, plant and equipment under finance leases</b> .....	<b>98.1</b>	<b>(27.0)</b>	<b>71.1</b>	<b>88.6</b>	<b>(18.8)</b>	<b>69.8</b>	<b>77.0</b>

### Repairs and maintenance expenses

In 2017, Repairs and maintenance expenses included in cost of operations amount to US\$39.9 million due to repairs on equipment and seismic vessels. Repairs and maintenance expenses amounted to US\$44.3 million in 2016 and to US\$64.2 million in 2015.

### NOTE 10 — INTANGIBLE ASSETS

	December 31,						
	2017			2016			2015
	Gross	Accumulated depreciation	Net	Gross	Accumulated depreciation	Net	Net
	(In millions of US\$)						
Multi-client surveys Marine . . . . .	4,677.7	(3,936.8)	740.9	4,337.6	(3,598.4)	739.2	809.2
Multi-client surveys Land . . . . .	716.5	(626.1)	90.4	683.4	(574.7)	108.7	117.9
Development costs capitalized . . . . .	432.5	(228.5)	204.0	384.6	(183.1)	201.5	199.9
Software . . . . .	113.2	(88.9)	24.3	106.9	(76.2)	30.7	39.9
Research — Technology . . . . .	75.2	(75.1)	0.1	83.3	(82.3)	1.0	4.2
Customer relationships . . . . .	232.3	(165.3)	67.0	246.2	(170.9)	75.3	85.4
Trade names . . . . .	44.2	(31.6)	12.6	43.7	(31.2)	12.5	12.4
Other intangible assets . . . . .	103.4	(90.5)	12.9	97.9	(82.1)	15.8	17.8
<b>Total intangible assets . . . . .</b>	<b>6,395.0</b>	<b>(5,242.8)</b>	<b>1,152.2</b>	<b>5,983.6</b>	<b>(4,798.9)</b>	<b>1,184.7</b>	<b>1,286.7</b>

<i>Variation of the period</i>	December 31,		
	2017	2016	2015
	(In millions of US\$)		
<b>Balance at beginning of period . . . . .</b>	<b>1,184.7</b>	<b>1,286.7</b>	<b>1,373.8</b>
Increase in multi-client surveys . . . . .	281.0	337.4	357.4
Development costs capitalized . . . . .	34.1	34.0	41.5
Other acquisitions . . . . .	4.7	9.0	10.6
Depreciation on multi-client surveys . . . . .	(297.7)	(417.2)	(369.5)
Other depreciation . . . . .	(65.1)	(64.4)	(113.2)
Disposals . . . . .	—	(0.1)	(6.0)
Change in exchange rates . . . . .	10.5	(2.6)	(14.2)
Other . . . . .	—	1.9	6.3
<b>Balance at end of period . . . . .</b>	<b>1,152.2</b>	<b>1,184.7</b>	<b>1,286.7</b>

In 2017, the “Depreciation on multi-client surveys” line item included US\$23.1 million of impairment of multi-client surveys. Since 2016 and the application of IAS 38 amended, CGG no longer apply a straight-line amortization scheme for multi-client surveys.

In 2016 and 2015, the “Depreciation on multi-client surveys” line item included respectively US\$96.8 million and US\$41.8 million of impairment of multi-client surveys (see note 21).

In 2015, other depreciations included an impairment of customer relationship for US\$39.7 million mainly (see note 21).

***Reconciliation of acquisitions with the consolidated statements of cash flows and capital expenditures in note 19***

	December 31,		
	2017	2016	2015
	(In millions of US\$)		
Increase in multi-client surveys .....	281.0	337.4	357.4
Multi-client depreciations & amortizations capitalized .....	(30.0)	(42.3)	(72.8)
<b>Investment in multi-client surveys according to cash flow statement .....</b>	<b><u>251.0</u></b>	<b><u>295.1</u></b>	<b><u>284.6</u></b>

**NOTE 11 — GOODWILL**

Analysis of goodwill is as follows:

<u>Variation of the period</u>	December 31,		
	2017	2016	2015
	(In millions of US\$)		
<b>Balance at beginning of period .....</b>	<b>1,223.3</b>	<b>1,228.7</b>	<b>2,041.7</b>
Additions .....	—	—	1.9
Impairment .....	—	—	(803.8)
Change in exchange rates .....	10.7	(5.4)	(11.1)
<b>Balance at end of period .....</b>	<b><u>1,234.0</u></b>	<b><u>1,223.3</u></b>	<b><u>1,228.7</u></b>

We recognized an impairment of US\$804 million as of December 31, 2015 resulting from the annual impairment test, which we booked under the line “Other revenues (expenses) net” in our statement of operations (see note 21).

**Impairment review**

Group management undertakes at least an annual impairment test covering goodwill, intangible assets and indefinite lived assets allocated to the cash generating units to consider whether impairment is required.

The recoverable value retained by the Group corresponds to the value in use of the assets, cash generating units or group of cash generating units, defined as the discounted expected cash flows. In certain occasions, the recoverable value retained is the fair value less costs of disposal, in which case defined by reference to an active market.

Following the CGG reorganization in four reportable segments in the third quarter of 2015, the cash generating units have been redefined in a consistent way with the new reportable segments. The marine cash generating unit has been split in three: i/ marine exclusive cash generating unit, ii/ marine multi-client, merged into the multi-client cash generating unit, and iii/ marine non-operated resources cash generating unit. The marine exclusive CGU is reported under the Contractual Data Acquisition segment, the marine multi-client has been merged in multi-client CGU and is reported under GGR segment and the marine non-operated resources CGU is reported under the Non-Operated Resources segment. Please refer to note 19 for further detail.

As a consequence, there are now nine cash generating units. A cash generating unit is a homogeneous group of assets that generates cash inflows that are largely independent of the cash inflows from other groups of assets.

The following table provides the split of the total Group Goodwill per segment:

	December 31,		
	2017	2016	2015
	(In millions of US\$)		
<b>Contractual Data Acquisition</b> .....	—	—	—
<b>Non-Operated Resources</b> .....	—	—	—
<i>CGU Multi-client</i> .....	284	284	284
<i>CGUs in Subsurface Imaging and Reservoir</i> .....	771	770	770
<i>Group of CGUs GGR</i> .....	—	—	—
<b>GGR</b> .....	<b>1,055</b>	<b>1,054</b>	<b>1,054</b>
<b>Equipment</b> .....	<b>179</b>	<b>169</b>	<b>175</b>
<b>Total</b> .....	<b><u>1,234</u></b>	<b><u>1,223</u></b>	<b><u>1,229</u></b>

The goodwill supported by the group of four CGUs of GGR has been allocated to the CGUs of this group in the third quarter of 2015. The allocation was performed using a relative value approach and was allocated as follows: US\$273 to Multi-client CGU and US\$317 to the CGUs of Subsurface Imaging and Reservoir.

Since 2013, the remaining goodwill in the Contractual Data Acquisition segment was located within Marine cash generating unit only. Since the impairment recorded in 2015, there was no more goodwill located within the Contractual Data Acquisition CGUs.

#### **Key assumptions used in the determination of recoverable value**

In determining the asset recoverability through value in use, management makes estimates, judgments and assumptions on uncertain matters. For each cash generating unit tested for goodwill impairment, the value in use is determined based on economic assumptions and forecasted operating conditions as follows:

- expected cash flows estimated in the 2018 budget and 2019-2020 outlook as presented to the Board of Directors on March 8, 2018,
- use of normative cash flows beyond Year 3, the discounted normative cash flows weigh more than 80% of the total value in use,
- long-term growth rate at 2.0% for all the CGUs,
- discount rates, unchanged compared to 2016, which we consider reflect the respective sector weighted average cost of capital (WACC):
  - 10.0% for the Equipment segment (corresponding to a pre-tax rate of 13.0%);
  - 9.5% for the cash generating units within the GGR segment (corresponding to a pre-tax rate from 12.0% up to 12.6%).

Our WACCs are calculated with the standard Capital Asset Pricing Model (CAPM) methodology. To comfort our calculations, we requested an external valuation firm to perform an independent assessment in 2016. They concluded the WACCs used by the Group in 2016 for each segment were consistent with the range they estimated. Pre-tax WACCs are calculated by iteration: the pre-tax WACC is the discount rate leading to the same net present value calculated with post-tax WACC with tax expenses excluded from cash flows projections.

#### **In 2017**

##### **GGR:**

Increasing oil and gas prices have significantly improved the profitability and cash flow within GGR's customer base, which should lead to an improved market for GGR. However, most large clients are publicly stating that they will maintain tight spending discipline and will structure their companies to prosper at commodity prices lower than today's prices. Nonetheless, GGR's major customers are actively engaged in

exploration in basins where they can access large reservoirs under reasonable commercial terms, a trend which we believe will continue. Particular areas meeting these criteria are the deepwater areas of Mexico and the pre-salt areas offshore Brazil, where GGR is particularly well positioned with advanced multi-client data sets. We believe GGR will also continue to see high demand for our products and services in Norway and we will see a resurgence of demand in the UK sector of the North Sea.

Many customers are focusing their exploration and production budgets on increasing production from current installations, and GGR benefits from services and imaging projects, given our leading ocean bottom nodes processing capability, as well as large multi-client projects over mature areas. Our clients also invest heavily in their land operations in the United States where our contributions are more modest, but GGR has established, and is continuing to invest in, a significant data library position in the popular onshore unconventional plays in the United States.

Our top line strategy for the GGR activities in 2018 continues to be:

- Maintain our investment in new MCNV surveys, at an acceptable level of pre-funding;
- Continue to invest in research and development and people to maintain our lead in high end imaging and advance our software offering;
- Expand our reservoir and geological operations through increased multi-client / subscription product investment and the geographic expansion of certain technologies;
- Gain more value from integrated offerings

The capital employed of the Multi-client cash generating unit amounts to US\$1,096 million as of December 31, 2017, including US\$284 million of goodwill.

The capital employed of the Subsurface Imaging and Reservoir cash generating units amounted to US\$1,114 million as of December 31, 2017, including US\$771 million of goodwill.

#### Equipment:

In 2018, we expect that Sercel's revenue to improve compared to 2017 with a rebound of land activity worldwide in a more stabilized oil context than in 2017 and due to the need for new equipment after years of under investment. Sercel should also benefit from the sales of 508<sup>XT</sup> advanced technology compared to aging systems. Geographically pockets of new opportunities are emerging in India and Algeria, beyond our traditional markets (Russia, China and Middle East).

The marine market should moderately increase as no major order will be coming from CGG and Sercel's clients are facing financing difficulties. Marine contractors continue to face a difficult market, restricting their ability to invest in new equipment. However their current fleets are aging and their excess of equipment generated by the stacking of vessels is shrinking.

In this market environment, and notably considering its important installed base, Sercel estimates that, for 2018, it should maintain its leading position in the seismic equipment market by capitalizing on growth opportunities resulting from the strength of its current product range, the application of new technologies in all of its products as well as from its diversified geographical presence.

The capital employed of the Equipment cash generating unit amounted to US\$604 million as of December 31, 2017, including US\$179 million of goodwill.

No impairment of goodwill recognized in 2017.

#### **In 2016**

The capital employed by the Multi-client cash generating unit amounted to US\$1,165 million as of December 31, 2016, including US\$284 million of goodwill.

The capital employed of the Sub Surface Imaging and Reservoir cash generating units amounted to US\$1,147 million as of December 31, 2016 including US\$770 million goodwill.

The capital employed by the Equipment cash generating unit amounted to US\$617 million as of December 31, 2016 including US\$169 million of goodwill.

No impairment of goodwill recognized in 2016.

**In 2015**

The Marine cash generating unit was strongly impacted by the deteriorated market conditions, which appeared to last far longer than expected before summer 2015. As a consequence of our fleet downsizing plan and the difficult market conditions, the impairment test of our Marine cash generating unit triggered a goodwill impairment for US\$365 million as of December 31, 2015. Since 2015, there were no more goodwill located in the marine exclusive CGU (hence no more goodwill in the Contractual Data Acquisition segment) and marine non operated resources CGU (hence no goodwill in the Non-Operated Resources segment).

While the GGR segment remained more resilient than Contractual Data Acquisition in these market conditions, the integration of marine capacity within GGR coupled with the revision of our financial forecasts triggered an impairment of goodwill of US\$439 million. Out of these US\$439 million, US\$436 million were related to Multi-client CGU and were mainly explained by the allocation of US\$273 million of the GGR goodwill. Post impairment, the capital employed by the Multi-client cash generating unit amounted to US\$1,344 million as of December 31, 2015 including US\$284 million of goodwill. Post impairment, the capital employed of the Sub Surface Imaging and Reservoir cash generating units amounted to US\$1,167 million as of December 31, 2015 including US\$770 million goodwill.

**Sensitivity to changes in assumptions**

Changing the assumptions selected by Group management, in particular the discount rate and the normative cash flows (based on EBITDAS) could significantly affect the evaluation of the value in use of our cash generating units and, hence, the Group’s impairment test result. The profile of the business cycle could affect, to a lesser extent compared to the two previous assumptions, the evaluation of the value in use of our cash generating units. The cash flow generated during 2019 (chosen as middle of the three years sequence) is an important assumption.

The following changes to the assumptions used in the impairment test lead to the following:

	<u>Goodwill</u>	<u>Excess of the expected future Discounted cash flows over the carrying value of assets including goodwill</u>	<u>Sensitivity on 2019 cash flows</u>		<u>Sensitivity on normative cash flows</u>		<u>Sensitivity on discount rate (after tax)</u>	
			<u>Decrease by 10%</u>	<u>Increase by 10%</u>	<u>Decrease by 10%</u>	<u>Increase by 10%</u>	<u>Decrease by 0.25bps</u>	<u>Increase by 0.25bps</u>
(In millions of US\$)								
CGU Multi-client . . . . .	284	181	(11)	+11	(112)	+112	+48	(45)
CGUs in Subsurface Imaging and Reservoir . . . . .	771	549	(7)	+7	(137)	+137	+58	(55)
Equipment segment . . . . .	179	437	(2)	+2	(96)	+96	+38	(36)
<b>Total . . . . .</b>	<b><u>1,234</u></b>							



## NOTE 12 — OTHER CURRENT LIABILITIES

	December 31,		
	2017	2016	2015
	(In millions of US\$)		
Value added tax and other taxes payable	48.5	25.6	53.6
Deferred revenue	58.0	72.0	100.8
Fair value of financial instruments (see note 14)	—	—	1.0
Other liabilities	16.6	42.6	43.2
<b>Other current liabilities</b>	<b>123.1</b>	<b>140.2</b>	<b>198.6</b>

## NOTE 13 — FINANCIAL DEBT

Gross financial debt as of December 31, 2017 was US\$2,955.3 million compared to US\$2,850.4 million as of December 31, 2016. Refer to note 2 — “Significant events” for information on the impact on financial debt of the financial restructuring completed on February 21, 2018.

Our gross debt as of December 2017 breaks down as follows:

	December 31,						
	2017			2016			2015
	Current	Non-current	Total	Current	Non-current	Total	Total
	(In millions of US\$)						
High yield bonds	1,573.9	—	1,573.9	8.3	1,421.8	1,430.1	1,438.4
Convertible bonds	396.0	—	396.0	—	332.9	332.9	329.0
Term loans <sup>(a)</sup>	337.4	—	337.4	1.0	331.8	332.8	334.6
Credit facilities <sup>(a)</sup>	470.5	—	470.5	13.5	535.4	548.9	540.1
Bank loans and other loans <sup>(a)</sup>	4.6	—	4.6	34.1	60.1	94.2	131.1
Finance lease debt	5.8	52.3	58.1	8.9	66.7	75.6	86.1
<b>Sub-total</b>	<b>2,788.2</b>	<b>52.3</b>	<b>2,840.5</b>	<b>65.8</b>	<b>2,748.7</b>	<b>2,814.5</b>	<b>2,859.3</b>
Accrued interests	114.6	—	114.6	34.3	—	34.3	24.8
<b>Financial debt</b>	<b>2,902.8</b>	<b>52.3</b>	<b>2,955.1</b>	<b>100.1</b>	<b>2,748.7</b>	<b>2,848.8</b>	<b>2,884.1</b>
Bank overdrafts	0.2	—	0.2	1.6	—	1.6	0.7
<b>Total<sup>(b)</sup></b>	<b>2,903.0</b>	<b>52.3</b>	<b>2,955.3</b>	<b>101.7</b>	<b>2,748.7</b>	<b>2,850.4</b>	<b>2,884.8</b>

<sup>(a)</sup> At December 31, 2017, US\$809.8 million (before issuing fees) out of US\$808.5 million of loans net of issuing fees (credit facilities, bank loans and other loans) were secured by tangible assets and receivables.

<sup>(b)</sup> After completion of the financial restructuring, the financial debt decreases from US\$2,955 million as of December 31, 2017 down to US\$1,205 million as of February 21, 2018, out of which US\$10 million are current and US\$1,195 million are non-current. See note 2

Note: For the purposes of the 2016 table above, the various components of our financial debt are presented at their normal maturities even though these debts — except finance lease debt — are presented entirely as current due to the application of IAS 1.

- **Changes in liabilities arising from financing activities**

	<u>December 31,</u> <u>2017</u>
	(In millions of US\$)
<b>Balance at beginning of period</b>	<b>2,848.8</b>
<i>Decrease in long term debts</i> .....	(26.9)
<i>Increase in long term debts</i> .....	2.3
<i>Reimbursement on leasing</i> .....	(5.7)
<i>Financial interests paid</i> .....	(85.0)
Cash flows .....	(115.3)
Cost of financial debt, net .....	211.0
Nordic credit facility (see note 2 — New ownership set up for our seismic fleet) .....	(182.5)
Liabilities linked to charter agreements (see note 2 — Proactive management of maritime liabilities) .....	70.7
Change in exchange rates .....	133.2
Other .....	(10.8)
<b>Balance at end of period</b> .....	<b><u>2,955.1</u></b>

- **Financial debt by financing sources**

	<u>Issuing date</u>	<u>Maturity</u>	<u>Nominal amount</u> <u>Dec 31, 2017</u>	<u>Net balance</u> <u>Dec 31, 2017</u>	<u>Interest rate</u>
			(In millions of currency)	(In millions of US\$)	
High yield bond 2020 .....	2014	2020	€400	479.5	5 <sup>7</sup> / <sub>8</sub> %
High yield bond 2021 .....	2011	2021	US\$650	604.2	6 <sup>1</sup> / <sub>2</sub> %
High yield bond 2021(see note 2 — Proactive management of maritime liabilities) .....	2017	2021	US\$71	70.7	6 <sup>1</sup> / <sub>2</sub> %
High yield bond 2022 .....	2014	2022	US\$500	419.5	6 <sup>7</sup> / <sub>8</sub> %
<b>Sub-total High yield bonds</b> .....				<b><u>1,573.9</u></b>	
Convertible bond 2019 .....	2012	2019	€35	40.2	1 <sup>1</sup> / <sub>4</sub> %
Convertible bond 2020 .....	2015	2020	€325	355.8	1 <sup>3</sup> / <sub>4</sub> %
<b>Sub-total Convertible bonds</b> .....				<b><u>396.0</u></b>	
<b>Term loans</b> .....	2015	2019	US\$342	<b><u>337.4</u></b>	Libor +5 <sup>1</sup> / <sub>2</sub> %
<b>Credit facilities</b> .....	—	—	—	<b><u>470.5</u></b>	—
Other bank loans .....	—	—	—	1.4	—
Other loans .....	—	—	—	3.2	—
<b>Sub-total bank loans and other loans</b> .....				<b><u>4.6</u></b>	
Real estate finance lease .....	2010	2022	€75	57.7	—
Other finance lease .....	—	—	—	0.4	—
<b>Sub-total Finance lease debt</b> .....				<b><u>58.1</u></b>	
<b>Total financial debt, excluding accrued interests and bank overdrafts</b> .....				<b><u>2,840.5</u></b>	

- **Financial debt by currency**

	December 31,		
	2017	2016	2015
	(In millions of US\$)		
US dollar	1,756.7	1,879.3	1,873.8
Euro	1,083.8	935.2	985.5
Other currencies	—	—	—
<b>Total financial debt, excluding accrued interests and bank overdrafts</b>	<b><u>2,840.5</u></b>	<b><u>2,814.5</u></b>	<b><u>2,859.3</u></b>

- **Financial debt by interest rate**

	December 31,		
	2017	2016	2015
	(In millions of US\$)		
Variable rates (average effective rate December 31, 2017: 6.76%, 2016: 5.13%, 2015: 5.05%)	807.9	820.9	783.9
Fixed rates (average effective rate December 31, 2017: 5.42%, 2016: 5.43%, 2015: 6.48%)	<u>2,032.6</u>	<u>1,993.6</u>	<u>2,075.4</u>
<b>Total financial debt, excluding accrued interests and bank overdrafts</b>	<b><u>2,840.5</u></b>	<b><u>2,814.5</u></b>	<b><u>2,859.3</u></b>

Variable interest rates are generally based on inter-bank offered rates of the related currency.

- **Analysis of financial covenants as of December 31, 2017**

The leverage ratio and interest cover ratio covenants in respect of our secured debt were not applicable as of December 31, 2017 as a result of waivers granted pursuant to the lock-up agreement signed by certain of the secured lenders on June 13, 2017 (see note 2 — “Significant events” for more information).

- **Acceleration of debt issuing fees amortization**

Following the approval of the draft safeguard plan by creditors’ committees in France on July 28, 2017 and the approval of Chapter 11 plan by creditors entitled to vote in the US late September, 2017, most of our current debt was settled on February 21, 2018 (see Note 2) through conversion into equity or new debt instruments under our financial restructuring plan. As a result, we have accelerated the amortization of the debt issuing fees. The related impact amounted to US\$22.6 million as of December 31, 2017.

- **Term loans**

The outstanding value at December 31, 2017, is US\$337.4 million net of issuing fees.

On November 19, 2015, CGG S.A. announced that its subsidiary, CGG Holding (U.S.) Inc. (“CGG US”), launched an Exchange Offer in relation to CGG S.A.’s 7.75% Senior Notes due 2017, 6.50% Senior Notes due 2021 and 6.875% Senior Notes due 2022 (the Notes). CGG US offered senior secured term loans (Term Loans) in exchange for any and all of the 7.75% Senior Notes due 2017 and a combined total of up to US\$135 million of the 6.5% Senior Notes due 2021 and/or 6.875% Senior Notes due 2022 if accompanied by the concurrent tender of an equal or greater corresponding amount of the 7.75% Senior Notes due 2017. US\$135 million of the 7.75% Senior Notes due 2017 was outstanding as of September 30, 2015.

On December 18, 2015, CGG announced that:

- US\$126.7 million out of US\$135 million outstanding 2017 notes were replaced by a secured term loan due 2019.

- US\$45.1 million out of US\$650 million outstanding 2021 notes were replaced by a secured term loan due 2019.
- US\$80.4 million out of US\$500 million outstanding 2022 notes were replaced by a secured term loan due 2019.
- In addition of the Exchange Offer the €84.4 million Fugro loan was also replaced by a secured term loan due 2019 amounting to US\$90 million.

The Term Loans will mature on May 15, 2019 and bear an interest, at the option of the Company, of adjusted LIBOR plus 5.50% per annum or adjusted base rate plus 4.50% per annum. Adjusted LIBOR had a floor of 1.00% and adjusted base rate shall not be less than 2.00%.

The term loans are secured indebtedness ranking pari passu with the existing US and French Revolving Credit Facilities sharing the same security package encompassing notably the fleet streamers, the US Multi-Client Library, the shares of the main Sercel operating entities (Sercel SAS and Sercel Inc), the shares of significant GGR operating entities, and some intercompany loans.

- **High Yield bonds**

CGG S.A. issued several bonds in US dollar and euros, with maturities 2017 (fully redeemed), 2020, 2021 and 2022.

These notes are listed on the Luxembourg Stock Exchange; and are guaranteed on a senior basis by certain of our subsidiaries.

Those bonds include certain restrictive covenants, including limitations on additional indebtedness subscriptions, pledges arrangements, sales and lease-back transactions, issuance and sale of equity instruments and dividends payments by certain subsidiaries of the Group.

***High yield bonds — (US\$500 million, 6.875% Senior Notes, maturity 2022)***

Following the 2015 debt exchange offer, our outstanding Senior Notes due 2022 is US\$419.6 million (see Term Loans above).

On May 1, 2014, we issued US\$500 million principal amount of our 6.875% Senior Notes due 2022.

The Senior Notes were issued at a price of 100% of their principal amount. We used the net proceeds from the notes to redeem the entire US\$225 million outstanding principal amount of our 9.50% Senior Notes due 2016 and to repay US\$265 million in principal amount of our 7.75% Senior Notes due 2017.

***High Yield bonds — (US\$71 million, 6.50% Senior Notes, maturity 2021)***

On January 20, 2017, CGG entered into agreements to substantially reduce the cash burden of the charter agreements in respect of three cold-stacked seismic vessels. As part of the agreements to settle those amounts on a non-cash basis, CGG issued US\$58.6 million of its 2021 Notes bearing a 6.5% interest to the relevant charter counterparties. On March 13, 2017, CGG entered into an agreement to substantially reduce the cash burden of the charter agreement in respect of the “Oceanic Champion”, an active seismic vessel. As part of the agreements to settle those amounts on a non-cash basis, CGG issued US\$12.1 million of its 2021 Notes bearing a 6.5% interest to the relevant charter counterparties.

***High Yield bonds — (US\$650 million, 6.50% Senior Notes, maturity 2021)***

Following the 2015 debt exchange offer, our outstanding Senior Notes due 2021 was US\$604.9 million (see Term Loans above).

On May 31, 2011, we issued US\$650 million principal amount of 6.50% Senior Notes due June 1, 2021.

The Senior Notes were issued at a price of 96.45% of their principal amount, resulting in a yield of 7%. We used the net proceeds of the issuance to redeem the remainder of our US\$530 million 7.50% Senior Notes due May 2015 and to repay in full the US\$508 million outstanding under our term loan B facility.

***High yield bonds — (€400 million, 5.875% Senior Notes, maturity 2020)***

On April 23, 2014, we issued €400 million (or US\$546.3 million, converted at historical closing exchange rate of US\$1.3658) principal amount of our 5.875% Senior Notes due 2020.

The Senior Notes were issued at a price of 100% of their principal amount. We used the net proceeds from the notes to fully repurchase our 1.75% convertible bonds due 2016 amounting to €360 million. The remaining net proceeds were used to reimburse the €28.1 million installment of the vendor loan granted by Fugro due in 2015.

***High Yield bonds — (US\$400 million, 7.75% Senior Notes, maturity 2017)***

On February 24, 2017, we discharged and satisfied in full the indenture in respect of the US\$8.3 million outstanding principal amount of our 7.75% senior notes due 2017.

Following the 2015 debt exchange offer, our outstanding Senior Notes due 2017 was US\$8.3 million (see Term Loans above).

On June 2, 2014, we redeemed US\$265 million of our 7.75% Senior Notes due 2017. This redemption was financed through the US\$500 million Senior Notes issuance described above. The notes were redeemed at 101.292% of their principal amount.

On February 9, 2007, we issued US\$400 million of 7.75% Senior Notes due 2017. We used the net proceeds from the notes to repay one part of US\$700 million outstanding under the bridge loan facility used to finance Veritas acquisition.

- **Convertible bonds**

***Convertible bonds — (€325 million, 1.75% Senior Notes, maturity 2020)***

As of December 31, 2017 the debt related to 2020 convertible bonds amounted to €296.7 million (or US\$355.8 million).

Following the reverse split and the change of nominal value of ordinary shares that occurred in 2017 (see note 15) the conversion ratio was 0.044 CGG share per one bond.

In May 2015, CGG initiated a simplified public exchange offer for its outstanding 11,200,995 bonds convertible into and/or exchangeable for new or existing share of the Company (convertible bonds) due 2019, with the intention to issue new convertible bonds due 2020 at a ratio of five 2020 convertible bonds for two 2019 convertible bonds tendered into the offer.

On June 26, 2015, holders exchanged 90.3% of the principal amount of the existing 2019 convertible bonds (or 10,114,014 bonds). In consideration, CGG issued 25,285,035 convertible bonds maturing on January 1, 2020 for a total nominal amount of €325.1 million (or US\$363.7 million converted at the historical closing exchange rate of US\$1.1189).

The 2020 convertible bonds' nominal value was set at €12.86 per bond (versus €32.14 for the 2019 convertible bonds). The new bonds bear interest at a rate of 1.75% payable semi-annually in arrears on January 1 and July 1 of each year (versus 1.25% for the 2019 convertible bonds). The bonds entitle the holders to receive new and/or existing CGG shares at the ratio of one share per one bond, subject to adjustments. Under certain conditions, the bonds may be redeemed prior to maturity at our option.

As of June 30, 2015, as a result of this transaction, we derecognized the financial liability and equity components related to the 2019 convertible bonds that were exchanged and we recognized the 2020 convertible bonds at their fair value. The impact of the transaction on the net income of the period was not significant. The impact on equity amounted to US\$8.5 million, net of taxes. The financial liability component was assessed using a 6.63% interest rate and amounted to €265.4 million (or US\$296.9 million).

***Convertible bonds — (previously €360 million, now €35 million, 1.25% Senior Notes, maturity 2019)***

As of December 31, 2017 the debt related to 2019 convertible bonds amounted to €33.5 million (or US\$40.2 million).

Following the reverse split and the change of nominal value of ordinary shares that occurred in 2017 (see note 15) the conversion ratio was 0.044 CGG share per one bond.

As a result of the simplified public exchange offer (see *Convertible bonds —€360 million, 1.25% Senior Notes, maturity 2020* above), the outstanding amount of the financial liability that corresponds to the 2019 convertible bonds that were not exchanged amounted to €30.3 million (or US\$34 million) in the consolidated statement of financial position as of December 31, 2015.

On November 20, 2012, we issued 11,200,995 bonds convertible into and/or exchangeable for new or existing shares of our company to be redeemed on January 1, 2019 for a total nominal amount of €360 million. We used the net proceeds of the issuance to finance a portion of the €1.2 billion acquisition price for Fugro Geoscience.

The bonds' nominal value was set at €32.14 per bond, representing an issue premium of 40% of the CGG's reference share price on the regulated market of NYSE Euronext in Paris. The bonds bear interest at a rate of 1.25% payable semi-annually in arrears on January 1 and July 1 of each year. The bonds entitle the holders to receive new and/or existing CGG shares at the ratio of one share per one bond, subject to adjustments. Under certain conditions, the bonds may be redeemed prior to maturity at our option.

As of November 20, 2012, the financial liability component was US\$359 million (€277 million) and the equity component was US\$98 million (€75 million), net of issuing fees. The fair value of the financial liability was assessed using a 5.47% interest rate.

- **Credit facilities**

Analysis of authorized credit lines as of December 31, 2017 is as follows:

	<u>Date</u>	<u>Maturity</u>	<u>Used amount</u>
	(In millions of US\$)		
US Revolving facility . . . . .	2013	2018	161.9
French Revolving facility . . . . .	2013	2018	309.5
<b>Total credit facilities before issuing fees . . . . .</b>			<b><u>471.4</u></b>

***US\$165 million Revolving Credit Agreement (US revolving facility)***

On July 15, 2013, we entered into a new US revolving credit facility of up to US\$165 million with a five-year maturity.

***US\$325 million Revolving Credit Agreement (French revolving facility)***

On July 24, 2014, we extended the maturity of our French revolving credit facility. Our French revolving credit facility is now US\$300 million until July 31, 2017 and US\$275 million from July 31, 2017.

On July 31, 2013, we entered into a new French revolving credit facility of up to US\$325 million with a three-year maturity with two extension options of one year each.

***Nordic revolving facility***

See bank loans below

• **Bank loans**

***US\$250 million Nordic credit facility***

The “Fleet ownership changes” transaction (see note 2 “Significant events”) led to a reduction of the gross debt of the Group of US\$182.5 million, corresponding to the principal amount of loans under the Nordic credit facility outstanding as of March 31, 2017.

On December 16, 2014, we completed the amendment and extension of our Nordic credit facility. The credit amount was increased from US\$175 million to US\$250 million and the maturity extended from May 2018 to December 2019. The new amount is split into a US\$100 million authorized revolving facility and a US\$150 million term loan. We entered into an interest rate swap to fix the annual rate at 4.3%.

On July 1, 2013, we entered into a five-year US\$200 million financing secured by vessel assets, split into two tranches of US\$100 million each, the proceeds of which were used in part to reimburse the 2013 tranche of the vendor loan granted by Fugro. We entered into an interest rate swap to fix the annual effective rate at 4.4%.

***US\$25 million streamer financing***

The outstanding value at December 31, 2017, is US\$0.6 million.

On September 29, 2014, the US\$25 million streamer financing line was reduced to US\$12.5 million and further reduced to US\$6.3 million on December 18, 2014, in line with the reduction of the capital expenditures and the fleet.

On December 19, 2013, we signed a loan agreement for a maximum amount of US\$25 million with multiple drawings. This loan is dedicated to finance the acquisition of marine equipment to be delivered in up to twelve monthly lots over a period of one year. On December 30, 2014, we entered into an interest rate swap to fix the annual rate at 3.6%. This loan is to be reimbursed over five years after the deadline for drawing.

***US\$45 million Secured Term Loan Facility***

On February 12, 2016, we fully repaid our US\$45 million Secured Term Loan Facility.

On January 13, 2011, Exploration Vessel Resources II AS entered into a US\$45 million credit facility secured by a pledge over the seismic vessel *Geowave Voyager*.



- **Other loans**

***Vendor loan granted by Fugro***

Following the 2015 debt exchange offer, Fugro vendor loan has been fully replaced by secured term loans due 2019 (see above).

On December 22, 2014, Fugro and CGG amended the Vendor loan including to the effect that 50% of the repayment scheduled on January 31, 2016 to be repaid by CGG on or before January 31, 2017 and the other 50% to be repaid on or before January 31, 2018 (i.e. €42.2 million payable on or before each of January 31, 2017 and January 31, 2018).

On June 27, 2014 we early redeemed the €28.1 million (or US\$38.6 million converted at historical average exchange rate of US\$1.3726) tranche annual repayment due on January 31, 2015. This redemption was financed with a portion of the proceeds from the €400 million Senior Notes due 2020 issued in April 2014.

On August 21, 2013, we repaid an amount of €112.5 million under the vendor loan to Fugro.

In connection with the Fugro’s Geoscience Division acquisition, Fugro granted to us, on January 31, 2013, a €125 million vendor loan with a year maturity bearing an interest rate of 5.5% per annum, which was increased to €225 million at the date of effective acquisition of the Airborne business.

**NOTE 14 — FINANCIAL INSTRUMENTS**

Because we operate internationally, we are exposed to general risks linked to operating abroad. Our major market risk exposures are changing interest rates and currency fluctuations. We do not enter into or trade financial instruments including derivative financial instruments for speculative purposes. Please also refer to Item 3 and Item 11 of our annual report for qualitative information.

- **Foreign currency risk management**

As a company that derives a substantial amount of its revenue from sales internationally, we are subject to risks relating to fluctuations in currency exchange rates. Our revenues and expenses are mainly denominated in US dollars and euros, and to a significantly lesser extent, in Canadian dollars, Brazilian reals, Australian dollars, Norwegian kroner, British pounds and Chinese yuan.

***Foreign currency sensitivity analysis***

Fluctuations in the exchange rate of other currencies, particularly the euro, against the U.S. dollar, have had in the past and will have in the future a significant effect upon our results of operations. We attempt to reduce the risks associated with such exchange rate fluctuations through our hedging policy. We cannot assure you that fluctuations in the values of the currencies in which we operate will not materially adversely affect our future results of operations.

As of December 31, 2017, we estimate our annual fixed needs in euros to be approximately €350 million and as a result, an unfavorable variation of US\$0.10 in the average yearly exchange rate between the US dollar and the euro would reduce our operating income and our shareholders’ equity by approximately US\$35 million. See “*Item 3 — Market and Other Risks — We are exposed to exchange rates fluctuations.*”

The following table shows our exchange rate exposure as of December 31, 2017:

	<u>Assets</u>	<u>Liabilities</u>	<u>Currency commitments</u>	<u>Net position before hedging</u>	<u>Off-balance sheet positions</u>	<u>Net position after hedging</u>
<i>(Converted in millions of US\$)</i>	(a)	(b)	(c)	(d) = (a) - (b) ± (c)	(e)	(f) = (d) + (e)
US\$ <sup>(1)</sup> .....	1,469.6	1,869.9	—	(400.3)	—	(400.3)

(1) *US\$-denominated assets and liabilities in the entities whose functional currency is the euro.*

<i>(In millions of US\$)</i>	<u>Assets</u>	<u>Liabilities</u>	<u>Currency commitments</u>	<u>Net position before hedging</u>	<u>Off-balance sheet positions</u>	<u>Net position after hedging</u>
	(a)	(b)	(c)	(d) = (a) – (b) ± (c)	(e)	(f) = (d) + (e)
EUR <sup>(1)</sup> .....	71.9	167.7	—	(95.8)	—	(95.8)

(1) *Euro-denominated assets and liabilities in the entities whose functional currency is the US\$.*

“Gross financial debt” is the amount of bank overdrafts, plus current portion of financial debt, plus financial debt, and “net financial debt” is gross financial debt less cash and cash equivalents. Net financial debt is presented as additional information because we understand that certain investors believe that netting cash against debt provides a clearer picture of our financial liability exposure. However, other companies may present net financial debt differently than we do. Net financial debt is not a measure of financial performance under IFRS and should not be considered as an alternative to any other measures of performance derived in accordance with IFRS.

Our financial debt is partly denominated in euro and converted in US dollars at the closing exchange rate. As of December 31, 2017, our US\$2,640 million of net financial debt included a part of debt denominated in euro of €917 million based on the closing exchange rate of US\$1.1993.

From one year end closing to another, a variation of US\$0.10 in the closing exchange rate between the US dollar and the euro would impact our net debt by approximately US\$92 million.

#### ***Foreign forward exchange contracts***

Forward exchange transactions are aimed at hedging future cash flows against rate fluctuation in relation with awarded commercial contracts.

As of December 31, 2017 we have no forward exchange contracts outstanding.

Effects of forward exchange contracts on financial statements are as follows:

	<u>December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
	<u>(In millions of US\$)</u>		
Carrying value of forward exchange contracts (see notes 5 and 12) .....	—	—	(0.7)
Gains (losses) recognized in profit and loss (see note 21) .....	—	0.2	(2.5)
Gains (losses) recognized directly in equity .....	—	(0.2)	1.1

- **Interest rate risk management**

Our policy is to manage interest rates through maximization of the proportion of fixed rate debt. As of December 31, 2017, 72% of our debt consisted of fixed-rate bonds, high-yield bonds and convertible bonds, along with some fixed-rate finance leases. This debt is not exposed to interest rate fluctuations. Financial debt with variable rate is made of our US and French revolving credit facilities and US Term Loan whose interest rates are reset at each interest period (generally 3 months). As a result, a portion of our interest expenses vary in line with movements in short-term interest rates.

### Interest rate sensitivity analysis

The following table shows our variable interest rate exposure by maturity as of December 31, 2017.

12.31.2017  In millions US\$	Financial assets(*)		Financial liabilities(*)		Net position before hedging		Off-balance sheet position		Net position after hedging	
	(a)		(b)		(c) = (a) - (b)		(d)		(e) = (c) + (d)	
	Fix rate	Variable rate	Fix rate	Variable rate	Fix rate	Variable rate	Fix rate	Variable rate	Fix rate	Variable rate
Overnight to 1 year . . . . .	98	156	1,981	809	(1,883)	(653)	—	—	(1,883)	(653)
1 to 2 years . . . . .	—	—	12	—	(12)	—	—	—	(12)	—
3 to 5 years . . . . .	—	—	41	—	(41)	—	—	—	(41)	—
More than 5 years . . . . .	—	—	—	—	—	—	—	—	—	—
<b>Total . . . . .</b>	<b>98</b>	<b>156</b>	<b>2,034</b>	<b>809</b>	<b>(1,936)</b>	<b>(653)</b>	<b>—</b>	<b>—</b>	<b>(1,936)</b>	<b>(653)</b>

(\*) Excluding bank overdrafts, accrued interest, and issuing fees.

Our sources of liquidity include credit facilities and debt securities which are or may be subject to variable interest rates. As a result, our interest expenses could increase if short-term interests' rates increase. The sensitivity analysis is based on a net liability exposure of US\$653 million. Our variable interest rate indebtedness carried an average interest rate of 6.8% in 2017, and our investments and other financial assets earned interest at an average rate of 1.4%. Each 100 basis points increase would increase our interest expenses by US\$6.5 million per year and each 100 basis point decrease in this rate would decrease our interest expenses by US\$6.5 million per year.

The following table shows our variable interest rate exposure over our financial assets and liabilities as of December 31, 2017:

	December 31, 2017	
	Impact on result before tax	Impact on shareholders' equity before tax
	(In millions of US\$)	
Impact of an interest rate increase of 100 basis points . . . . .	(6.5)	(6.5)
Impact of an interest rate decrease of 100 basis points . . . . .	6.5	6.5

- Credit risk management

We seek to minimize our counter-party risk by entering into hedging contracts only with well rated commercial banks or financial institutions and by distributing the transactions among the selected institutions. Although our credit risk is the replacement cost at the then-estimated fair value of the instrument, we believe that the risk of incurring losses is remote and those losses, if any, would not be material.

Our receivables and investments do not represent a significant concentration of credit risk due to the wide variety of customers and markets in which we sell our services and products and our presence in many geographic areas. Specific procedures have been put in place to monitor customers' payments and reduce risks. In 2017, the Group's two most significant customers accounted for 10.4% and 8.6% of the Group's consolidated revenues compared with 6.7% and 6.4% in 2016 and 5.0% and 4.9% in 2015.

- Liquidity risk management

See note "1.3 Going concern assumption" for a discussion on our going concern assumptions.

See "Item 3: Key Information — Risks related to our indebtedness" for a discussion on our indebtedness and our covenants.

- **Financial instruments by categories in the Statement of financial position**

The impact and the breakdown of the Group's financial instruments in the statement of financial position as of December 31, 2017 are as follows:

		December 31, 2017						
	Fair value hierarchy <sup>(1)</sup>	Carrying Amount	Fair Value	Fair value in income statement	Available-for-sale assets	Loans, receivables	Debts at amortized cost	Derivatives
(In millions of US\$)								
Non-consolidated investments	Level 3	3.8	3.8	—	3.8	—	—	—
Financial and non-current assets						58.8	—	—
Notes receivables	Level 3	522.6	522.6	—	—	522.6	—	—
Financial instruments	Level 2	—	—	—	—	—	—	—
Cash equivalents	Level 2	85.8	85.8	85.8	—	—	—	—
Cash	Level 2	229.6	229.6	229.6	—	—	—	—
<b>Total assets</b>		<b>900.6</b>	<b>900.6</b>	<b>315.4</b>	<b>3.8</b>	<b>581.4</b>	<b>—</b>	<b>—</b>
Financial debts (see note 13)	Level 2	2,840.5	2,023.8	—	—	—	2,023.8	—
Bank overdraft facilities	Level 2	0.2	0.2	0.2	—	—	—	—
Notes payables	Level 3	169.9	169.9	—	—	169.9	—	—
Financial instruments	Level 2	—	—	—	—	—	—	—
<b>Total liabilities</b>		<b>3,010.6</b>	<b>2,193.9</b>	<b>0.2</b>	<b>—</b>	<b>169.9</b>	<b>2,023.8</b>	<b>—</b>

- <sup>(1)</sup> *Level 1 — Quoted (unadjusted) market prices in active markets for identical assets or liabilities*  
*Level 2 — Valuation techniques for which the lowest level input that is significant to the fair value measurement is directly or indirectly observable*  
*Level 3 — Valuation techniques for which the lowest level input that is significant to the fair value measurement is unobservable*

There was no change of fair value hierarchy in 2017 compared to previous years.

Due to their short maturities, the fair value of cash, cash equivalents, trade receivables and trade payables is considered as being equivalent to carrying value.

As of December 31, 2017:

- The Senior Notes 2020 were traded at a price reflecting a discount of 53.4% of their nominal value;
- The Senior Notes 2021 were traded at a price reflecting a discount of 52.9% of their nominal value;
- The Senior Notes 2022 were traded at a price reflecting a discount of 52.5% of their nominal value;
- The Convertible Bonds 2019 were traded at a price reflecting a discount of 31.3% of their nominal value;
- The Convertible Bonds 2020 were traded at a price reflecting a discount of 82.7% of their nominal value;
- We used the price quotation at the reporting date of our Term loans (source: Bank of America: 101.6% of the par) to estimate the fair value of our secured debt (our revolving credit facilities and our term loans).

#### NOTE 15 — COMMON STOCK AND STOCK OPTION PLANS

The Company's share capital at December 31, 2017 consisted of 22,133,149 shares, each with a nominal value of €0.80 and 22,133,149 as of December 31, 2016 and 5,533,287 as of December 31, 2015.

## **Rights and privileges related to ordinary shares**

Ordinary shares give right to dividend. Ordinary shares registered held for more than two years give a double voting right.

Dividends may be distributed from the statutory retained earnings, subject to the requirements of French law and the Company's articles of incorporation.

Retained earnings available for distribution amounted to €255.1 million (US\$305.9 million) at December 31, 2017. We did not pay any dividend during the years ended December 31, 2017, 2016 and 2015.

## **Issued shares**

CGG increased its share capital through the distribution of preferential subscription rights to existing shareholders launched on January 13, 2016. The final gross proceeds amounted to €350,589,080.16, corresponding to the issuance of 531,195,576 new shares. The net proceeds of the issuance amounted to €337 million (or US\$367.5 million) and were used to reinforce the shareholders' equity of CGG and improve its liquidity as it finances its Transformation Plan.

The transaction was fully underwritten (excluding the Bpifrance Participations and IFP Energies Nouvelles subscription commitments) by a syndicate of banks. The fees and costs related to this transaction amounted to €13 million (US\$14 million).

The listing of the new shares on the regulated market of Euronext Paris (Segment B) on the same line as the existing shares (FR0000120164) took place on February 5, 2016. As from that date, the share capital of CGG was composed of 708,260,768 shares with a nominal value of €0.40 each, for a total nominal share capital of €283,304,307.20.

For information on our February 21, 2018 capital increase, please refer to note 2.

## **Reverse stock split**

The Company carried out on July 20, 2016 the reverse stock split that the Combined General Shareholders' Meeting approved on May 27, 2016. All shareholders received one new share (with all rights pertaining to shares), in exchange for 32 former shares. The first share price on July 20 was calculated on the basis of the last share price traded on July 19 (€0.69) multiplied by 32.

The listing of the new shares on the regulated market of Euronext Paris (Segment B) on a new line (FR0013181864) took place on July 20, 2016. As from that date, the share capital of CGG was composed of 22,133,149 shares with a nominal value of €12.80 each, for a total nominal share capital of €283,304,307.20.

## **Change of nominal value of ordinary shares**

The Company carried out on August 11, 2016 the change of nominal value of ordinary shares that the Combined General Shareholders' Meeting approved on May 27, 2016. The Company's share capital was reduced by €265,597,788 (or US\$304.1 million at historical exchange rate) to bring it down from €283,304,307.20 to €17,706,519 (or US\$20.3 million) by reducing the nominal value of the Company's shares after realization of the reverse split from €12.80 to €0.80.

The amount of €265,597,788, corresponding to the share capital reduction, was allocated in full to the "additional paid in capital" account.

## Stock options

Pursuant to various resolutions adopted by the Board of Directors, the Group has granted options to purchase Ordinary Shares to certain employees, Executive Officers and Directors of the Group.

On January 6, 2010, the Board of Directors allocated 220,000 stock options to one beneficiary pursuant to a shareholders' resolution. The exercise price of the stock options is €14.71. The stock options expire on January 6, 2018. 110,000 of these stock options vested immediately, 55,000 vested as of January 7, 2011 and 55,000 vested as of January 7, 2012.

On March 22, 2010, the Board of Directors allocated:

- 1,348,150 stock options to 338 beneficiaries pursuant to a shareholders' resolution. The exercise price of the stock options is €19.44. The stock options expire on March 22, 2018. Rights to these options vested by one-third during each of the first three years of the plan;
- 200,000 stock options to the Chairman and Chief Executive Officer. Their exercise price is €19.44. Rights to these options vest by one-third during each of the first three years of the plan. Such vesting is subject to performance conditions based on the fulfillment of one of the following objectives:
  - A share price performance objective relative to the share price considering the SBF 120 index;
  - A share price performance objective relative to the ADS price considering the PHLX Oil Services Sector<sup>SM</sup> (OSX<sup>SM</sup>) index; or
  - A financial indicator in the form of an EBITDAS objective expressed in US dollars and related to the target for the annual variable part of compensation of the Chairman and Chief Executive Officer.

On October 21, 2010, the Board of Directors allocated 120,000 stock options to three beneficiaries pursuant to a shareholders' resolution. The exercise price of the stock options is €16.88. The plan expires on October 21, 2018. Rights to these options vested by one-third during each of the first three years of the plan.

On March 24, 2011, the Board of Directors allocated:

- 964,363 stock options to 364 beneficiaries pursuant to a shareholders' resolution. The exercise price of the stock options is €25.48. The stock options expire on March 24, 2019. Rights to these options vest by one-third during each of the first three years of the plan;
- 66,667 stock options to the Chairman and 133,333 stock options to the Chief Executive Officer. Their exercise price is €25.48. Rights to these options vest by one-third during each of the first three years of the plan. Such vesting is subject to performance conditions based on the fulfillment of one of the following objectives:
  - A share price performance objective relative to the share price considering the SBF 120 index;
  - A share price performance objective relative to the ADS price considering the PHLX Oil Service Sector<sup>SM</sup> (OSX<sup>SM</sup>) index; or
  - A financial indicator in the form of an EBITDAS objective expressed in US dollars and related to the target for the annual variable part of compensation of the Chairman and of the Chief Executive Officer.

The exercise price of each option is the average market value of the share during the 20-day period ending the day before the date the option is allocated.

On June 26, 2012, the Board of Directors allocated:

- 590,625 stock options to certain employees. Their exercise price is €18.77. The options vest in three batches, in June 2014 (for 50% of the options allocated), June 2015 (for 25% of the options allocated) and June 2016 (for 25% of the options allocated). The options have an eight-year duration.

- 420,000 stock options to the Executive Committee. Their exercise price is €18.77. The options vest in three batches, in June 2014 (for 50% of the options allocated), June 2015 (for 25% of the options allocated) and June 2016 (for 25% of the options allocated). The options have an eight-year duration. Such vesting is subject to performance conditions based on the fulfillment of the following objectives:
  - A share price performance objective relative to the share price considering the SBF 120 index;
  - A share price performance objective relative to the ADS price considering the PHLX Oil Service Sector<sup>SM</sup> (OSX<sup>SM</sup>) index;
  - A financial indicator in the form of an EBITDAS objective expressed in US dollars and related to the target for the annual variable part of compensation of the Executive Committee members;
  - A share price performance objective relative to the share price increase over the vesting period.
- 200,000 stock options to the Chief Executive Officer and 100,000 to each of the Corporate Officers. Their exercise price is €18.77. The options vest in three batches, in June 2014 (for 50% of the options allocated), June 2015 (for 25% of the options allocated) and June 2016 (for 25% of the options allocated). The options have an eight-year duration. Such vesting is subject to performance conditions based on the fulfillment of the following objectives:
  - A share price performance objective relative to the share price considering the SBF 120 index;
  - A share price performance objective relative to the ADS price considering the PHLX Oil Service Sector<sup>SM</sup> (OSX<sup>SM</sup>) index;
  - A financial indicator in the form of an EBITDAS objective expressed in US dollars and related to the target for the annual variable part of compensation of the Chief Executive Officer and Corporate Officers;
  - A share price performance objective relative to the share price increase over the vesting period.

The exercise price of each option is the average market value of the share during the 20-day period ending the day before the date the option is allocated.

On June 24, 2013, the Board of Directors allocated:

- 1,062,574 stock options to certain employees. Their exercise price is €18.47. The options vest in three batches, in June 2015 (for 50% of the options allocated), June 2016 (for 25% of the options allocated) and June 2017 (for 25% of the options allocated). The options have an eight-year duration.
- 200,000 stock options to the Chief Executive Officer and 100,000 to each of the Corporate Officers. Their exercise price is €18.47. The options vest in three batches, in June 2015 (for 50% of the options allocated), June 2016 (for 25% of the options allocated) and June 2017 (for 25% of the options allocated). The options have an eight-year duration. Such vesting is subject to performance conditions based on the fulfillment of the following objectives:
  - A share price performance objective relative to the share price considering the SBF 120 index;
  - A share price performance objective relative to the ADS price considering the PHLX Oil Service Sector<sup>SM</sup> (OSX<sup>SM</sup>) index;
  - A financial indicator in the form of an EBITDAS objective expressed in US dollars and related to the target for the annual variable part of compensation of the Chief Executive Officer and Corporate Officers;
  - A share price performance objective relative to the share price increase over the vesting period.
- 180,000 stock options to the other Corporate Committee members. Their exercise price is €18.47. The options vest in three batches, in June 2015 (for 50% of the options allocated), June 2016 (for 25% of



the options allocated) and June 2017 (for 25% of the options allocated). The options have an eight-year duration. Such vesting is subject to performance conditions based on the fulfillment of the following objectives:

- A share price performance objective relative to the share price considering the SBF 120 index;
- A share price performance objective relative to the ADS price considering the PHLX Oil Service Sector<sup>SM</sup> (OSX<sup>SM</sup>) index;
- A financial indicator in the form of an EBITDAS objective expressed in US dollars and related to the target for the annual variable part of compensation of the Corporate Committee members;
- A share price performance objective relative to the share price increase over the vesting period.

The exercise price of each option is the average market value of the share during the twenty-day period ending the day before the date the option is allocated.

On June 26, 2014, the Board of Directors allocated:

- 1,135,843 stock options to certain employees. Their exercise price is €10.29. The options vest in three batches, in June 2016 (for 50% of the options allocated), June 2017 (for 25% of the options allocated) and June 2018 (for 25% of the options allocated). The options have an eight-year duration.
- 200,000 stock options to the Chief Executive Officer and 100,000 to each of the Corporate Officers. Their exercise price is €10.29. The options vest in three batches, in June 2016 (for 50% of the options allocated), June 2017 (for 25% of the options allocated) and June 2018 (for 25% of the options allocated). The options have an eight-year duration. Such vesting is subject to performance conditions based on the fulfillment of the following objectives:
  - A share price performance objective relative to the share price considering the SBF 120 index;
  - A share price performance objective relative to the ADS price considering the PHLX Oil Service Sector<sup>SM</sup> (OSX<sup>SM</sup>) index;
  - A financial indicator in the form of an EBITDAS objective expressed in US dollars and related to the target for the annual variable part of compensation of the Chief Executive Officer and Corporate Officers;
  - A share price performance objective relative to the share price increase over the vesting period.
- 120,000 stock options to the other Corporate Committee members. Their exercise price is €10.29. The options vest in three batches, in June 2016 (for 50% of the options allocated), June 2017 (for 25% of the options allocated) and June 2018 (for 25% of the options allocated). The options have an eight-year duration. Such vesting is subject to performance conditions based on the fulfillment of the following objectives:
  - A share price performance objective relative to the share price considering the SBF 120 index;
  - A share price performance objective relative to the ADS price considering the PHLX Oil Service Sector<sup>SM</sup> (OSX<sup>SM</sup>) index;
  - A financial indicator in the form of an EBITDAS objective expressed in US dollars and related to the target for the annual variable part of compensation of the Corporate Committee members;
  - A share price performance objective relative to the share price increase over the vesting period.

The exercise price of each option is the average market value of the share during the 20-day period ending the day before the date the option is allocated.

On June 25, 2015, the Board of Directors allocated:

- 1,168,290 options to certain employees. Their exercise price is €6.01. The options vest in three batches, in June 2017 (for 50% of the options allocated), June 2018 (for 25% of the options allocated) and June 2019 (for 25% of the options allocated). The options have an eight-year duration.
- 220,600 options to the Chief Executive Officer and 111,000 to each of the Corporate Officers. Their exercise price is €6.01. The options vest in three batches, in June 2017 (for 50% of the options allocated), June 2018 (for 25% of the options allocated) and June 2019 (for 25% of the options allocated). The options have an eight-year duration. Such vesting is subject to performance conditions based on the fulfillment of the following objectives:
  - A share price performance objective relative to the share price considering the SBF 120 index;
  - A share price performance objective relative to the ADS price considering the PHLX Oil Service Sector<sup>SM</sup> (OSX<sup>SM</sup>) index;
  - A financial indicator in the form of an EBITDAS objective expressed in US dollars and related to the target for the annual variable part of compensation of the Chief Executive Officer and Corporate Officers;
  - A share price performance objective relative to the share price increase over the vesting period.
- 159,000 options to the other Corporate Committee members. Their exercise price is €6.01. The options vest in three batches, in June 2017 (for 50% of the options allocated), June 2018 (for 25% of the options allocated) and June 2019 (for 25% of the options allocated). Such vesting is subject to performance conditions. The options have an eight-year duration. Such vesting is subject to performance conditions based on the fulfillment of the following objectives:
  - A share price performance objective relative to the share price considering the SBF 120 index;
  - A share price performance objective relative to the ADS price considering the PHLX Oil Service Sector<sup>SM</sup> (OSX<sup>SM</sup>) index;
  - A financial indicator in the form of an EBITDAS objective expressed in US dollars and related to the target for the annual variable part of compensation of the Corporate Committee members;
  - A share price performance objective relative to the share price increase over the vesting period.

The exercise price of each option is the average market value of the share during the twenty-day period ending the day before the date the option is allocated.

On June 23, 2016, the Board of Directors allocated:

- 4,126,368 options to certain employees. Their exercise price is €0.68. The options vest in three batches, in June 2018 (for 50% of the options allocated), June 2019 (for 25% of the options allocated) and June 2020 (for 25% of the options allocated). The options have an eight-year duration.
- 882,400 options to the Chief Executive Officer and 444,000 to each of the Corporate Officers. Their exercise price is €0.68. The options vest in three batches, in June 2018 (for 50% of the options allocated), June 2019 (for 25% of the options allocated) and June 2020 (for 25% of the options allocated). The options have an eight-year duration. Such vesting is subject to performance conditions based on the fulfillment of the following objectives:
  - A share price performance objective relative to the share price considering the SBF 120 index;
  - A share price performance objective relative to the ADS price considering the PHLX Oil Service Sector<sup>SM</sup> (OSX<sup>SM</sup>) index;

- A financial indicator in the form of an EBITDAS objective expressed in US dollars and related to the target for the annual variable part of compensation of the Chief Executive Officer and Corporate Officers;
- A share price performance objective relative to the share price increase over the vesting period.
- 318,080 options to the other Corporate Committee members. Their exercise price is €0.68. The options vest in three batches, in June 2018 (for 50% of the options allocated), June 2019 (for 25% of the options allocated) and June 2020 (for 25% of the options allocated). The options have an eight-year duration. Such vesting is subject to performance conditions based on the fulfillment of the following objectives:
  - A share price performance objective relative to the share price considering the SBF 120 index;
  - A share price performance objective relative to the ADS price considering the PHLX Oil Service Sector<sup>SM</sup> (OSX<sup>SM</sup>) index;
  - A financial indicator in the form of an EBITDAS objective expressed in US dollars and related to the target for the annual variable part of compensation of the Corporate Committee members;
  - A share price performance objective relative to the share price increase over the vesting period.

The exercise price of each option is the average market value of the share during the twenty-day period ending the day before the date the option is allocated.

Information related to options outstanding at December 31, 2017 is summarized below:

<b>Date of Board of Directors' Resolution</b>	<b>Options granted</b>	<b>Options granted after capital operations<sup>(a)</sup></b>	<b>Options outstanding at Dec. 31, 2017<sup>(b) (c) (d)</sup></b>	<b>Exercise price per share (€)<sup>(b) (c) (d)</sup></b>	<b>Expiration date</b>	<b>Remaining duration</b>
January 06, 2010 . . . .	220,000	8,668	8,668	373.44	January 06, 2018	0.2 months
March 22, 2010 . . . . .	1,548,150	60,980	51,394	493.44	March 22, 2018	2.7 months
October 21, 2010 . . . .	120,000	4,727	1,564	428.80	October 21, 2018	9.7 months
March 24, 2011 . . . . .	1,164,363	45,863	38,345	646.72	March 24, 2019	14.7 months
June 26, 2012 . . . . .	1,410,625	55,563	19,720	476.48	June 26, 2020	29.9 months
June 24, 2013 . . . . .	1,642,574	61,443	30,817	493.44	June 24, 2021	41.8 months
June 26, 2014 . . . . .	1,655,843	61,939	41,353	274.88	June 26, 2022	53.9 months
June 25, 2015 . . . . .	1,769,890	66,205	47,790	160.64	June 25, 2023	65.8 months
June 23, 2016 . . . . .	6,658,848	208,089	184,732	21.76	June 23, 2024	77.8 months
<b>Total . . . . .</b>	<b><u>16,190,293</u></b>	<b><u>573,477</u></b>	<b><u>424,383</u></b>			

<sup>(a)</sup> Options granted adjusted following 2012 and 2016 capital increases and 2016 reverse split

<sup>(b)</sup> Following the capital increase in October 2012, the stock options were adjusted as follows:

<b>Date of stock options</b>	<b>Adjustment of number of options as of October 23, 2012</b>	<b>Exercise price before adjustment per share (€)</b>	<b>Adjusted exercise price per share (€)</b>
January 06, 2010 . . . . .	231,538	14.71	13.98
March 22, 2010 . . . . .	1,430,622	19.44	18.47
October 21, 2010 . . . . .	126,291	16.88	16.05
March 24, 2011 . . . . .	1,150,636	25.48	24.21
June 26, 2012 . . . . .	1,483,424	18.77	17.84

(c) Following the capital increase in February 2016, the stock options were adjusted as follows:

<u>Date of stock options</u>	<u>Adjustment of number of options as of February 29, 2016</u>	<u>Exercise price before adjustment per share (€)</u>	<u>Adjusted exercise price per share (€)</u>
January 06, 2010 .....	277,370	13.98	11.67
March 22, 2010 .....	1,675,700	18.47	15.42
October 21, 2010 .....	100,072	16.05	13.40
March 24, 2011 .....	1,287,848	24.21	20.21
June 26, 2012 .....	1,061,569	17.84	14.89
June 24, 2013 .....	1,495,770	18.47	15.42
June 26, 2014 .....	1,782,127	10.29	8.59
June 25, 2015 .....	1,998,861	6.01	5.02

(d) Following the reverse split in July 2016, the stock options were adjusted as follows:

<u>Date of stock options</u>	<u>Adjustment of number of options as of July 20, 2016</u>	<u>Exercise price before adjustment per share (€)</u>	<u>Adjusted exercise price per share (€)</u>
January 06, 2010 .....	8,668	11.67	373.44
March 22, 2010 .....	52,183	15.42	493.44
October 21, 2010 .....	3,128	13.40	428.80
March 24, 2011 .....	40,167	20.21	646.72
June 26, 2012 .....	20,766	14.89	476.48
June 24, 2013 .....	43,238	15.42	493.44
June 26, 2014 .....	49,660	8.59	274.88
June 25, 2015 .....	63,013	5.02	160.64
June 23, 2016 .....	208,089	0.68	21.76

A summary of the Company's stock option activity, and related information for the years ended December 31, 2017 follows:

	<u>2017</u>		<u>2016</u>		<u>2015</u>	
	<u>Number of options</u>	<u>Weighted average exercise price</u>	<u>Number of options</u>	<u>Weighted average exercise price</u>	<u>Number of options</u>	<u>Weighted average exercise price</u>
	(weighted average exercise price in €)					
<b>Outstanding-beginning of year</b>	<b>510,837</b>	<b>235.86</b>	<b>10,043,037</b>	<b>16.14</b>	<b>10,696,143</b>	<b>19.31</b>
Granted .....	—	—	6,658,848	0.68	1,769,890	6.01
Adjustments followings the reverse split .....	—	—	(16,004,834)	235.79	—	—
Adjustments followings the capital increase .....	—	—	1,976,021	13.48	—	—
Exercised .....	—	—	—	—	—	—
Forfeited .....	(86,454)	216.91	(2,162,235)	274.26	(2,422,996)	22.75
<b>Outstanding-end of year</b> .....	<b>424,383</b>	<b>239.72</b>	<b>510,837</b>	<b>235.86</b>	<b>10,043,037</b>	<b>16.14</b>
Exercisable-end of year .....	205,418	443.16	209,618	450.25	6,018,303	20.11

The average price of CGG share was €5.74 in 2017, €20.33 in 2016, and €154.88 in 2015 after adjustment following the reverse stock split.

## Performance units

### *Allocation plan dated June 25, 2015*

On June 25, 2015, the Board of Directors implemented a performance units plan for a maximum amount of 712,300 performance units out of which 27,500 were allocated to the Chief Executive Officer, 12,500 were allocated to each of the Corporate Officers, 20,000 were allocated to the other Corporate Committee members and 639,800 were allocated to certain employees.

The performance units vest upon the expiry of a three-year period from the vesting date subject to a presence condition in the Group at the time of vesting and achievement of certain performance conditions. These performance conditions are based on the achievement of Group objectives related to the return on capital employed and statement of financial position structure along with achievement of the segments' financial objectives aligned with the Group strategic orientations over a three-year period.

The number of vested 2015 performance units is determined upon achievement of the Group objectives up to 60% of the global allocation. The balance will be acquired based on the achievement of the segments' objectives.

The valuation of each vested 2015 performance unit shall be equal to the average closing prices of the CGG share on Euronext over the five trading days prior to the vesting date. The vested performance units will be paid half in cash and half in existing CGG shares.

### *Allocation plan dated June 23, 2016*

On June 23, 2016, the Board of Directors implemented a performance units plan for a maximum amount of 2,566,880 performance units out of which 108,960 were allocated to the Chief Executive Officer, 49,600 were allocated to each of the Corporate Officers, 39,680 were allocated to the other Corporate Committee members and 2,269,440 were allocated to certain employees.

The performance units vest upon the expiry of a three-year period from the vesting date subject to a presence condition in the Group at the time of vesting and achievement of certain performance conditions. These performance conditions are based on the achievement of Group objectives related to the return on capital employed and statement of financial position structure along with achievement of the segments' financial objectives aligned with the Group strategic orientations over a three-year period.

The number of vested 2016 performance units is determined upon achievement of the Group objectives up to 60% of the global allocation. The balance will be acquired based on the achievement of the segments' objectives.

The valuation of each vested 2016 performance unit shall be equal to the average closing prices of the CGG share on Euronext over the five trading days prior to the vesting date. The vested performance units will be paid half in cash and half in existing CGG shares.

### *Compensation cost on stock options, performance shares and units*

The following table lists the assumptions used to value the 2015 and 2016 options plans, the 2015 and 2016 performance units allocation plan according to IFRS 2. The Group uses the Black & Scholes model.

	<u>Options granted</u>	<u>Volatility<sup>(1)</sup></u>	<u>Risk-free rate</u>	<u>Exercise price per share (€)</u>	<u>Estimated Maturity (years)</u>	<u>Fair value per share at the grant date (€)</u>	<u>Dividends yields</u>
2015 stock options plan . . . . .	1,769,890	42%	0.14%	6.01	4	1.64	0.0%
2016 stock options plan . . . . .	<u>6,658,848</u>	<u>47%</u>	<u>-0.31%</u>	<u>0.68</u>	<u>4</u>	<u>0.23</u>	<u>0.0%</u>

	Performance shares granted	Achievement of performance Conditions <sup>(2)</sup>	Fair value per share at the grant date (€) <sup>(3)</sup>	Dividends yields
2015 performance units allocation plan . . . . .	712,300	0%	5.48	0.0%
2016 performance units allocation plan . . . . .	<u>2,566,880</u>	<u>50%</u>	<u>0.67</u>	<u>0.0%</u>

<sup>(1)</sup> Corresponds to the average of restated historical volatility and implied volatility.

<sup>(2)</sup> Estimated.

<sup>(3)</sup> Corresponds to CGG share price at the date of allocation

According to IFRS 2, fair value of stock options and performance shares and units granted since November 7, 2002 must be recognized as an expense over the life of the plan. Detail of this expense is as follows:

	Year					
	IFRS 2 total expense			Of which for the executive managers of the Group		
	2017	2016	2015	2017	2016	2015
	(In millions of US\$)					
2012 stock options plan . . . . .	—	0.2	0.2	—	0.1	(0.2)
2013 stock options plan . . . . .	0.1	0.3	1.1	—	—	0.1
2014 stock options plan . . . . .	0.3	1.1	1.6	—	0.1	0.4
2015 stock options plan . . . . .	0.4	0.9	0.5	0.1	0.2	0.1
2016 stock options plan . . . . .	0.4	0.3	—	0.1	—	—
2013 performance units plan — paid in shares . . . . .	—	—	(0.8)	—	—	(0.1)
2014 performance units plan — paid in shares . . . . .	—	(0.6)	0.1	—	(0.1)	—
2015 performance units plan — paid in shares . . . . .	(0.5)	0.1	0.4	(0.1)	—	—
2016 performance units plan — paid in shares . . . . .	0.1	0.2	—	—	—	—
<b>Recognized expense from equity-settled share based payment transactions . . . . .</b>	<b><u>0.8</u></b>	<b><u>2.5</u></b>	<b><u>3.1</u></b>	<b><u>0.1</u></b>	<b><u>0.3</u></b>	<b><u>0.3</u></b>

## NOTE 16 — PROVISIONS

	December 31, 2017						Balance at end of period
	Balance at beginning of year	Additions	Deductions (used)	Deductions (unused)	Unwinding of the discount	Others <sup>(a)</sup>	
	(In millions of US\$)						
Provisions for restructuring costs . . . . .	37.0	28.0	(29.0)	(3.5)	—	0.1	32.6
Provisions for onerous contracts . . . . .	64.6	2.1	(92.6)	(0.5)	0.2	42.4	16.2
Provisions for litigations . . . . .	0.8	0.7	(0.6)	(0.1)	—	0.1	0.9
Other provisions related to contracts . . . . .	7.7	3.2	(0.4)	(1.6)	—	(0.7)	8.2
Provisions for demobilization costs . . . . .	0.6	0.7	(0.9)	—	—	—	0.4
<b>Total current provisions . . . . .</b>	<b><u>110.7</u></b>	<b><u>34.7</u></b>	<b><u>(123.5)</u></b>	<b><u>(5.7)</u></b>	<b><u>0.2</u></b>	<b><u>41.9</u></b>	<b><u>58.3</u></b>
Provisions for cash-settled share-based payment arrangements (see note 15) . . . . .	0.2	—	—	(0.2)	—	0.1	0.1
Retirement indemnity provisions . . . . .	59.5	4.2	(2.1)	—	—	1.1	62.7
Provisions for tax contingencies . . . . .	7.2	1.7	(0.7)	—	—	0.1	8.3
Provisions for onerous contracts . . . . .	70.4	7.2	—	—	0.6	(60.0)	18.2
Customers Guarantee provisions . . . . .	2.2	1.7	(2.4)	—	—	0.3	1.8
Provisions for customs and other contingencies . . . . .	22.6	8.8	(0.4)	—	—	(0.5)	30.5
<b>Total non-current provisions . . . . .</b>	<b><u>162.1</u></b>	<b><u>23.6</u></b>	<b><u>(5.6)</u></b>	<b><u>(0.2)</u></b>	<b><u>0.6</u></b>	<b><u>(58.9)</u></b>	<b><u>121.6</u></b>
<b>Total provisions . . . . .</b>	<b><u>272.8</u></b>	<b><u>58.3</u></b>	<b><u>(129.1)</u></b>	<b><u>(5.9)</u></b>	<b><u>0.8</u></b>	<b><u>(17.0)</u></b>	<b><u>179.9</u></b>

<sup>(a)</sup> Includes the effects of exchange rates changes, variations in scope (see note 2), reclassification, and gain (loss) on actuarial changes.

**Provision for restructuring costs**

In 2017, the provisions for restructuring costs mainly include professional fees linked to the US Chapter 11 and French Safeguard procedures (see note 21).

In 2016, we used part of the provisions for restructuring costs as part of our Group transformation plan.

**Provision for onerous contract (short term and long term)**

In 2017, we used and recognized additional provisions for onerous contracts (see note 21).

In 2016, we used and recognized additional provisions for onerous contracts, taking into account the slower than initially anticipated recovery pace, as part of our marine fleet downsizing plan (see note 21).

**Customers Guarantee provisions**

It corresponds to the warranty given by Sercel to external clients.

**Retirement indemnity provisions**

The Group main defined benefit pension plans are in France and in the UK.

In addition, a supplemental pension and retirement plan was implemented in December 2004 for the members of the Group's Management Committee and members of the Management Board of Sercel Holding. No contribution was paid in 2016 and 2017. A contribution amounting to US\$8.3 million was paid in 2015.

The Group records retirement indemnity provisions based on the following actuarial assumptions:

- historical staff turnover and standard mortality schedule;
- age of retirement between 60 and 66 years old in France;
- actuarial rate and average rate of increase in future compensation;
- taxes on supplemental pension and retirement plan;

As of December 31, 2017, the net liability for these plans amounted to US\$62.7 million.



The status of the retirement indemnity plans is as follows:

	<u>December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
	<b>(In millions of US\$)</b>		
<b><u>Amount recognized in the statement of financial position</u></b>			
Present value of the obligation <sup>(a)</sup> .....	152.4	138.9	139.1
Fair value of plan assets .....	(89.7)	(79.4)	(81.2)
<b>Deficit (surplus) of funded plans .....</b>	<b>62.7</b>	<b>59.5</b>	<b>57.9</b>
<b>Net liability (asset) recognized in the statement of financial position .....</b>	<b>62.7</b>	<b>59.5</b>	<b>57.9</b>
<b><u>Amounts recognized in the income statement</u></b>			
Service cost .....	3.1	4.4	5.7
Interest cost (income) .....	1.1	1.3	1.2
Effects of curtailments/settlements .....	—	(5.7)	(6.9)
Payroll tax .....	—	—	—
<b>Net periodic expense (profit) .....</b>	<b>4.2</b>	<b>—</b>	<b>—</b>
<b><u>Movements in the net liability recognized in the statement of financial position</u></b>			
Net liability at January 1 .....	59.5	57.9	73.9
Expense as above .....	4.2	—	—
Actuarial (gains)/losses recognized in other comprehensive income <sup>(b)</sup> .....	(6.0)	9.2	3.8
Contributions paid .....	(0.3)	(1.4)	(10.0)
Benefits paid by the Company .....	(1.8)	(1.5)	(3.0)
Consolidation scope entries and changes in exchange rates .....	7.1	(4.7)	(6.8)
Other .....	—	—	—
<b>Net liability at December 31 .....</b>	<b>62.7</b>	<b>59.5</b>	<b>57.9</b>
<b><u>Change in benefit obligation</u></b>			
<b>Benefit obligation at January 1 .....</b>	<b>138.9</b>	<b>139.1</b>	<b>155.2</b>
Payroll tax adjustment .....	—	—	—
Current service cost .....	3.1	4.4	5.7
Contributions paid .....	—	0.3	0.4
Interest cost .....	3.3	4.0	4.2
Past service cost .....	—	—	—
Benefits paid from plan .....	(5.7)	(2.8)	(12.9)
Actuarial (gains)/losses recognized in other comprehensive income .....	(2.2)	19.2	4.3
Effects of curtailments/settlements .....	—	(5.7)	(6.9)
Consolidation scope entries and changes in exchange rates .....	15.0	(19.6)	(10.9)
Other .....	—	—	—
<b>Benefit obligation at December 31 .....</b>	<b>152.4</b>	<b>138.9</b>	<b>139.1</b>
<b><u>Change in plan assets</u></b>			
<b>Fair value of plan assets at January 1 .....</b>	<b>79.4</b>	<b>81.2</b>	<b>81.3</b>
Interest income .....	2.2	2.7	3.0
Contributions paid .....	0.3	1.7	10.4
Benefits paid from plan .....	(3.9)	(1.3)	(9.9)
Actuarial gains/(losses) recognized in other comprehensive income .....	3.8	10.0	0.5
Effects of curtailments/settlements .....	—	—	—
Consolidation scope entries and changes in exchange rate .....	7.9	(14.9)	(4.1)
Other .....	—	—	—
<b>Fair value of plan assets at December 31<sup>(c)</sup> .....</b>	<b>89.7</b>	<b>79.4</b>	<b>81.2</b>
Key assumptions used in estimating the Group's retirement obligations are:			
Discount rate <sup>(d)</sup> .....	1.50%	1.50%	2.00%
Average rate of increase in future compensation <sup>(e)</sup> .....	2.42%	2.41%	2.84%

<sup>(a)</sup> In 2017 the obligation amounts to US\$152.4 million of which US\$33.2 million for defined benefit plans not covered (US\$29.3 million in 2016 and US\$29.1 million in 2015). The average duration of the defined benefit plan obligation at the end of the reporting period is 17.6 in 2017, 19.0 years in 2016 and 20.3 years in 2015.

- (b) *Other comprehensive income*  
*Cumulative actuarial losses recognized in other comprehensive income amount to US\$16.2 million as of December 31, 2017.*

*Changes in the defined benefit obligation and fair value of plan assets are, as follows:*

	<u>December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
	(In millions of US\$)		
<b>Amount recognized in the other comprehensive income</b>			
Experience adjustment . . . . .	3.2	(2.4)	3.1
Actuarial changes arising from changes in demographic assumptions . . . . .	(2.2)	0.8	(1.7)
Actuarial changes arising from changes in financial assumptions . . . . .	(3.2)	20.8	2.9
Return on plan assets (excluding amounts included in net interest expense) . . . . .	(3.8)	(10.0)	(0.5)
<b>Sub-total included in the other comprehensive income</b> . . . . .	<b><u>(6.0)</u></b>	<b><u>9.2</u></b>	<b><u>3.8</u></b>

- (c) *Plan assets*  
*The major categories of plan assets as a percentage of the fair value of total plan assets are as follows:*

	<u>December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
Equity securities . . . . .	51%	49%	51%
Debt securities . . . . .	18%	18%	19%
Real estate . . . . .	7%	7%	7%
Other . . . . .	<u>24%</u>	<u>26%</u>	<u>23%</u>

- (d) *Discount rate*  
*The discount rate for entities belonging to the “euro zone” is 1.50%. The discount rate is determined by reference to the yield on private investment grade bonds (AA), using the Iboxx index.*  
*The discount rate used for the United Kingdom is 2.70%.*  
*An increase of 0.25bps of the discount rate would decrease the defined benefit plan (“DBO”) by US\$6.4 million, and a decrease of the discount rate of 0.25bps would increase the DBO by US\$6.8 million.*  
*A variation of 0.25bps of the discount rate would have no significant impacts on Service Cost and on Interest Cost (calculated impact is within US\$0.1 million).*

- (e) *Increase in future compensation*  
*An increase of 0.25bps of the average rate would increase the future compensation by US\$1.3 million, and a decrease of the average rate of 0.25bps would decrease the future compensation by US\$1.3 million.*  
*A variation of 0.25bps of the average rate would have no significant impacts on Service Cost and on Interest Cost (calculated impact is within US\$0.1 million).*

**NOTE 17 — OTHER NON-CURRENT LIABILITIES**

Detail of other non-current liabilities is as follows:

	<u>December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
	(In millions of US\$)		
Research and development subsidies . . . . .	0.6	0.9	1.5
Profit sharing scheme . . . . .	8.7	12.7	18.0
Other non-current liabilities . . . . .	8.6	7.8	—
<b>Other non-current liabilities</b> . . . . .	<b><u>17.9</u></b>	<b><u>21.4</u></b>	<b><u>19.5</u></b>

## NOTE 18 — CONTRACTUAL OBLIGATIONS, COMMITMENTS AND CONTINGENCIES

### Status on contractual obligations

	December 31,		
	2017	2016	2015
	(In millions of US\$)		
Long-term debt obligations <sup>(1)</sup>	2,953.1	3,284.8	3,585.9
Finance lease obligations	35.6	39.4	77.3
Bareboat agreements <sup>(2)</sup>	460.2	533.9	518.3
Operating leases obligations	190.9	234.7	309.0
<b>Total obligations</b>	<b>3,639.8</b>	<b>4,092.8</b>	<b>4,490.5</b>

<sup>(1)</sup> Refer to note 2 — “Significant events” for more information on the significant adjustments done on our Group financial debt after closing.

<sup>(2)</sup> As of December 31, 2017, the aggregate amount of our off balance sheet commitment for bareboat charters for our fleet is US\$460.2 million, out of which US\$397.0 million corresponded to the vessels operated through our new Global Seismic Shipping AS JV, US\$13.8 million corresponded to vessels that we have already coldstacked, and US\$49.4 million corresponded to the vessels operated in 2017 and beyond.

The following table presents payments in future periods relating to contractual obligations as of December 31, 2017:

	Payments due by period				
	Less than 1 year	2-3 years	4-5 years	After 5 years	Total
	(In millions of US\$)				
<i>Long-term debt obligations:</i>					
— Repayments: fixed rates	2,134.9	—	—	—	2,134.9
— Repayments: variables rates <sup>(a)</sup>	809.2	—	—	—	809.2
— Bonds and facilities interests	9.0	—	—	—	9.0
<b>Total Long-term debt obligations</b>	<b>2,953.1</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>2,953.1</b>
<i>Finance leases:</i>					
— Finance lease Obligations: fixed rates	8.2	15.6	11.8	—	35.6
— Finance lease Obligations: variables rates <sup>(a)</sup>	—	—	—	—	—
<b>Total Finance lease obligations</b>	<b>8.2</b>	<b>15.6</b>	<b>11.8</b>	<b>—</b>	<b>35.6</b>
<b>Bareboat agreements</b>	<b>72.2</b>	<b>102.9</b>	<b>91.3</b>	<b>193.8</b>	<b>460.2</b>
<b>Other operating lease agreements</b>	<b>49.7</b>	<b>55.2</b>	<b>41.5</b>	<b>44.5</b>	<b>190.9</b>
<b>Total Contractual Obligations<sup>(b)</sup></b>	<b>3,083.2</b>	<b>173.7</b>	<b>144.6</b>	<b>238.3</b>	<b>3,639.8</b>

<sup>(a)</sup> Payments are based on the variable rates applicable as of December 31, 2017.

<sup>(b)</sup> Payments in foreign currencies are converted in US\$ at December 31, 2017 exchange rates.

### Contractual obligations — finance leases

The Group leases land, buildings and equipment under finance lease agreements expiring at various dates until 2022.

The following table presents reconciliation between finance lease obligations and finance lease debts as of December 31, 2017:

	<u>Less than 1 year</u>	<u>1-5 years</u>	<u>After 5 years</u>	<u>Total</u>
	(In millions of US\$)			
<b>Finance lease Obligations</b> .....	<b>8.2</b>	<b>27.4</b>	<b>—</b>	<b>35.6</b>
Discounting .....	(2.4)	(6.6)	—	(9.0)
Headquarters purchase option .....	—	31.5	—	31.5
<b>Finance lease debt (see note 13)</b> .....	<b><u>5.8</u></b>	<b><u>52.3</u></b>	<b><u>—</u></b>	<b><u>58.1</u></b>

### Contractual obligations — operating leases

Operating lease agreements relate primarily to bareboat charter agreements for seismic vessels, geophysical equipment, offices and computer equipment.

Rental expenses were US\$180.2 million in 2017, US\$245.7 million in 2016 and US\$294.8 million in 2015.

### Guarantees

	<u>December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
	(In millions of US\$)		
<i>Operations</i>			
Guarantees issued in favor of clients (guarantees issued by the Company to mainly support bids made at the subsidiaries level) .....	403.1	534.4	562.3
Other guarantees and commitments issued (guarantees issued by the Company on behalf of subsidiaries and affiliated companies in favor of customs or other governmental administrations) .....	111.8	203.1	197.3
<i>Financing</i>			
Guarantees issued in favor of banks (mainly to support credit facilities) .....	22.3	—	23.2
<b>Total</b> .....	<b><u>537.2</u></b>	<b><u>737.5</u></b>	<b><u>782.8</u></b>

The duration of the guarantees and commitments is as follows:

	<u>Due date</u>				
	<u>Less than 1 year</u>	<u>2-3 years</u>	<u>4-5 years</u>	<u>After 5 years</u>	<u>Total</u>
	(In millions of US\$)				
<i>Operations</i>					
Guarantees issued in favor of clients .....	262.8	59.6	80.7	—	403.1
Other guarantees and commitments issued .....	54.7	33.2	21.3	2.6	111.8
<i>Financing</i>					
Guarantees issued in favor of banks .....	22.3	—	—	—	22.3
<b>Total</b> .....	<b><u>339.8</u></b>	<b><u>92.8</u></b>	<b><u>102.0</u></b>	<b><u>2.6</u></b>	<b><u>537.2</u></b>

### Others

Commitments issued or received on behalf of related parties are presented in note 8.

The Group has no off-balance sheet obligations under IFRS that are not described above.

## Legal proceedings, claims and other contingencies

From time to time we are involved in legal proceedings arising in the normal course of our business. We do not expect that any of these proceedings, either individually or in the aggregate, will result in a material adverse effect on our consolidated financial condition or results of operations.

### *Request for information from the Bureau of Industry and Security (BIS) of the United States Department of Commerce*

Following an investigation by the BIS regarding some shipments to our vessels operating in or near Cuba that may not have complied fully with our internal policies and possibly violated applicable export controls and sanctions laws, a warning letter without any financial penalty was issued on September 10, 2015. On July 29, 2015, the U.S. Office of Foreign Assets Control (OFAC) issued a pre-penalty notice. On December 15, 2015, a settlement agreement was signed pursuant to which we paid a fine of US\$614,250.

## NOTE 19 — ANALYSIS BY OPERATING SEGMENT AND GEOGRAPHIC AREA

Since September 30, 2015, we have organized our activities in four segments for financial reporting: (i) Contractual Data Acquisition, (ii) Geology, Geophysics & Reservoir, (iii) Equipment and (iv) Non-Operated Resources. Financial information by segment is reported in accordance with our internal reporting system and provides internal segment information that is used by the chief operating decision maker to manage and measure performance.

Taking into account the long cyclical trough of the seismic market, which further worsened during the summer of 2015 as a consequence of a renewed bearish forward view on the price of oil, CGG decided, during the third quarter of 2015, to implement new adaptation measures throughout the Group as a new step in its Transformation Plan and further reduce its marine fleet to five vessels mainly dedicated to multi-client surveys. Going forward, the downsized CGG fleet will be dedicated on average two-thirds to multi-client surveys and only one-third to exclusive surveys. As a result of the reduction of the fleet, part of our owned vessels will not be operated for a certain period of time. The costs of these non-operated resources, as well as the costs of the Transformation Plan are reported, in the “Non-Operated Resources” segment.

A summary of our four segments is set out below:

- **Contractual Data Acquisition.** This Operating segment comprises the following Business Lines:
  - Marine: offshore seismic data acquisition undertaken by us on behalf of a specific client;
  - Land and Multi-Physics: other seismic data acquisition undertaken by us on behalf of a specific client.
- **Geology, Geophysics & Reservoir (“GGR”).** This operating segment comprises the Multi-Client Business Line (development and management of seismic surveys that we undertake and license to a number of clients on a non-exclusive basis) and the Subsurface Imaging and Reservoir Business Lines (processing and imaging of geophysical data, reservoir characterization, geophysical consulting and software services, geological data library and data management solutions). Both Business Lines regularly combine their offerings, generating overall synergies between their respective activities. The GGR segment includes the costs, industrial capital expenditures and capital employed related to the vessels dedicated to multi-client surveys.
- **Equipment.** This operating segment comprises our manufacturing and sales activities for seismic equipment used for data acquisition, both on land and marine. The Equipment segment carries out its activities through our subsidiary Sercel.
- **Non-Operated Resources.** This segment mainly comprises the costs of the non-operated marine resources as well as all the costs of our Transformation Plan (mainly restructuring provisions and

provisions for onerous contracts). The capital employed includes the non-operated marine assets and the provisions related to the Transformation Plan. In this segment, the recoverable value retained is the fair value less costs of disposal.

As a complement to Operating Income, EBIT may be used by management as a performance indicator for segments because it captures the contribution to our results of the significant businesses that are managed through our joint ventures. We define EBIT as Operating Income plus our share of income in companies accounted for under the equity method.

Inter-company analytical transactions between segments are made at arm's length prices. They relate primarily to geophysical equipment sales made by the Equipment segment to the Contractual Data Acquisition and GGR segments (with the reference being the spot market). As GGR includes marine capacity dedicated to multi-client surveys, there are no longer any services rendered by Contractual Data Acquisition to GGR for multi-client surveys. Transactions between subsidiaries of the Group are made at market prices.

These inter-segment revenues and the related earnings are eliminated in consolidation in the tables that follow under the column "Eliminations and other".

The inter-segment sales and the related earnings recognized by the Equipment segment are eliminated and presented in the tables that follow as follows: (i) Operating Income and EBIT for our Contractual Data Acquisition and GGR segments are presented after elimination of amortization expenses corresponding to the inter segment margins included in the assets sold by the Equipment segment to the Contractual Data Acquisition and GGR segments; and (ii) capital expenditures for our Contractual Data Acquisition and GGR segments are presented after elimination of inter-segment margin.

Operating Income and EBIT may include non-recurring items, which are disclosed in the reportable segment if material. General corporate expenses, which include Group management, financing, and legal activities, have been included in the column "Eliminations and other" in the tables that follow. The Group does not disclose financial expenses or financial revenues by segment because they are managed at the Group level.

Identifiable assets are those used in the operations of each segment. Unallocated and corporate assets consist of "investments and other financial assets" and "cash and cash equivalents" of our consolidated statement of financial position. The group does not track its assets based on country of origin.

Capital employed is defined as "total assets" excluding "cash and cash equivalents" less (i) "current liabilities" excluding "bank overdrafts" and "current portion of financial debt" and (ii) "non-current liabilities" excluding "financial debt".

The following tables also present operating revenues, Operating Income and EBIT by segment, and operating revenues by geographic area (by location of customers).

In 2017, the Group's two most significant customers accounted for 10.4% and 8.6% of the Group's consolidated revenues compared with 6.7% and 6.4% in 2016 and 5.0% and 4.9% in 2015.

## Analysis by segment

	2017					
	Contractual Data Acquisition	Non Operated Resources	GGR	Equipment	Eliminations And other	Consolidated Total
	(In millions of US\$, except for assets and capital employed in billions of US\$)					
Revenues from unaffiliated customers . . .	284.9	—	819.6	215.5	—	1,320.0
Inter-segment revenues . . . . .	3.8	—	—	25.7	(29.5)	—
<b>Operating revenues</b> . . . . .	<b>288.7</b>	<b>—</b>	<b>819.6</b>	<b>241.2</b>	<b>(29.5)</b>	<b>1,320.0</b>
Depreciation and amortization (excluding multi-client surveys) . . . . .	(43.9)	(19.8)	(87.5)	(29.8)	(0.2)	(181.2)
Depreciation and amortization of multi- client surveys . . . . .	—	—	(297.7)	—	—	(297.7)
<b>Operating income</b> . . . . .	<b>(91.4)</b>	<b>(220.4)</b>	<b>130.7</b>	<b>(35.9)</b>	<b>(46.5)</b>	<b>(263.5)</b>
Share of income in companies accounted for under equity method <sup>(1)</sup> . . . . .	(11.2)	(8.5)	(0.4)	—	—	(20.1)
<b>Earnings before interest and tax</b> <sup>(2)</sup> . . . .	<b>(102.6)</b>	<b>(228.9)</b>	<b>130.3</b>	<b>(35.9)</b>	<b>(46.5)</b>	<b>(283.6)</b>
Capital expenditures (excluding multi- client surveys) <sup>(3)</sup> . . . . .	17.0	—	45.0	22.2	(3.0)	81.2
Investments in multi-client surveys, net cash . . . . .	—	—	251.0	—	—	251.0
<b>Capital employed</b> . . . . .	<b>0.3</b>	<b>0.1</b>	<b>2.2</b>	<b>0.6</b>	<b>—</b>	<b>3.2</b>
<b>Total identifiable assets</b> . . . . .	<b>0.5</b>	<b>0.1</b>	<b>2.6</b>	<b>0.7</b>	<b>—</b>	<b>3.9</b>

<sup>(1)</sup> Share of operating results of companies accounted for under equity method was US\$(11.9) million for the year ended December 31, 2017.

<sup>(2)</sup> At the group level, Operating Income and EBIT before costs related to the Transformation Plan amounted to US\$(77.2) million and US\$(97.3) million respectively, for the year ended December 31, 2017. For the year ended December 31, 2017, Non-Operated Resources EBIT included US\$(186.3) million relating to the Transformation Plan.

For the year ended December 31, 2017, GGR EBIT also included US\$(23.1) million impairment of multi-client surveys. Since 2016 and the application of IAS 38 amended, CGG no longer apply a straight-line amortization scheme for multi-client surveys.

For the year ended December 31, 2017, “eliminations and other” included US\$(37.8) million of general corporate expenses and US\$(8.7) million of intra-group margin.

<sup>(3)</sup> Capital expenditures included capitalized development costs of US\$(34.1) million for the year ended December 31, 2017. “Eliminations and other” corresponded to the variance of suppliers of assets for the year ended December 31, 2017.



2016

	Contractual Data Acquisition	Non Operated Resources	GGR	Equipment	Eliminations And other	Consolidated Total
	(In millions of US\$, except for assets and capital employed in billions of US\$)					
Revenues from unaffiliated customers . . . . .	232.2	—	784.0	179.3	—	1,195.5
Inter-segment revenues . . . . .	5.8	—	—	75.7	(81.5)	—
<b>Operating revenues . . . . .</b>	<b>238.0</b>	<b>—</b>	<b>784.0</b>	<b>255.0</b>	<b>(81.5)</b>	<b>1,195.5</b>
Depreciation and amortization (excluding multi-client surveys) . . . . .	(62.7)	(93.5)	(101.1)	(35.5)	(0.4)	(293.2)
Depreciation and amortization of multi-client surveys . . . . .	—	—	(417.2)	—	—	(417.2)
<b>Operating income . . . . .</b>	<b>(98.9)</b>	<b>(170.0)</b>	<b>(15.9)</b>	<b>(41.9)</b>	<b>(69.8)</b>	<b>(396.5)</b>
Share of income in companies accounted for under equity method <sup>(1)</sup> . . . . .	(6.0)	—	(2.2)	—	—	(8.2)
<b>Earnings before interest and tax<sup>(2)</sup> . . . . .</b>	<b>(104.9)</b>	<b>(170.0)</b>	<b>(18.1)</b>	<b>(41.9)</b>	<b>(69.8)</b>	<b>(404.7)</b>
Capital expenditures (excluding multi-client surveys) <sup>(3)</sup> . . . . .	27.7	—	60.1	12.4	4.3	104.5
Investments in multi-client surveys, net cash . . .	—	—	295.1	—	—	295.1
<b>Capital employed . . . . .</b>	<b>0.4</b>	<b>0.2</b>	<b>2.3</b>	<b>0.6</b>	<b>—</b>	<b>3.5</b>
<b>Total identifiable assets . . . . .</b>	<b>0.6</b>	<b>0.4</b>	<b>2.5</b>	<b>0.7</b>	<b>0.1</b>	<b>4.3</b>

<sup>(1)</sup> Share of operating results of companies accounted for under equity method was US\$(6.9) million for the year ended December 31, 2016.

<sup>(2)</sup> At the group level, Operating Income and EBIT before costs related to the Transformation Plan and impairments amounted to US\$(212.7) million and US\$(220.9) million respectively, for the year ended December 31, 2016.

For the year ended December 31, 2016, Contractual Data Acquisition EBIT included US\$(0.8) million relating to other intangible assets impairment;

For the year ended December 31, 2016, Non-Operated Resources EBIT included US\$(54.3) million relating to the Transformation Plan and US\$(31.4) million relating to vessels impairment.

For the year ended December 31, 2016, GGR EBIT also included US\$(96.8) million impairment of multi-client surveys and US\$(0.5) million relating to tangible assets impairment.

For the year ended December 31, 2016, “eliminations and other” included US\$(33.2) million of general corporate expenses and US\$(36.6) million of intra-group margin.

<sup>(3)</sup> Capital expenditures included capitalized development costs of US\$(34.0) million for the year ended December 31, 2016. “Eliminations and other” corresponded to the variance of suppliers of assets for the year ended December 31, 2016.

2015

	Contractual Data Acquisition	Non Operated Resources	GGR	Equipment	Eliminations And other	Consolidated Total
	(In millions of US\$, except for assets and capital employed in billions of US\$)					
Revenues from unaffiliated customers . . . . .	593.2	—	1,107.6	400.1	—	2,100.9
Inter-segment revenues . . . . .	22.3	—	—	37.2	(59.5)	—
<b>Operating revenues . . . . .</b>	<b>615.5</b>	<b>—</b>	<b>1,107.6</b>	<b>437.3</b>	<b>(59.5)</b>	<b>2,100.9</b>
Depreciation and amortization (excluding multi-client surveys) . . . . .	(653.4)	(28.6)	(586.9)	(41.7)	—	(1,310.6)
Depreciation and amortization of multi-client surveys . . . . .	—	—	(369.5)	—	—	(369.5)
<b>Operating income . . . . .</b>	<b>(674.5)</b>	<b>(235.8)</b>	<b>(204.0)</b>	<b>25.9</b>	<b>(69.2)</b>	<b>(1,157.6)</b>
Share of income in companies accounted for under equity method <sup>(1)</sup> . . . . .	21.7	—	(0.3)	—	—	21.4
<b>Earnings before interest and tax<sup>(2)</sup> . . . . .</b>	<b>(652.8)</b>	<b>(235.8)</b>	<b>(204.3)</b>	<b>25.9</b>	<b>(69.2)</b>	<b>(1,136.2)</b>
Capital expenditures (excluding multi-client surveys) <sup>(3)</sup> . . . . .	34.3	—	73.2	23.1	15.0	145.6
Investments in multi-client surveys, net cash . .	—	—	284.6	—	—	284.6
<b>Capital employed . . . . .</b>	<b>0.7</b>	<b>0.1</b>	<b>2.5</b>	<b>0.6</b>	<b>—</b>	<b>3.9</b>
<b>Total identifiable assets . . . . .</b>	<b>0.9</b>	<b>0.3</b>	<b>2.9</b>	<b>0.8</b>	<b>0.1</b>	<b>5.0</b>

<sup>(1)</sup> Share of operating results of companies accounted for under equity method was US\$38.3 million for the year ended December 31, 2015.

<sup>(2)</sup> At the group level, Operating Income and EBIT before costs related to the Transformation Plan and impairments amounted to US\$60.9 million and US\$82.3 million respectively, for the year ended December 31, 2015.

For the year ended December 31, 2015, Contractual Data Acquisition EBIT included:

- (i) US\$(365.0) million of marine goodwill depreciation;
- (ii) US\$(110.0) million relating to impairment of marine equipment;
- (iii) US\$(33.0) million relating to other intangible assets impairment;
- (iv) US\$(10.9) million relating to tangible assets impairment.

For the year ended December 31, 2015, Non-Operated Resources EBIT included US\$(207.8) million relating to the Transformation Plan.

For the year ended December 31, 2015, GGR EBIT also included:

- (i) US\$(438.8) million related to GGR CGUs goodwill depreciation;
- (ii) US\$(41.8) million impairment of multi-client surveys;
- (iii) US\$(11.2) million impairment of intangibles assets.

For the year ended December 31, 2015, “eliminations and other” included US\$(38.6) million of general corporate expenses and US\$(30.6) million of intra-group margin.

<sup>(3)</sup> Capital expenditures included capitalized development costs of US\$(41.5) million for the year ended December 31, 2015. “Eliminations and other” corresponded to the variance of suppliers of assets for the year ended December 31, 2015.

## Analysis by geographic area

### *Analysis of operating revenues by location of customers*

	<u>2017</u>		<u>2016</u>		<u>2015</u>	
			(In millions of US\$)			
North America . . . . .	353.3	26.8%	356.9	29.9%	528.4	25.2%
Central and South Americas . . . . .	331.1	25.1%	170.2	14.2%	232.9	11.1%
Europe, Africa and Middle East . . . . .	424.2	32.1%	481.7	40.3%	875.6	41.7%
Asia Pacific . . . . .	211.4	16.0%	186.7	15.6%	464.0	22.0%
<b>Total operating revenues . . . . .</b>	<b><u>1,320.0</u></b>	<b><u>100%</u></b>	<b><u>1,195.5</u></b>	<b><u>100%</u></b>	<b><u>2,100.9</u></b>	<b><u>100%</u></b>

Operating revenue attributed to France is US\$15.5 million for the year ended December 31, 2017.

### *Analysis of operating revenues by category*

	<u>2017</u>		<u>2016</u>		<u>2015</u>	
			(In millions of US\$)			
Services rendered and royalties . . . . .	905.1	68.6%	906.3	75.8%	1,451.3	69.1%
Sales of goods . . . . .	202.4	15.3%	168.7	14.1%	378.3	18.0%
After-sales on multi-client surveys . . . . .	200.3	15.2%	111.1	9.3%	256.2	12.2%
Leases . . . . .	12.2	0.9%	9.4	0.8%	15.1	0.7%
<b>Total operating revenues . . . . .</b>	<b><u>1,320.0</u></b>	<b><u>100%</u></b>	<b><u>1,195.5</u></b>	<b><u>100%</u></b>	<b><u>2,100.9</u></b>	<b><u>100%</u></b>

## NOTE 20 — RESEARCH AND DEVELOPMENT EXPENSES

Analysis of research and development expenses is as follows:

	<u>December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
	(In millions of US\$)		
Research and development costs . . . . .	(84.5)	(93.2)	(143.1)
Development costs capitalized . . . . .	<u>34.1</u>	<u>34.0</u>	<u>41.5</u>
<b>Research and development expensed . . . . .</b>	<b><u>(50.4)</u></b>	<b><u>(59.2)</u></b>	<b><u>(101.6)</u></b>
Government grants recognized in income . . . . .	<u>21.6</u>	<u>45.6</u>	<u>32.9</u>
<b>Research and development costs — net . . . . .</b>	<b><u>(28.8)</u></b>	<b><u>(13.6)</u></b>	<b><u>(68.7)</u></b>

Research and development expenditures related primarily to:

- for the Contractual Data Acquisition and GGR segments, projects concerning data processing services and marine acquisition; and
- for the Equipment segment, projects concerning seismic data recording equipment.

The increase in Government grants recognized in income in 2016 compared to 2015 is mainly due to a higher level of US R&D tax credit in 2016.

## NOTE 21 — OTHER REVENUES AND EXPENSES

	December 31,		
	2017	2016	2015
	(In millions of US\$)		
Impairment of goodwill .....	—	—	(803.8)
Impairment of assets .....	—	(129.7)	(206.9)
Restructuring costs .....	(296.2)	(167.3)	(120.8)
Change in restructuring reserves .....	88.9	113.0	(87.0)
<b>Impairment and restructuring expenses — net .....</b>	<b>(207.3)</b>	<b>(184.0)</b>	<b>(1,218.5)</b>
Other revenues (expenses) .....	(2.0)	1.0	6.2
Exchange gains (losses) on hedging contracts .....	—	0.2	(2.5)
Gains (losses) on sales of assets .....	30.4	(0.1)	26.5
<b>Other revenues (expenses) — net .....</b>	<b>(178.9)</b>	<b>(182.9)</b>	<b>(1,188.3)</b>

### Year ended December 31, 2017

#### *Restructuring costs and change in restructuring reserves*

As part of the Group Transformation Plan, we recognized US\$(207.3) million of restructuring costs. These restructuring costs include:

- (i) US\$12.3 million to reduce the cash burden of the charter agreement in respect of one vessel in operation. This loss corresponds to the compensation granted to the ship-owner following the renegotiation of the charter agreements. (see note 2 — Proactive management of maritime liabilities);
- (ii) US\$72.1 million to renegotiate and extend the charter agreements in respect of two seismic vessels to reduce the cash burden following the implementation of a new ownership set up. This loss corresponds to the compensation granted to ESV and OSV following the renegotiation of the charter agreements. (see note 2 — New ownership set up for our seismic fleet);
- (iii) US\$102.0 million of professional fees mainly linked to the US Chapter 11 and French Safeguard procedures (see note 2 — Financial restructuring process); and
- (iv) US\$20.9 million of other costs related to our Transformation Plan.

#### *Gains (losses) on sales of assets*

In 2017, we recognized a US\$21.0 million gain arising from our contribution to the Global Seismic Shipping AS (“GSS”) JV that was created as part of the Group Transformation Plan on April 2017 between CGG and Eidesvik (see note 2).

This line item also includes sales of assets and losses related to damaged or scrapped marine seismic equipment.

### Year ended December 31, 2016

#### *Restructuring costs and change in restructuring reserves*

As part of the Group Transformation Plan, we expensed US\$167.3 million in 2016, partially offset by the use of the corresponding provisions. The restructuring costs in excess of the release of provisions were mainly explained by additional provisions for onerous contracts booked in the fourth quarter of year 2016. Most of these provisions were reclassified as financial debt in 2017 (see note 2 — Proactive management of maritime liabilities) without any cash-out.

*Impairment of assets*

In 2016, we recognized a US\$(96.8) million impairment of multi-client surveys due to specific market conditions and a US\$(31.4) million impairment of vessels.

**Year ended December 31, 2015**

*Impairment of goodwill*

In 2015, we recognized a US\$365.0 million of Marine goodwill impairment and a US\$438.8 million impairment on GGR CGUs (see note 11).

*Impairment of assets*

This line item included:

- (i) US\$(110.0) million impairment of vessels and related equipment's. The net book value of our owned vessels has been aligned on recoverable value assessed as fair value less cost of disposal;
- (ii) US\$(41.8) million impairment of multi-client surveys due to specific market conditions; and
- (iii) US\$(55.1) million impairment of intangible assets mainly.

*Restructuring costs and change in restructuring reserves*

As part of the Group Transformation Plan, we expensed US\$120.8 million in 2015, offset by the use of the corresponding provisions.

We also recognized additional provisions relating to the restructuring part of the further steps of the transformation plan as announced internally and externally in November 2015. This restructuring plan included the reduction of 930 positions worldwide and across the Group, redundancy costs and further maintenance costs of cold stacked vessels.

*Gains (losses) on sales of assets*

This line item included gains arising from the sales of some of our assets; and also losses related to marine seismic equipment damaged or scrapped. These costs were fully offset by insurance indemnities included in the line "Other revenues (expenses)".

**NOTE 22 — COST OF FINANCIAL DEBT**

	<b>December 31,</b>		
	<b>2017</b>	<b>2016</b>	<b>2015</b>
	<b>(In millions of US\$)</b>		
Current interest expenses related to financial debt	(181.0)	(168.6)	(167.4)
Amortization of deferred expenditures on financial debts	(33.0)	(8.3)	(12.8)
Income provided by cash and cash equivalents	3.0	2.7	1.7
<b>Cost of financial debt, net</b>	<b><u>(211.0)</u></b>	<b><u>(174.2)</u></b>	<b><u>(178.5)</u></b>

Following the approval of the draft safeguard plan by creditors' committees in France on July 28, 2017 and the approval of Chapter 11 plan by creditors entitled to vote in the US late September, 2017, most of our current debt was settled on February 21, 2018 through conversion into equity or new debt instruments under our financial restructuring plan. As a result, we have accelerated the amortization of the debt issuing fees (see note 13).

On June 26, 2015, we exchanged 90.3% of the principal amount of the existing 2019 convertible bond (see note 13). Accelerated amortization of deferred expenditures is recorded for US\$4.6 million in line “Amortization of deferred expenditures on financial debts”.

#### NOTE 23 — OTHER FINANCIAL INCOME (LOSS)

	December 31,		
	2017	2016	2015
	(In millions of US\$)		
Exchange gains (losses) net	28.1	12.6	(20.5)
Other financial income (expenses)	(23.9)	(24.0)	(34.0)
<b>Other financial income (loss)</b>	<b>4.2</b>	<b>(11.4)</b>	<b>(54.5)</b>

In 2017, other financial expenses include US\$4.3 million depreciation of our financial stake in Geokinetics Inc. (see note 7) and US\$15.0 million of GSS loan discounting (see note 2).

In 2016, other financial expenses included a US\$13.3 million expense related to a risk assessment on a loan to a subsidiary.

In 2016 and 2015, other financial expenses included respectively US\$3.0 million and US\$40.0 million expense related to an impairment of our shares in Geokinetics Inc (see note 7).

#### NOTE 24 — INCOME TAXES

##### Income tax benefit (expense)

The Company and its subsidiaries compute income taxes in accordance with the applicable tax rules and regulations of the numerous tax authorities where the Group operates. The tax regimes and income tax rates legislated by these taxing authorities vary substantially. In foreign countries, income taxes are often accrued based on deemed profits calculated as a percentage of sales as defined by local government tax authorities.

Due to the mobile nature of seismic acquisition activities, current relationships between the French and foreign components of such tax items are not reliable indicators of such relationships in future periods.

	December 31,		
	2017	2016	2015
	(In millions of US\$)		
<b>France</b>			
Current income tax expense	—	—	—
Adjustments on income tax recognized in the period for prior periods	0.1	0.2	(0.6)
Deferred taxes on temporary differences for the period	(0.2)	(5.5)	(15.6)
Deferred taxes recognized in the period for prior periods <sup>(1)</sup>	(3.4)	0.1	(46.1)
<b>Total France</b>	<b>(3.5)</b>	<b>(5.2)</b>	<b>(62.3)</b>
<b>Foreign countries</b>			
Current income tax expense, including withholding taxes	(24.7)	(21.3)	(39.4)
Adjustments on income tax recognized in the period for prior periods <sup>(3)</sup>	1.4	9.9	(0.9)
Deferred taxes on temporary differences for the period	49.5	43.0	28.4
Deferred taxes recognized in the period for prior periods <sup>(2)</sup>	(46.4)	(12.7)	(2.8)
<b>Total Foreign countries</b>	<b>(20.2)</b>	<b>18.9</b>	<b>(14.7)</b>
<b>Total income tax benefit (expense)</b>	<b>(23.7)</b>	<b>13.7</b>	<b>(77.0)</b>

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- (1) In 2015, included a reversal of deferred tax assets on French losses carried forward amounting to US\$48.0 million based on tax planning.
- (2) In 2017, included valuation allowances on deferred tax assets of US\$45.5 million in several countries, notably in US (US\$32.0 million) based on their probable recovery regarding existing taxable items (see note 1 to the consolidated financial statements). In 2016, included valuation allowances on deferred tax assets amounting to US\$7.5 million.
- (3) In 2016, was mainly impacted by changes in estimates, use of tax credits and carry-back in North America.

## US Tax reform

On December 22, 2017, the Tax Cuts and Jobs Act (the “US Tax Reform”) was enacted. Among the significant changes, the US Tax Reform lowers the US federal corporate income tax rate from 35% to 21%, repeals AMT, imposes significant additional limitations on the deductibility of interest, and puts into effect the migration from a “worldwide” system of taxation to a “mixed” territorial system.

In 2017, the Group started working on the impact of the US tax reform on the net income tax expense of the Group, and identified as at March 8, 2018, the date on which the consolidated financial statements were authorized for issue, the following best estimate based on information available at this time:

- the change in the US corporate income tax rate had a favorable impact on deferred taxes liabilities on timing differences for the period of US\$37 million. Note that this favorable impact was compensated by a valuation allowance on US deferred tax assets recognized in prior periods of US\$32 million based on recovery perspectives (note 2 above);
- the limitation imposed to the future usage of net operating losses did not impact require any further valuation allowance to the one mentioned above;
- AMT credits of US\$2.3 million have been fully recognized as receivables (previously considered as Deferred tax);
- a “subpart F income” inclusion estimate has been included as a deferred tax liability for those of our subsidiaries that are concerned by such a change;
- CGG would not incur any liability in 2017 nor 2018 as a result of the Transition Tax.

As at March 8, 2018, the assessment process of the impact of all the US tax measures for the Group is still ongoing, in particular, but not limited to:

- the new Global Intangible Low-Taxed Income (GILTI) tax rules;
- the new Base Erosion and Anti-Abuse Tax (“BEAT”)
- the Foreign Derived Intangible Income deduction (“FDII”);
- and the limitation to interest deduction and executive compensation

As at March 8, 2018, the Group anticipates limited accounting impacts arising from the US Tax Reform, mainly due to unrecognized deferred tax assets on tax losses carried forward.



## Income tax reconciliation

The reconciliation between income tax expense in the income statement and the theoretical tax charge is detailed below:

	<u>2017</u>	<u>2016</u>	<u>2015</u>
	(In millions of US\$)		
<b>Net income (loss)</b> .....	<b>(514.1)</b>	<b>(576.6)</b>	<b>(1,446.2)</b>
<b>Income taxes</b> .....	<b>(23.7)</b>	<b>13.7</b>	<b>(77.0)</b>
<b>Net Income (loss) before taxes</b> .....	<b>(490.4)</b>	<b>(590.3)</b>	<b>(1,369.2)</b>
Equity investment companies income .....	(20.1)	(8.2)	21.4
<b>Theoretical tax basis</b> .....	<b>(470.3)</b>	<b>(582.1)</b>	<b>(1,390.6)</b>
Enacted tax rate in France .....	34.43%	34.43%	38.00%
<b>Theoretical taxes</b> .....	<b>161.9</b>	<b>200.4</b>	<b>528.4</b>
<i>Differences on tax:</i>			
Differences in tax rates between France and foreign countries .....	0.3	23.9	37.1
Change in local tax rates enacted by US and French tax laws <sup>(6)</sup> .....	43.3	—	—
Non-deductible part of dividends .....	(0.6)	(1.8)	(1.1)
Adjustments on the tax expense recognized in the period for prior periods <sup>(3)</sup> .....	1.6	10.1	(2.1)
Adjustments on the deferred tax expense recognized in the period for prior periods .....	(4.3)	(5.1)	5.2
Valuation allowance on deferred tax assets previously recognized on losses on the French tax group <sup>(1)</sup> .....	—	—	(48.0)
Valuation allowance on deferred tax assets previously recognized on losses on foreign entities <sup>(2)</sup> .....	(45.5)	(7.5)	(6.1)
Other permanent differences (including withholding taxes) <sup>(4)</sup> .....	(22.0)	(7.0)	(344.5)
Deferred tax unrecognized on losses of the period on the French tax group <sup>(5)</sup> .....	(117.6)	(150.4)	(173.9)
Deferred tax unrecognized on losses of the period on foreign entities <sup>(5)</sup> .....	(42.7)	(51.7)	(73.2)
Unrecognized deferred tax on losses of prior periods .....	2.8	2.6	2.8
Income tax and deferred tax on Argas net income (equity method company) .....	(0.9)	0.2	(1.6)
<b>Income taxes</b> .....	<b><u>(23.7)</u></b>	<b><u>13.7</u></b>	<b><u>(77.0)</u></b>

<sup>(1)(2)(3)</sup> See comments on income tax benefit (expense) above.

<sup>(4)</sup> In 2015, permanent differences included US\$365.0 million impairment of the Marine goodwill and US\$438.8 million related to GGR CGUs goodwill depreciation (see note 21).

<sup>(5)</sup> Corresponds notably to the French, Norwegian and US tax groups according to short and medium term uncertainties and revised tax planning.

<sup>(6)</sup> The US corporate income tax rate used for tax calculations decreased from 35% in 2016 to 21% in 2017, which had a favorable tax impact of US\$37 million in 2017. In France, the corporate income tax rate will reduce over a five-year period from 34.43% to 25%, which had a favorable impact on deferred taxes calculation in 2017 of US\$6.3 million.

## Deferred tax assets and liabilities

	<u>December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
	(In millions of US\$)		
<b>Total deferred tax assets</b> .....	<b><u>21.9</u></b>	<b><u>26.0</u></b>	<b><u>52.2</u></b>
Total deferred tax liabilities .....	<u>(62.0)</u>	<u>(67.6)</u>	<u>(136.3)</u>
<b>Total deferred taxes, net</b> .....	<b><u>(40.1)</u></b>	<b><u>(41.6)</u></b>	<b><u>(84.1)</u></b>

## Net deferred tax assets (liabilities) per nature

	December 31,		
	2017	2016	2015
	(In millions of US\$)		
Non-deductible provisions (including pensions and profit sharing) . . . . .	24.4	28.9	38.5
Tangible assets . . . . .	28.4	46.9	42.5
Effect of currency translation adjustment not recognized in income statement . . . . .	(2.5)	(42.5)	(44.5)
Multi-client surveys (including deferred revenues) . . . . .	(147.6)	(152.8)	(185.7)
Assets reassessed in purchase accounting of acquisitions . . . . .	(32.4)	(49.0)	(53.4)
Development costs capitalized . . . . .	(23.6)	(26.9)	(25.2)
Other deferred revenues . . . . .	(19.4)	2.0	(3.8)
Convertible bonds and other financial instruments . . . . .	(12.3)	1.6	0.8
R&D credits . . . . .	44.2	39.4	27.0
Other . . . . .	10.5	4.5	22.8
<b>Total deferred tax assets net of deferred tax (liabilities) related to timing differences . . . . .</b>	<b>(130.3)</b>	<b>(147.9)</b>	<b>(181.0)</b>
Tax losses carried forward . . . . .	90.2	106.3	96.9
<b>Total deferred tax assets net of deferred tax (liabilities) . . . . .</b>	<b>(40.1)</b>	<b>(41.6)</b>	<b>(84.1)</b>

## Deferred tax assets (liabilities) per tax group as of December 31, 2017

	France <sup>(1)</sup>	Norway <sup>(1)</sup>	US <sup>(1)</sup>	Other	Total
	(In millions of US\$)				
Net deferred tax assets (liabilities) related to timing differences . . . . .	(73.1)	—	(25.8)	(31.4)	(130.3)
Deferred tax assets on losses carried forward <sup>(2)</sup> . . . . .	36.5	11.0	14.1	28.6	90.2
<b>Total deferred tax assets (liabilities) . . . . .</b>	<b>(36.6)</b>	<b>11.0</b>	<b>(11.7)</b>	<b>(2.8)</b>	<b>(40.1)</b>

<sup>(1)</sup> The deferred taxes recognized on losses carried forward are recoverable without expiration date.

<sup>(2)</sup> See note 1-6 to the consolidated statements for rules of recognition of deferred tax assets

## Net operating loss carried forward not recognized as of December 31, 2017

	France	Foreign countries	Total
	(In millions of US\$)		
Losses scheduled to expire in 2018 . . . . .	—	1.6	1.6
Losses scheduled to expire in 2019 and thereafter . . . . .	—	178.2	178.2
Losses available indefinitely . . . . .	1,639.8	264.0	1,903.8
<b>Total . . . . .</b>	<b>1,639.8</b>	<b>443.8</b>	<b>2,083.6</b>

## Tax audit and litigation

### US

The Group was litigating the tax authorities' position related to the tax audit of CGG Americas covering fiscal years 2006 and 2007 before the Civil Courts for the use of G&G amortization method denied by IRS. A favorable decision was issued on June 20, 2017 without appeal from IRS. The litigation is closed. The refunds and carry-back receivables dated 2009 were received in 2017.

The tax audit regarding CGG Holding (U.S.) Inc. for the 2007 fiscal year and extended to 2016 is ongoing.

In 2012, CGG Holding (U.S.) Inc. received a redetermination notice regarding its Texas State tax for the years 2007 and 2008 for US\$3.4 million. The Group litigated the Texas Comptroller's position before the Civil Courts. A favorable decision was rendered in February 2014 and confirmed in October 2014. The Comptroller appealed in November 2014. Hearing took place in November 2015. In March 2016, the Third Court of Appeals rendered their decision in favor of CGG and issued the Mandate in June 2016. CGG entered into settlement agreements for years 2008 (in April 2017) and 2009-2010 (in August 2017) to close the above-mentioned litigation, as well the pending refund claims filed in 2011 through amended returns. Refunds were received in 2017. The litigation is closed.

### ***Brazil***

Municipality of Rio de Janeiro has claimed to Veritas do Brazil Ltda that services taxes (ISS) are payable for 2001 to 2008 which has been duly disputed.

Further to the favorable decision of the judicial court received by Veritas do Brasil Ltda in 2014, the administrative procedure covering 2001 to May 2003 has been officially terminated in March 2015 and the tax assessment cancelled in January 2016. In March 2016, the Municipality filed a Rescission Action in order to have the favorable decision cancelled; the Group filed the response to the action in June 2016. In December 2016, Public attorney's office agreed that there are no grounds to re-discuss the merit of the case, but understood that the action shall be ruled. In February 2017, CGG filed a petition to object the ruling. CGG is waiting for Municipality and public attorney's office response. The Group considers that there is no proper ground for this action.

For years September 2003-2008 (taxes at stake: US\$12 million), the administrative procedure is still ongoing and should result in the same cancellation considering that the reassessment is based on the same arguments than those cancelled by the judicial court.

No provision is recognized as the Group considers that these contingencies should resolve in its favor.

Following a 2012 audit on year 2009, CGG do Brazil Participacoes Ltda was reassessed US\$6.1 million of withholding tax and US\$4 million of CIDE (Contribution for Intervening in Economic Domain) on charter contracts. The reassessment was disputed. In 2014, the company received and appealed against an unfavorable decision from the Administrative Court. In July 2017, CIDE case was ruled against CGG and the company decided to enter into an amnesty program (PERT). The litigation has been dropped and parties agreed on a final settlement of approximately US\$2.7 million fully settled in January 2018. The final decision regarding withholding is still pending.

In 2016, a new audit was conducted for fiscal year 2013. CGG do Brazil Participacoes Ltda received tax reassessments on December 20, 2017 for amounts of US\$15 million for withholding tax and US\$10 million for CIDE. The company appealed in January 2018 against the reassessments. No provision is recognized.

### ***Peru***

The Peru tax authorities were claiming additional withholding taxes on technical services for 2012 and 2013 for CGG Land (U.S.) Inc Sucursal del Peru for an amount of US\$15 million. The company disputed the reassessment and the litigation was at the Fiscal Tribunal stage. A final resolution in favor of CGG was notified in May 2017. A nullity action has been launched against this resolution by the Tax Authorities. No provision is recognized for this litigation.

### ***Middle East***

In Egypt, there were ongoing discussions with the tax authorities on the US\$15 million tax claim, based on revenues earned without any deduction of costs incurred. In 2015, executive regulations confirmed the deemed

profit taxation principle. In March 2017, an agreement was reached with the tax authorities to settle the taxes at approximately US\$1.5 million which was consistent with the existing provision in the accounts. After the settlement, CGG appealed in October 2017 to object late payment interests and penalties.

### *Norway*

In 2015, the Norwegian tax authorities issued a reassessment of US\$24 million before interest and penalties against CGG Marine Resources Norge AS, which was primarily due to transfer pricing adjustments. The reassessment was duly disputed and in May 2017 the Norwegian tax authorities issued a closure notice, confirming no adjustments were required. No provision was originally recognized.

## **NOTE 25 — PERSONNEL**

The analysis of personnel is as follows:

	<b>Year ended December 31,</b>		
	<b>2017</b>	<b>2016</b>	<b>2015</b>
Personnel employed under French contracts .....	1,306	1,393	1,742
Personnel employed under local contracts .....	3,960	4,373	5,535
<b>Total</b> .....	<b>5,266</b>	<b>5,766</b>	<b>7,277</b>
Including field staff of: .....	498	547	992

The total cost of personnel employed was US\$561.2 million in 2017, US\$653.5 million in 2016 and US\$810.2 million in 2015.

## **NOTE 26 — KEY MANAGEMENT PERSONNEL COMPENSATION**

The Corporate Committee (C-Com) is chaired by the Chief Executive Officer and is composed of the CEO, three Senior Executive Vice Presidents — the Chief Financial Officer and the two Group Chief Operating Officers — and the Human Resources Executive Vice President until June 2017.

The Director fees and C-Com members' remuneration were:

	<b>Year ended December 31,</b>		
	<b>2017</b>	<b>2016</b>	<b>2015</b>
		(in US\$)	
Short-term employee benefit paid <sup>(a)</sup> .....	3,622,362	3,923,272	3,458,169
Directors' fees .....	692,714	646,042	887,344
Long-term employee benefit — pension <sup>(b)</sup> .....	26,641	28,444	37,433
Long-term employee benefit — supplemental pension <sup>(c)</sup> .....	828,603	778,027	832,804
Share-based payments <sup>(d)</sup> .....	129,918	443,575	270,940

<sup>(a)</sup> Excludes social contributions.

<sup>(b)</sup> Cost of services rendered and interest cost.

<sup>(c)</sup> Cost of services rendered and interest cost on the supplemental pension implemented by the end of 2004.

<sup>(d)</sup> Expense in the income statement related to the stock options and performance shares plans.

### ***Contractual indemnity in case of termination***

#### **Chief Executive Officer**

##### **Agreement in force until January 4, 2017**

On June 4, 2014, the Board of Directors renewed the term of office of Mr. Jean-Georges Malcor for a three-year period, and also renewed, for the duration of his term in office, the terms and conditions of the advantages granted to Mr. Jean-Georges Malcor in case of termination of his term of office, which were previously approved by the Board of Directors on May 10, 2012 and ratified at the General Meeting of May 3, 2013. The renewal of the advantages was ratified at the General Meeting held on May 29, 2015.

These advantages are the following:

Mr. Jean-Georges Malcor does not benefit from any contractual termination indemnity, except in case of a forced departure relating to a change of control or a change of strategy. In such case, his indemnity shall be equal to the difference between:

- (i) a gross amount of 200% of the gross fixed compensation paid by the Company to Mr. Jean-Georges Malcor during the 12-month period preceding his departure date, to which is added the annual average of the variable compensation paid by the Company to Mr. Jean-Georges Malcor over the 36-month period preceding his departure date, (hereinafter “the Reference Annual Compensation”), and
- (ii) any sum to which Mr. Jean-Georges Malcor may be entitled as a result of his departure from the Group, including any sums to be paid pursuant to his non-competition agreement.

The indemnity global amount shall not exceed 200% of the Reference Annual Compensation.

Pursuant to Article L.225-42-1 of the Commercial Code, the payment of the special termination indemnity referred to hereinabove shall remain subject to the achievement of the following performance conditions, related to the Company’s performance:

- The average, calculated over the 60 trading days preceding the departure date, of the ratio of the CGG ADS price over the PHLX Oil Service Sector<sup>SM</sup> (OSX<sup>SM</sup>) index shall equal at least two-thirds of the same average ratio over the same 60-day period four years before the date on which Mr. Malcor leaves the Group;
- The average, calculated over the 60 trading days preceding the departure date, of the ratio of the CGG share price over the SBF 120 index shall equal at least two-thirds of the same average ratio over the same 60-day period four years before the date on which Mr. Malcor leaves the Group;
- The average margin rate of the Group EBITDAS over the four years preceding the date on which Mr. Malcor leaves the Group shall be at least 25%.

Payment of the full amount of the special termination indemnity is subject to the fulfillment of two out of three aforementioned conditions. If only one condition is fulfilled, then Mr. Jean-Georges Malcor will be entitled to receive only 50% of the special termination indemnity.

Finally, pursuant to said Article L.225-42-1 of the French Commercial Code in particular, the Board of Directors shall verify prior to the payment of the special severance payment (i) that the performance conditions described above are duly fulfilled and (ii) that the payment of such special termination indemnity complies with the Corporate Governance Code applicable at the date of departure.

Amended agreement dated January 4, 2017:

On January 4, 2017, the Board of Directors amended the triggering events and the performance conditions of the advantages granted to Mr. Jean-Georges Malcor in case of termination of his term of office. They are now as follows:

Mr. Jean-Georges Malcor is entitled to receive the special termination indemnity in case of dismissal, non-renewal of his term of office or in any other event of a forced departure linked to a change of control resulting in a substantial change in situation or a change of strategy.

The payment of the special termination indemnity will depend on the level of the average rate of achievement of the objectives relating to Mr. Jean-Georges Malcor's variable compensation calculated over the three financial years preceding his departure date as follows:

- If such average rate is below 40%, no special termination indemnity will be paid;
- If such average rate is higher than 40%, the special termination indemnity will be equal to 100% of the Reference Annual Compensation.

The other provisions of the agreement remain unchanged.

Moreover, on June 1, 2017, the Board of Directors decided to renew the term of office of Mr. Jean-Georges Malcor until June 1, 2020 as Chief Executive Officer, and also renewed the advantages granted to Mr. Jean-Georges Malcor in case of termination of his term of office with the same terms and conditions as those existing since January 4, 2017.

Pursuant to article L. 225-42-1 of the French Commercial Code, the modification and the renewal of these advantages were submitted for ratification to the shareholders' annual general meeting held on October 31, 2017 under the 9<sup>th</sup> and 10<sup>th</sup> resolutions. This general meeting did not approve these resolutions.

The Board of Directors held on December 1, 2017, which among other things, determined the terms and conditions of the termination of Mr. Jean-Georges Malcor's office as Chief Executive Officer, decided that no severance pay will be paid to Mr. Jean-Georges Malcor upon termination of his office as Chief Executive Officer or thereafter.

## NOTE 27 — RELATED PARTY TRANSACTIONS

	December 31,						
	2017			2016			2015
	Joint Ventures (a)	Associates (b)	Total	Joint Ventures (a)	Associates (b)	Total	Total
	(In millions of US\$)						
Sales of geophysical equipment . . . . .	2.6	31.0	33.6	1.3	3.9	5.2	70.5
Equipment rentals and services rendered . . .	13.0	8.4	21.4	9.8	18.2	28.0	60.5
<b>Operating Revenue</b> . . . . .	<b>15.6</b>	<b>39.4</b>	<b>55.0</b>	<b>11.1</b>	<b>22.1</b>	<b>33.2</b>	<b>131.0</b>
Charter expenses . . . . .	(23.6)	—	(23.6)	(28.3)	—	(28.3)	(29.9)
Ship management expenses . . . . .	(24.4)	—	(24.4)	(36.2)	—	(36.2)	(70.6)
Costs of services rendered . . . . .	(2.5)	(1.5)	(4.0)	(4.1)	(3.6)	(7.7)	(14.6)
<b>Cost of operations</b> . . . . .	<b>(50.5)</b>	<b>(1.5)</b>	<b>(52.0)</b>	<b>(68.6)</b>	<b>(3.6)</b>	<b>(72.2)</b>	<b>(115.1)</b>
<b>Other financial income (loss)</b> . . . . .	<b>0.1</b>	<b>—</b>	<b>0.1</b>	<b>(1.3)</b>	<b>1.5</b>	<b>0.2</b>	<b>1.8</b>
Trade accounts and notes receivable, including agency arrangements . . . . .	18.1	18.7	36.8	20.7	15.6	36.3	58.1
Financial assets (see note 7) . . . . .	32.9	—	32.9	14.9	—	14.9	62.4
<b>Receivables</b> . . . . .	<b>51.0</b>	<b>18.7</b>	<b>69.7</b>	<b>35.6</b>	<b>15.6</b>	<b>51.2</b>	<b>120.5</b>
Trade accounts and notes payable, including agency arrangements . . . . .	13.1	5.5	18.6	25.9	33.6	59.5	79.2
Financial liabilities – Finance lease debt . . .	—	—	—	15.0	—	15.0	16.8
<b>Payables</b> . . . . .	<b>13.1</b>	<b>5.5</b>	<b>18.6</b>	<b>40.9</b>	<b>33.6</b>	<b>74.5</b>	<b>96.0</b>
Future leases commitments . . . . .	397.0	—	397.0	203.5	—	203.5	236.7
Future ship management costs . . . . .	169.3	—	169.3	66.7	—	66.7	97.7
<b>Contractual Obligations</b> . . . . .	<b>566.3</b>	<b>—</b>	<b>566.3</b>	<b>270.2</b>	<b>—</b>	<b>270.2</b>	<b>334.4</b>

(a) Mainly correspond to investments in companies accounted for using the equity method in our Marine acquisition Segment (see note 8);

(b) Mainly correspond to investments in companies accounted for using the equity method in our Land and Multi-Physics acquisition Segment (see note 8);

No credit facility or loan was granted to the Company by shareholders during the last three years.

## NOTE 28 — SUPPLEMENTARY CASH FLOW INFORMATION

### Operating activities

In 2016 and 2015, depreciation and amortization, together with multi-client surveys depreciation, included respectively US\$129.7 million and US\$206.9 million of assets impairment as described in note 21. In 2015, it also included US\$365.0 million of Marine goodwill impairment and US\$438.8 million goodwill impairment on GGR CGUs as described in note 11.

In 2017, 2016 and 2015, variance in provisions mainly related to restructuring and onerous contracts linked to the transformation plan (see notes 16 and 21). In 2015, variance in provision also included US\$40.0 million of depreciation of our shares in Geokinetics Inc.

In 2017, the income tax paid was an income of US\$43.5 million mainly resulting from the French R&D tax credit refund.

### Investing activities

In 2016 and 2015, variation in loan granted mainly related to a loan to Seabed Geosolutions BV (see note 8).



In 2015, acquisition mainly related to the earn-out linked to the acquisition of Geophysical Research Corporation, LLC in 2012.

### Financing activities

In 2016, we received net proceeds €337 million from our capital increase (or US\$367.5 million).

In 2015, non-cash investing and financing transactions that are excluded from the consolidated statements of cash flows were not material.

### Cash and cash equivalents

	<u>Year ended December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
	(In millions of US\$)		
Cash .....	229.6	415.1	318.5
Cash equivalents (mainly short-term deposits) .....	85.8	123.7	66.8
<b>Total cash and cash equivalents</b> .....	<b><u>315.4</u></b>	<b><u>538.8</u></b>	<b><u>385.3</u></b>

In 2017, Cash and Cash equivalents included trapped cash amounting to US\$98 million. Trapped cash means any cash and cash equivalent held by a subsidiary that operates in a country where exchange controls or other legal restrictions apply when the balances are not available for general use by the Group (cash in subsidiaries not available at Group level). The cash equivalents do not include in 2017 US\$33.5 million of cash pledged to fulfill some collateral requirements. The cash pledged for more than one year is recorded for US\$21.4 million in other financial assets (see note 7) and the cash pledged for less than one year is recorded for US\$12.1 million in restricted cash (see note 5).

### NOTE 29 — EARNINGS PER SHARE

	<u>Year</u>		
	<u>2017<sup>(4)</sup></u>	<u>2016<sup>(2) (3) (4)</sup></u>	<u>2015<sup>(2) (3) (4)</sup></u>
	(In millions of US\$, excepted per share data)		
Net income attributable to shareholders <sup>(a)</sup> .....	(514.9)	(573.4)	(1,450.2)
Less financial expenses on convertible bond, net of tax .....	15.1	14.3	16.8
<b>Adjusted net income attributable to shareholders for diluted earnings per shares<sup>(b)</sup></b> .....	<b>(499.8)</b>	<b>(559.1)</b>	<b>(1,433.4)</b>
<b>Effect of dilution</b>			
Ordinary shares outstanding at the beginning of the year <sup>(c)</sup> .....	46,038,287	12,647,881	12,647,881
Weighted average number of ordinary shares outstanding during the year <sup>(d)</sup> .....	—	30,607,872	—
<b>Weighted average number of ordinary shares outstanding<sup>(e) = (c) + (d)</sup></b> .....	<b><u>46,038,287</u></b>	<b><u>43,255,753</u></b>	<b><u>12,647,881</u></b>
Total dilutive potential shares from stock options <sup>(1)</sup> .....	—	—	—
Total dilutive potential shares from performance shares allocation <sup>(1)</sup> .....	—	—	—
Total dilutive potential shares from Convertible bonds <sup>(1)</sup> .....	—	—	—
<b>Dilutive weighted average number of shares outstanding adjusted when dilutive<sup>(f)</sup></b> .....	<b><u>46,038,287</u></b>	<b><u>43,255,753</u></b>	<b><u>12,647,881</u></b>
<b>Earnings per share</b>			
<b>Basic<sup>(a)/(e)</sup></b> .....	<b>(11.18)</b>	<b>(13.26)</b>	<b>(114.66)</b>
<b>Diluted<sup>(b)/(f) (5)</sup></b> .....	<b><u>(11.18)</u></b>	<b><u>(13.26)</u></b>	<b><u>(114.66)</u></b>

<sup>(1)</sup> As our net result was a loss, stock options, performance shares plans and convertible bonds had an anti-dilutive effect; as a consequence, potential shares linked to those instruments were not taken into account in the dilutive weighted average number of shares or in the calculation of diluted loss per share.

- (2) As a result of the February 5, 2016 CGG S.A. capital increase via an offering of preferential subscription rights to existing shareholders, the calculation of basic and diluted earnings per shares for 2015 has been adjusted retrospectively. Number of ordinary shares outstanding has been adjusted to reflect the proportionate change in the number of shares.
- (3) As a result of the July 20, 2016 reverse stock split the calculation of basic and diluted earnings per shares for 2015 has been adjusted retrospectively. Number of ordinary shares outstanding has been adjusted to reflect the proportionate change in the number of shares.
- (4) As a result of the February 21, 2018 CGG S.A. capital increase via an offering of preferential subscription rights to existing shareholders, the calculation of basic and diluted earnings per share for 2017, 2016 and 2015 has been adjusted retrospectively. Number of ordinary shares outstanding has been adjusted to reflect the proportionate change in the number of shares.
- (5) As our net result was a loss, the restatement of “financial expenses on convertible bond, net of tax” had an anti-dilutive effect and shouldn’t be taken into account in the calculation of diluted loss per share. As a result the formula for the diluted loss per share is (a) / (f).

### NOTE 30 — SUBSEQUENT EVENTS

The only subsequent event is the successful implementation of our financial restructuring plan on February 21, 2018. This event is described in note 2 as it is intrinsically linked to the rest of the transformation plan which is also presented in note 2.

### NOTE 31 — LIST OF PRINCIPAL CONSOLIDATED SUBSIDIARIES AS OF DECEMBER 31, 2017

Subsidiaries are fully consolidated from the date of their acquisition, being the date on which the Group obtains the control.

Dormant subsidiaries of the Group have not been included in the list below.

Percentage of interest generally corresponds to percentage of control in the company.

Siren Number <sup>(a)</sup>	Companies Names	Country of incorporation	% of interest
403 256 944	CGG Services SAS	France	100.0
410 072 110	CGG Explo SARL	France	100.0
413 926 320	Geomar SAS	France	100.0
	CGG Holding BV	Netherlands	100.0
	CGG Marine BV	Netherlands	100.0
	CGG Services (NL) BV	Netherlands	100.0
	CGG International SA	Switzerland	100.0
	CGG Data Services SA	Switzerland	100.0
	CGG Services (Norway) AS	Norway	100.0
	Exploration Investment Resources II AS	Norway	100.0
	Exploration Vessel Resources II AS	Norway	100.0
	CGG Services (UK) Limited	United Kingdom	100.0
	CGG do Brasil Participações Ltda	Brazil	100.0
	Veritas do Brasil Ltda	Brazil	100.0
	LASA Prospeccoes SA	Brazil	100.0
	CGG Mexico, SA de CV	Mexico	100.0
	Geoinnovation Corporativa S. de RL de CV	Mexico	100.0
	Vitzel SA de CV	Mexico	100.0
	CGG Holding (U.S.) Inc.	Delaware, United States of America	100.0

Siren Number <sup>(a)</sup>	Companies Names	Country of incorporation	% of interest
	CGG Services (U.S.) Inc.	Delaware, United States of America	100.0
	CGG Land (U.S.) Inc.	Delaware, United States of America	100.0
	CGG Canada Services Ltd	Canada	100.0
	CGG Services (Canada) Inc.	Canada	100.0
	CGG Services (Australia) Pty Ltd	Australia	100.0
	CGG Aviation (Australia) Pty Ltd	Australia	100.0
	CGG Veritas Services (B) Sdn Bhd	Brunei	100.0
	PT CGG Services Indonesia <sup>(1)</sup>	Indonesia	95.0
	CGG Services India Private Ltd	India	100.0
	CGG Technology Services (Beijing) Co. Ltd	China	100.0
	CGG Services (Singapore) Pte Ltd	Singapore	100.0
	CGG Services (Malaysia) Sdn Bhd	Malaysia	100.0
	CGG Vostok	Russia	100.0
866 800 154	Sercel Holding SAS	France	100.0
378 040 497	Sercel SAS	France	100.0
	Sercel-GRC	Oklahoma, United States of America	100.0
	Sercel Inc.	Oklahoma, United States of America	100.0
	Hebei Sercel-Junfeng Geophysical Prospecting Equipment Co. Ltd <sup>(1)</sup>	China	51.0
	Sercel Singapore Pte Ltd	Singapore	100.0
	De Regt Marine Cables BV	Netherlands	100.0

<sup>(a)</sup> Siren number is an individual identification number for company registration purposes under French law.

<sup>(1)</sup> % of control for these subsidiaries amount to 100%.

### Non-controlling interests

The Group does not fully consolidate any significant entity in which it holds less than a majority of voting rights.

Subsidiaries with non-controlling interests do not contribute materially to the activities of the Group, the consolidated net income, cash flows, liabilities or assets as of December 31, 2017. Hebei Sercel-Junfeng Geophysical Prospecting Equipment Co. Ltd, a subsidiary of Sercel SAS based in China, is the major entity with non-controlling interests.

### NOTE 32 — CONDENSED CONSOLIDATING INFORMATION FOR CERTAIN SUBSIDIARIES

At December 31, 2017 the obligations to pay our outstanding Senior Notes are guaranteed by certain subsidiaries: CGG Canada Services Ltd, CGG Marine Resources Norge AS, CGG Holding (U.S.) Inc, Alitheia Resources Inc, CGG Land (U.S.) Inc., CGG Services (U.S.) Inc., Viking Maritime Inc., CGG Marine BV, CGG Holding BV, CGG Holding I (UK) Ltd, CGG Holding II (UK) Ltd, as the “Services guarantors”, and Sercel Inc., Sercel Australia Pty Ltd, Sercel Canada Ltd and Sercel GRC as the “Equipment guarantors”.

Refer to note 2 — “Significant events” for more information on the significant adjustments done on our Group financial debt after closing.

The following table presents condensed consolidated financial information in IFRS for the year ended December 31, 2017 for the Company, the Guarantor subsidiaries, the Non-Guarantor subsidiaries and the Eliminations to arrive at CGG on a consolidated basis.

	Year ended December 31, 2017					
	CGG	Services Guarantors	Equipment Guarantors	Non Guarantors	Consolidation Adjustments	Group Consolidated
	(In millions of US\$)					
Goodwill	—	1,056.0	92.0	86.0	—	1,234.0
Intangible assets (including multi-client surveys)	20.8	496.7	23.1	905.0	(293.4)	1,152.2
Property, plant and equipment	74.0	209.9	30.7	167.4	(151.7)	330.3
Investment in affiliates	1,539.9	1,817.8	7.3	8.4	(3,373.4)	—
Other non-current assets	1,181.4	134.8	3.4	729.8	(1,772.2)	277.2
Current assets	338.4	595.0	309.1	1,213.3	(1,185.3)	1,270.5
<b>Total assets</b>	<b>3,154.5</b>	<b>4,310.2</b>	<b>465.6</b>	<b>3,109.9</b>	<b>(6,776.0)</b>	<b>4,264.2</b>
Financial debt (including bank overdrafts, current and non-current portion)	2,453.6	1,940.5	—	288.9	(1,727.7)	2,955.3
Other non-current liabilities (excluding financial debt)	28.4	11.8	12.4	171.4	(22.5)	201.5
Current liabilities (excluding current portion of debt)	144.4	611.8	60.5	953.6	(1,191.0)	579.3
<b>Total liabilities (excluding equity)</b>	<b>2,626.4</b>	<b>2,564.1</b>	<b>72.9</b>	<b>1,413.9</b>	<b>(2,941.2)</b>	<b>3,736.1</b>
<b>Equity</b>	<b>528.1</b>	<b>1,746.1</b>	<b>392.7</b>	<b>1,696.0</b>	<b>(3,834.8)</b>	<b>528.1</b>
Operating revenues	29.7	382.2	75.8	1,097.9	(265.6)	1,320.0
Depreciation and amortization	(6.6)	(154.6)	(7.9)	(350.2)	40.4	(478.9)
Operating income (loss)	(16.9)	(148.0)	(7.1)	(210.5)	119.0	(263.5)
Equity in income of affiliates	632.1	(73.4)	—	1.6	(560.3)	—
<b>Net income (loss)</b>	<b>(514.1)</b>	<b>(302.1)</b>	<b>9.7</b>	<b>(314.6)</b>	<b>607.0</b>	<b>(514.1)</b>
Cash flow from operating activities	36.1	157.2	—	204.3	(199.7)	197.9
Cash flow from investing activities	(88.6)	(110.5)	(5.8)	(220.9)	122.6	(303.2)
Cash flow from financing activities	(239.7)	(81.3)	6.7	119.1	78.5	(116.7)
Effect of exchange rates on cash	—	—	—	—	6.1	6.1
Impact of changes in consolidation scope	—	—	—	—	(7.5)	(7.5)
<b>Cash at opening</b>	<b>330.4</b>	<b>59.3</b>	<b>2.8</b>	<b>146.3</b>	<b>—</b>	<b>538.8</b>
<b>Cash at closing</b>	<b>38.2</b>	<b>24.7</b>	<b>3.7</b>	<b>248.8</b>	<b>—</b>	<b>315.4</b>

The following table presents condensed consolidated financial information in IFRS for the year ended December 31, 2016 for the Company, the Guarantor subsidiaries, the Non-Guarantor subsidiaries and the Eliminations to arrive at CGG on a consolidated basis.

	Year ended December 31, 2016					
	CGG	Services Guarantors	Equipment Guarantors	Non Guarantors	Consolidation Adjustments	Group Consolidated
	(In millions of US\$)					
Goodwill	—	1,056.0	88.1	79.2	—	1,223.3
Intangible assets (including multi-client surveys)	21.4	492.8	24.5	934.9	(288.9)	1,184.7
Property, plant and equipment	68.1	278.1	31.1	513.9	(182.6)	708.6
Investment in affiliates	1,771.6	2,684.7	7.1	405.8	(4,869.2)	—
Other non-current assets	1,229.4	349.0	4.5	842.3	(2,156.8)	268.4
Current assets	623.6	536.9	307.0	1,306.9	(1,297.9)	1,476.5
<b>Total assets</b>	<b>3,714.1</b>	<b>5,397.5</b>	<b>462.3</b>	<b>4,083.0</b>	<b>(8,795.4)</b>	<b>4,861.5</b>
Financial debt (including bank overdrafts, current and non-current portion)	2,139.7	2,170.9	—	693.6	(2,153.8)	2,850.4
Other non-current liabilities (excluding financial debt)	40.7	11.3	19.8	219.8	(40.5)	251.1
Current liabilities (excluding current portion of debt)	376.9	472.0	62.9	1,053.4	(1,362.0)	603.2
<b>Total liabilities (excluding equity)</b>	<b>2,557.3</b>	<b>2,654.2</b>	<b>82.7</b>	<b>1,966.8</b>	<b>(3,556.3)</b>	<b>3,704.7</b>
<b>Equity</b>	<b>1,156.8</b>	<b>2,743.3</b>	<b>379.6</b>	<b>2,116.2</b>	<b>(5,239.1)</b>	<b>1,156.8</b>
Operating revenues	54.3	427.2	100.7	1,554.1	(940.8)	1,195.5
Depreciation and amortization	(7.4)	(326.0)	(12.4)	(410.6)	46.0	(710.4)
Operating income (loss)	165.3	(73.8)	3.0	(368.8)	(122.2)	(396.5)
Equity in income of affiliates	335.9	(128.6)	—	1.9	(209.2)	—
<b>Net income (loss)</b>	<b>(576.6)</b>	<b>(138.6)</b>	<b>7.2</b>	<b>(385.3)</b>	<b>516.7</b>	<b>(576.6)</b>
Cash flow from operating activities	678.9	105.0	(0.6)	119.6	(547.8)	355.1
Cash flow from investing activities	4.0	(44.3)	(3.5)	(346.0)	8.6	(381.2)
Cash flow from financing activities	(531.1)	(50.5)	4.6	217.4	535.6	176.0
Effect of exchange rates on cash	—	—	—	—	3.6	3.6
Impact of changes in consolidation scope	—	—	—	—	—	—
<b>Cash at opening</b>	<b>178.6</b>	<b>49.1</b>	<b>2.3</b>	<b>155.3</b>	<b>—</b>	<b>385.3</b>
<b>Cash at closing</b>	<b>330.4</b>	<b>59.3</b>	<b>2.8</b>	<b>146.3</b>	<b>—</b>	<b>538.8</b>

The following table presents condensed consolidated financial information in IFRS for the year ended December 31, 2015 for the Company, the Guarantor subsidiaries, the Non-Guarantor subsidiaries and the Eliminations to arrive at CGG on a consolidated basis.

	Year ended December 31, 2015					
	CGG	Services Guarantors	Equipment Guarantors	Non Guarantors	Consolidation Adjustments	Group Consolidated
	(In millions of US\$)					
Goodwill	—	1,056.0	88.1	84.6	—	1,228.7
Intangible assets (including multi-client surveys)	24.9	644.4	27.9	866.7	(277.2)	1,286.7
Property, plant and equipment	74.1	341.2	38.3	624.9	(193.3)	885.2
Investment in affiliates	2,327.4	2,299.8	7.1	588.0	(5,222.3)	—
Other non-current assets	1,130.9	524.9	4.3	690.3	(2,009.9)	340.5
Current assets	559.2	603.9	287.0	1,799.6	(1,477.8)	1,771.9
<b>Total assets</b>	<b>4,116.5</b>	<b>5,470.2</b>	<b>452.7</b>	<b>4,654.1</b>	<b>(9,180.5)</b>	<b>5,513.0</b>
Financial debt (including bank overdrafts, current and non-current portion)	2,173.6	1,835.9	—	898.0	(2,022.7)	2,884.8
Other non-current liabilities (excluding financial debt)	51.6	44.0	23.9	205.4	(13.2)	311.7
Current liabilities (excluding current portion of debt)	532.9	613.9	58.5	1,489.2	(1,736.4)	958.1
<b>Total liabilities (excluding equity)</b>	<b>2,758.1</b>	<b>2,493.8</b>	<b>82.4</b>	<b>2,592.6</b>	<b>(3,772.3)</b>	<b>4,154.6</b>
<b>Equity</b>	<b>1,358.4</b>	<b>2,976.4</b>	<b>370.3</b>	<b>2,061.5</b>	<b>(5,408.2)</b>	<b>1,358.4</b>
Operating revenues	82.4	701.5	140.6	2,713.5	(1,537.1)	2,100.9
Depreciation and amortization	(17.8)	(1,088.3)	(16.9)	(616.0)	58.9	(1,680.1)
Operating income (loss)	(261.6)	(581.3)	(0.9)	856.3	(1,170.1)	(1,157.6)
Equity in income of affiliates	(1,922.9)	(155.9)	—	0.5	2,078.3	—
<b>Net income (loss)</b>	<b>(1,446.2)</b>	<b>(503.0)</b>	<b>6.1</b>	<b>824.0</b>	<b>(327.1)</b>	<b>(1,446.2)</b>
Cash flow from operating activities	1,602.0	269.8	11.3	869.3	(2,344.3)	408.1
Cash flow from investing activities	(1,253.9)	(19.4)	(18.4)	938.8	(70.4)	(423.3)
Cash flow from financing activities	(336.8)	(241.3)	—	(1,795.2)	2,436.1	62.8
Effect of exchange rates on cash	—	—	—	—	(21.4)	(21.4)
Impact of changes in consolidation scope	—	—	—	—	—	—
<b>Cash at opening</b>	<b>167.3</b>	<b>40.0</b>	<b>9.4</b>	<b>142.4</b>	<b>—</b>	<b>359.1</b>
<b>Cash at closing</b>	<b>178.6</b>	<b>49.1</b>	<b>2.3</b>	<b>155.3</b>	<b>—</b>	<b>385.3</b>



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