CGG
Form 20-F
March 29, 2018
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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

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(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

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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;

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- 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)				
Statement of operations data:					
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.(1)	(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
Net income (loss) per share:					
Basic(2)	$ (11.18)	(13.26)	(114.66)	(91.31)	(55.35)
Basic(1)	(9.96)	(11.99)	(102.94)	(68.51)	(41.76)
Diluted(2)	$ (11.18)	(13.26)	(114.66)	(91.31)	(55.35)
Diluted(1)	(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$)				
Balance sheet data:					
Cash and cash equivalents	315.4	538.8	385.3	359.1	530.0
Working capital(1)	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(2)	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

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(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)				
Other financial historical data and other ratios:					
EBIT(1) before RC(6)	(97.3)	(220.9)	82.3	160.2	423.1
EBIT(1) after RC(6)	(283.6)	(404.7)	(1,136.2)	(779.2)	(394.3)
EBITDAS(2) before RC(6)	372.4	327.9	660.6	993.7	1,187.0
EBITDAS(2) after RC(6)	186.1	273.6	452.8	775.7	1,139.7
Operating income before RC(6)	(77.2)	(212.7)	60.9	241.9	422.5
Operating income after RC(6)	(263.5)	(396.5)	(1,157.6)	(697.5)	(394.9)
Free-cash flow before RC(6)	(95.7)	(6.7)	(8.9)	(76.4)	5.0
Free-cash flow after RC(6)	(197.0)	(174.0)	(129.7)	(137.2)	(55.8)
Capital expenditures(3)	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(4)	2,639.9	2,311.6	2,499.5	2,419.8	2,217.7
Gross financial debt(5) / EBITDAS(2)	15.9x	10.4x	6.4x	3.6x	2.4x
Net financial debt(4) / EBITDAS(2)	14.2x	8.4x	5.5x	3.1x	1.9x
EBITDAS(2) / 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

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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.

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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 addtion, 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.*

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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;

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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;

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- 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 or 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.

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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					
(Converted in millions of US$)	**Assets (a)**	**Liabilities (b)**	**Currency commitments (c)**	**Net position before hedging (d) = (a) (b) ± (c)**	**Off-balance sheet positions (e)**	**Net position after hedging (f) = (d) + (e)**
US$[1]	1,469.6	1,869.9		(400.3)	0.0	(400.3)

[1] *US$-denominated assets and liabilities in the entities whose functional currency is the euro.*

	As of December 31, 2017					
(In millions of US$)	**Assets (a)**	**Liabilities (b)**	**Currency commitments (c)**	**Net position before hedging (d) = (a) (b) ± (c)**	**Off-balance sheet positions (e)**	**Net position after hedging (f) = (d) + (e)**
EUR[1]	71.9	170.5		(98.6)		(98.6)

[1] *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.

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Sensitivity Analysis Table

Impact of US$ variation in expenses in euros

As of December 31, 2017	Impact on result before taxes Increase of 10 cents	Impact on result before taxes Decrease of 10 cents	Impact on shareholders equity before taxes Increase of 10 cents	Impact on shareholders equity before taxes Decrease of 10 cents
In millions of US$	35	(35)	35	(35)
Total	**35**	**(35)**	**35**	**(35)**

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:

As of December 31, 2017	At fair value	Available for sales	Held to maturity	Derivatives	Total
Shares	US$ 0.3 million				US$ 0.3 million
Total	**US$ 0.3 million**				**US$ 0.3 million**

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 Jots 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.

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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.

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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

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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^2) 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.

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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

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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 508XT 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

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court order dated February 27, 2017, SELARL FHB, acting through Ms. Hélène 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, Boussard & 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 (*représentant de chacune des masses*); and
- on the one hand, the representatives of the then two largest shareholders of the Company, Bpifrance Participations and AMS Énergie, 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 Énergie 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.

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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.

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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;

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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

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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:

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

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%
Total operating revenues	**1,320**	**100%**	**1,196**	**100%**	**2,101**	**100%**

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.

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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 broad-bandwidth, 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*.

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

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