ION GEOPHYSICAL CORP
Form 10-K
February 11, 2016
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549
Form 10-K
(Mark One)

þ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the Fiscal Year Ended December 31, 2015
or

¨ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission file number 1-12691
ION Geophysical Corporation
(Exact Name of Registrant as Specified in Its Charter)

Delaware	22-2286646
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)

2105 CityWest Blvd
Suite 400
Houston, Texas 77042-2839
(Address of Principal Executive Offices, Including Zip Code)
(281) 933-3339
(Registrant's Telephone Number, Including Area Code)
Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, $0.01 par value	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act:
None
Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ¨ No þ
Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act Yes ¨ No þ
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 þ No ¨
Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes þ No ¨
Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. þ
Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):
Large accelerated filer ¨ Accelerated filer þ Non-accelerated filer ¨ Smaller reporting company ¨

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ¨ No þ

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As of June 30, 2015 (the last business day of the registrant's second quarter of fiscal 2015), the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was $165.1 million based on the closing sale price per share ($16.05) on such date as reported on the New York Stock Exchange. On February 4, 2016, we completed a one-for-fifteen reverse stock split and our stock began trading on a reverse-split basis on February 5, 2016. The closing sale price has been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4, 2016.

As of February 5, 2016, the number of shares of common stock, $0.01 par value, outstanding was 10,567,558 shares. The number of shares has been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 5, 2016.

DOCUMENTS INCORPORATED BY REFERENCE

Document	Parts Into Which Incorporated
Portions of the registrant's definitive Proxy Statement for its Annual Meeting of Stockholders scheduled to be held on May 18, 2016, to be filed pursuant to Regulation 14A	Part III

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PART I

Preliminary Note: This Annual Report on Form 10-K contains "forward-looking statements" as that term is defined in the Private Securities Litigation Reform Act of 1995. Forward-looking statements should be read in conjunction with the cautionary statements and other important factors included in this Form 10-K. See Item 1A. "Risk Factors" for a description of important factors which could cause actual results to differ materially from those contained in the forward-looking statements.

In this Form 10-K, "ION Geophysical," "ION," "the company" (or, "the Company"), "we," "our," "ours" and "us" refer to ION Geophysical Corporation and its consolidated subsidiaries, except where the context otherwise requires or as otherwise indicated. Certain trademarks, service marks and registered marks of ION referred to in this Form 10-K are defined in Item 1. "Business — Intellectual Property."

Item 1. Business

ION is a Delaware corporation. Our predecessor entity was incorporated in 1979. We are a global, technology-focused company that provides geoscience technology, services and solutions to the global oil and gas industry. Our offerings are designed to allow oil and gas exploration and production ("E&P") companies to obtain higher resolution images of the Earth's subsurface during E&P operations to reduce their risk in exploration and reservoir development. We acquire, process and interpret seismic data from seismic surveys in regional data programs, which then become part of our multi-client data library. The seismic surveys for our data library business are pre-funded, or underwritten, in part by our customers, and, with the exception of our ocean bottom seismic ("OBS") data acquisition company, OceanGeo B.V. ("OceanGeo"), we contract with third party seismic data acquisition companies to shoot and acquire the seismic data, all of which is intended to minimize our risk exposure. We serve customers in most major energy producing regions of the world from strategically located offices in 27 cities on six continents.

Seismic imaging plays a fundamental role in hydrocarbon exploration and reservoir development by delineating structures, rock types and fluid locations in the subsurface. Our technologies, services and solutions are used by E&P companies to generate high-resolution images of the Earth's subsurface to identify sources of hydrocarbons and pinpoint drilling locations for wells, which can be costly and involve high risk.

We provide our services and products through four business segments – Solutions, Systems, Software and Ocean Bottom Services. Our Ocean Bottom Services segment is comprised of OceanGeo, in which we increased our ownership from 30% to 100% in 2014. In addition, we have a 49% ownership interest in our INOVA Geophysical Equipment Limited joint venture ("INOVA Geophysical," or "INOVA").

For decades we have been engaged in providing innovative seismic data acquisition technology, such as multicomponent imaging with VectorSeis® products, the ability to record seismic data from basins that underlie ice fields in polar regions, and cableless seismic techniques. The advanced technologies we currently offer include our Orca® and Gator® command and control software systems, WiBand® broadband data processing technology, Calypso® OBS acquisition system, Narwhal™ (software system) for ice management, and other technologies, each of which is designed to deliver improvements in both image quality and productivity. In 2015, we completed field testing of our Marlin™ solution for optimizing simultaneous operations during marine seismic data acquisition. We have over 500 patents and pending patent applications in various countries around the world. Approximately 50% of our employees are involved in technical roles and over 26% of our employees have advanced degrees.

Solutions. Our Solutions business provides two distinct service activities that often work together.

Our Ventures group (formerly known as our GeoVentures® group) provides services designed to manage the entire seismic process, from survey planning and design to data acquisition and management, to final subsurface imaging and reservoir characterization. Our Ventures group focuses on the technologically intensive components of the image development process, such as survey planning and design, and data processing and interpretation, outsourcing the logistics components (such as field acquisition) to experienced seismic and other geophysical contractors.

Our Imaging Services group (formerly known as our GX Technology (GXT) group) offers data processing and imaging services designed to help our E&P customers reduce exploration and production risk, evaluate and develop reservoirs, and increase production. This group develops a series of subsurface images by applying its processing technology to data owned or licensed by its customers. We maintain more than 15 petabytes of seismic data digital information storage in 4 global data centers, including two core data centers located in Houston and in the U.K.

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Our Solutions business focuses on providing services and products for challenging environments, such as the Arctic frontier; complex and hard-to-image geologies, such as deepwater subsurface salt formations in the Gulf of Mexico and offshore East and West Africa and Brazil; unconventional reservoirs, such as those found in shale, tight gas and oil sands formations; and offshore basin-wide seismic data and imaging programs. Since 2002, our basin exploration seismic data programs have resulted in a substantial data library that covers significant portions of many of the frontier basins in the world, including offshore East and West Africa, India, South America, the Arctic, the deepwater Gulf of Mexico and Australia.

Our E&P Advisors group partners with E&P operators, energy industries and capital institutions to capture and monetize E&P opportunities worldwide. This group provides technical, commercial and strategic advice across the exploration and production value chain, working at basin, prospect and field scales.

Software. Our Software business provides command and control software systems, related software and services for towed marine streamer and ocean bottom seismic operations, as well as survey design. Our Orca software is installed on towed streamer marine vessels worldwide, and our Gator software is a component of many re-deployable and permanent ocean bottom seismic monitoring systems.

In 2013, we introduced our Narwhal for ice management system, and in 2015, we completed field testing our Marlin solution for optimizing simultaneous operations during marine seismic data acquisition. Both of these systems are part of our E&P software solutions for operations management.

Systems. Our Systems business is engaged in the manufacture of (i) re-deployable ocean bottom cable seismic data acquisition systems (for OceanGeo's use in OBS data acquisition); (ii) marine towed streamer positioning and control systems; and (iii) geophone sensors.

Ocean Bottom Services ("OBS"). In 2014, we increased our ownership interest in OceanGeo from 30% to 100%. Through the addition of OceanGeo, ION offers a fully integrated OBS solution designed to maximize seismic image quality, operational efficiency and safety. The integrated OBS solution includes expert survey design, planning and optimization, superior data captured using multicomponent acquisition systems available exclusively to OceanGeo; data acquisition by the experienced team at OceanGeo; and data processing, interpretation and reservoir services, by our Imaging Services experts. For information regarding our acquisition of OceanGeo, see Footnote 14 "Acquisition of OceanGeo" of Footnotes to Consolidated Financial Statements contained elsewhere in this Annual Report on Form 10-K.

INOVA Geophysical. We conduct our land seismic equipment business through INOVA Geophysical, a joint venture with BGP Inc., which is a subsidiary of China National Petroleum Corporation ("CNPC"). BGP is generally regarded as the world's largest land geophysical service contractor. BGP owns a 51% equity interest in INOVA Geophysical, and we own the remaining 49% interest. INOVA manufactures cable-based and cableless seismic data acquisition systems, digital sensors, vibroseis vehicles (i.e., vibrator trucks), and source controllers for detonator and energy source business lines. We wrote our investment in INOVA down to zero as of December 31, 2014. For a discussion of the impairment of our equity method investment in INOVA, see Footnote 15 "Equity Method Investments" of Footnotes to Consolidated Financial Statements contained elsewhere in this Annual Report on Form 10-K.

Seismic Industry Overview

1930s – 1970s. Since the 1930s, oil and gas companies have sought to reduce exploration risk by using seismic data to create an image of the Earth's subsurface. Seismic data is recorded when listening devices placed on the Earth's surface or ocean bottom floor, or carried within the streamer cable of a towed streamer vessel, measure how long it takes for sound vibrations to echo off rock layers underground. For seismic data acquisition onshore, the acoustic energy producing the sound vibrations is generated by the detonation of small explosive charges or by large vibroseis (vibrator) vehicles. In marine acquisition, the energy is provided by a series of air guns that deliver compressed air into the water column.

The acoustic energy propagates through the subsurface as a spherical wave front, or seismic wave. Interfaces between different types of rocks will both reflect and transmit this wave front. Onshore, the reflected signals return to the surface where they are measured by sensitive receivers that are analog coil-spring geophones. Offshore, the reflected signals are recorded by either hydrophones towed in an array behind a streamer acquisition vessel or by multicomponent geophones or MEMS sensors that are placed directly on the ocean floor. Once the recorded seismic

energy is processed using advanced algorithms and workflows, images of the subsurface can be created to depict the structure, lithology (rock type), fracture patterns, and fluid content of subsurface horizons, highlighting the most promising places to drill for oil and natural gas. This processing also aids in engineering decisions, such as drilling and completion methods, as well as decisions affecting overall reservoir production as well as guiding economic decisions relating to drilling risk and reserves in place.

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Typically, an E&P company engages the services of a geophysical acquisition contractor to prepare site locations, coordinate logistics, and acquire seismic data in a selected area. The E&P company generally relies upon third parties, such as ION, to provide the contractor with equipment, navigation and data management software, and field support services necessary for data acquisition. After the data is collected, the same geophysical contractor, a third-party data processing company, our Imaging Services group or the E&P company itself will process the data using proprietary algorithms and workflows to create a series of seismic images. Geoscientists then interpret the data by reviewing the images and integrating the geophysical data with other geological and production information such as well logs or core information.

During the 1960s, digital seismic data acquisition systems (which converted the analog output from the geophones into digital data for recording) and computers for seismic data processing were introduced. Using the new systems and computers, the signals could be recorded on magnetic tape and sent to data processors where they could be adjusted and corrected for known distortions. The final processed data was displayed in a form known as “stacked” data. Computer filing, storage, database management, and algorithms used to process the raw data quickly grew more sophisticated, dramatically increasing the amount of subsurface seismic information.

1980s. Until the early 1980s, the primary commercial seismic imaging technology was two-dimensional (“2-D”) technology. 2-D seismic data is recorded using lines of receivers crossing the surface of the Earth. Once processed, 2-D seismic data allows geoscientists to see only a thin vertical slice of the Earth, and that image may be corrupted by reflections originating out of the place of the receiver line. A geoscientist using 2-D seismic technology must speculate on the characteristics of the Earth between the slices and attempt to visualize the true three-dimensional (“3-D”) structure of the subsurface.

The commercial development of 3-D imaging technology in the early 1980s was an important technological milestone for the seismic industry. Previously, the high cost of 3-D seismic data acquisition techniques and the lack of computing power necessary to process, display, and interpret 3-D data on a commercial basis had slowed its widespread adoption. Today’s 3-D seismic techniques record the reflected energy across a series of closely-spaced seismic lines that collectively provide a more holistic, spatially-sampled depiction of geological horizons and, in some cases, rock and fluid properties, within the Earth.

3-D seismic data and the associated computer-based interpretation platforms are designed to allow geoscientists to generate more accurate subsurface maps than could be constructed on the basis of the more widely spaced 2-D seismic lines. In particular, 3-D seismic data provided more detailed information about and higher-quality images of subsurface structures, including the geometry of bedding layers, salt structures, and fault planes. The improved 3-D seismic images allowed the oil and gas industry to discover new reservoirs, reduce finding and development costs, and lower overall hydrocarbon exploration risk. Driven by faster computers and more sophisticated mathematical equations to process the data, the technology advanced quickly.

1990s. As commodity prices decreased in the late 1990s and the pace of innovation in 3-D seismic imaging technology slowed, E&P companies slowed the commissioning of new seismic surveys. Also, business practices employed by geophysical contractors impacted demand for seismic data. In an effort to sustain higher utilization of existing capital assets, geophysical contractors increasingly began to collect speculative seismic data for their own account in the hopes of selling it later to E&P companies. These generic, speculative, multi-client surveys were not tailored to meet the unique imaging objectives of individual clients and caused an oversupply of seismic data in many regions. Additionally, since contractors incurred most of the costs of this speculative seismic data at the time of acquisition, contractors lowered prices to recover as much of their fixed investment as possible, which drove operating margins down. During the 1990’s, the accuracy of 3-D seismic surveys improved to the point that a survey acquired after significant oil production could be compared to a pre-production survey, and maps of the drainage pattern of the reservoir could be produced. This technique became known as time lapse, or 4-D seismic.

2000s. The conditions from the 1990s continued to prevail until 2004-2005, when commodity prices began increasing and E&P companies increased their capital spending programs, driving higher demand for our services and products. During this time, the use of horizontal drilling and hydraulic fracturing increased, as onshore North American production became economically viable with higher oil prices. These techniques, used to tap unconventional reservoirs, made once “hard to produce” oil and gas accessible and caused an upsurge in North American onshore oil

and gas activity.

The financial crisis that occurred in 2008 and the resulting economic downturn drove hydrocarbon prices down sharply; this had the effect of sharply reducing exploration activities in North America and in many parts of the world. Crude oil prices rebounded in 2013, and into 2014 with oil prices exceeding $100 per barrel, and U.S. oil production surged far beyond what even the most optimistic forecasts predicted. In the fourth quarter of 2014, however, oil prices began to decline significantly, as signs emerged that non-U.S. demand was weakening. The plunge accelerated in late November when OPEC decided to maintain production despite the lower demand and prices. Between September and December 2014, WTI and Brent crude oil prices dropped by approximately half. Between January 1, 2015 and December 31,2015, WTI and Brent crude oil prices dropped by approximately 30%.

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Throughout 2014, and 2015, and continuing into 2016, oil companies began prioritizing shareholder returns and cash flow generation over hydrocarbon resource growth, minimizing discretionary spending and shifting their focus from exploration to production. This shift, which has been magnified by the effect of very low global oil prices in 2015 and 2016, is causing a contraction in E&P spending on seismic for exploration purposes. When spending on seismic for exploration purposes contracts, typically the seismic companies hardest hit are towed streamer contractors, who find themselves with excess vessel capacity. In addition, oil and gas companies tend to shift to reprocessing existing seismic data as a more cost-effective alternative to acquiring new data.

Our Strategy

The key elements of our business strategy are to:

- Leverage our key technologies to provide integrated solutions to oil and gas companies, across the entire E&P lifecycle. More of our customers are seeking fully integrated offerings from seismic companies, from survey planning and design, to leading technology differentiation in acquisition and processing. We have transformed our Company from an equipment provider to an integrated service provider, where leading equipment and software technologies underpin our solution offerings. The growth in our Solutions business over the past decade is a testament to our steadfast execution of this strategy. Whereas our solutions, including our BasinSPAN™ 2-D seismic programs, were focused on the earlier, frontier exploration, phase of the E&P lifecycle, our newest offering, OBS services through OceanGeo, is geared to the later, less volatile, production phase of the E&P lifecycle leveraging our internally developed technology, including Calypso™, our newest OBS data acquisition system.
- Expand and globalize our Solutions business. We seek to expand and grow our Solutions business into new regions, with new customers and new offerings, including proprietary services for E&P companies through our imaging services and Ventures multi-client businesses. Historically known for our 2-D programs, we entered the 3-D multi-client market in 2013 by acquiring and processing our first survey offshore Ireland. For the foreseeable future, we expect the majority of our future investments to be in research and development and computing infrastructure for our data processing business and to support our multi-client projects. We believe this focus better positions our company as a full-service technology company with an increasing proportion of revenues derived from E&P customers.
- Continue investing in advanced software and equipment technology to provide next generation services and products. We intend to continue investing in the development of new technologies for use by E&P companies. In particular, we intend to focus on the development of the next generation of our OBS data imaging technology, our Narwhal ice management system, our Marlin simultaneous operations software, and derivative products, with the goal of obtaining technical and market leadership in what we continue to believe are important and expanding markets. In 2015, our total investment in research and development and engineering was equal to approximately 12% of our total net revenue for the year.
- Collaborate with our customers to provide products and solutions designed to meet their needs. A key element of our business strategy has been to understand the challenges faced by E&P companies in seismic survey planning, seismic data acquisition, processing, and interpretation. We will continue to develop and offer technology and services that enable us to work with E&P companies to solve their unique challenges, especially in the harshest and most extreme environments around the world. We have found that a collaborative relationship with E&P companies, with a goal of better understanding their imaging challenges and then working with them to assure them that the right technologies are properly applied, is the most effective method for meeting their needs. Our goal of being a full solutions provider to solve the most difficult challenges for our customers is an important element of our long-term business strategy, and we are implementing this partnership approach globally through local personnel in our regional organizations who understand the unique challenges in their areas. We formed an E&P Advisors group in 2015 designed to focus specifically on this element of our strategy.

Our Strengths

We believe that we are solidly positioned to successfully execute the key elements of our business strategy based on the following competitive strengths:

- We are leveraging our key technologies to provide integrated solutions to oil and gas companies. More of our customers are seeking fully integrated offerings from seismic companies, from survey planning and design, to leading

technology differentiation in acquisition and processing. ION has become an integrated service provider for both towed streamer and ocean bottom seismic services, through service offerings by our Solutions segment.

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- We are a broad-based seismic solutions provider, with offerings spanning the entire geophysical workflow. We are a technology-focused full-value-chain service provider, with offerings that span the entire seismic workflow, from survey planning and data acquisition to processing and interpretation. Our offerings include seismic data acquisition hardware, data acquisition services, command and control software, value-added services associated with seismic survey design, seismic data processing and interpretation, and seismic data libraries.
- Our “asset light” strategy enables us to avoid significant fixed costs and to remain financially flexible. We do not own a fleet of marine vessels and, with the exception of OceanGeo, we do not provide our own seismic crews to acquire seismic data. We outsource a majority of our seismic data acquisition activity to third parties that operate their own fleets of seismic acquisition vessels and equipment. Doing so enables us to avoid the fixed costs associated with these assets and personnel and to manage our business in a manner designed to afford us the flexibility to quickly decrease our costs or capital investments in the event of a downturn, as we have experienced in 2014 and 2015. We actively manage the costs of developing our multi-client data library business by requiring our customers to partially pre-fund, or underwrite, the investment for any new project. Our target goal is to have a vast majority of the total cost of each new project’s data acquisition to be underwritten by our customers. We believe this conservative approach to data library investment is the most prudent way to reduce the impact of any sudden reduction in the demand for seismic data giving us the flexibility to aggressively reduce cash outflows as we have successfully implemented in the current industry downturn.
- Our global footprint and ability to work in harsh conditions allow us to offset regional downturns. Our focus on conducting business around the world, even in the harshest and most extreme environments, has been and will continue to be a key component of our strategy. This global focus has been helpful in minimizing the impact of any one regional slowdown for short or extended periods of time. We believe that our customers prefer to work with companies that are capable of delivering high quality, safe, and environmentally sensitive service in those environments. For example, our operational expertise and equipment and software technologies enable us to operate in the harsh Arctic environment and to acquire seismic data in areas for which no modern seismic data previously existed. This expertise and these technologies permit us to extend the time window for data acquisition, facilitate our customers’ drilling decisions, reducing exploration and production risk.
- We have a diversified and blue chip customer base. We provide services and products to a diverse, global customer base that includes many of the largest oil and gas and geophysical companies in the world, including national oil companies (NOCs) and international oil companies (IOCs). Over the past decade, we have made significant progress in expanding our customer list and revenue sources. Whereas almost all of our revenues in 2003 were derived principally from seismic contracting companies, in 2015 E&P companies accounted for approximately 70% of our total revenues. Even though we provide services and products to some of the largest companies in the world, no single customer accounted for more than 10% of our total revenue in 2013, 2014 or 2015. We focus our sales and marketing efforts on high-quality, historically creditworthy customers.

Services and Products

Solutions Segment

Our Solutions segment includes the following:

Ventures — Our Ventures group provides complete seismic data services, from survey planning and design through data acquisition to final subsurface imaging and reservoir characterization. We work backwards through the seismic workflow, with the final image in mind, to select the optimal survey design, acquisition technology, and processing techniques.

We offer our services to customers on both a proprietary and multi-client (non-exclusive) basis. In both cases, the customers generally pre-fund a majority of the data acquisition costs. For proprietary services, the customer also pays for the imaging and processing but has exclusive ownership of the data after it has been processed. For multi-client surveys, we may assume some of the processing costs, but we retain ownership of the data and receive ongoing revenue from subsequent data license sales.

Since 2002, we have acquired and processed a growing multi-client data library consisting of non-exclusive marine and ocean bottom data from around the world. The majority of the data licensed by ION consists of ultra-deep 2-D seismic data that E&P companies use to evaluate petroleum reservoirs at the basin level, including insights into the

character of source rocks and sediments, migration pathways, and reservoir trapping mechanisms. In many cases, we extend beyond seismic data to include magnetic, gravity, well log, and electromagnetic information, to provide a more comprehensive picture of the subsurface. Known as “BasinSPAN” programs, these geophysical surveys cover most major offshore basins worldwide and we’re continuing to build on them. In addition to our 2-D multi-client programs, in 2013 we acquired our first 3-D marine proprietary program and signed a strategic agreement with Polarcus Limited, a marine geophysical company, to jointly plan and execute 3-D marine multi-client surveys worldwide, and in 2013, we jointly acquired and processed our first 3-D survey offshore Ireland.

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For land applications, we also have a library of 3-D onshore reservoir imaging and characterization programs that provide E&P companies with the ability to better understand unconventional reservoirs to maximize production. Known as "ResSCAN™" programs, these 3-D multicomponent seismic data programs were designed, acquired and depth-imaged using advanced geophysical technology and proprietary processing techniques, resulting in high-definition images of the subsurface.

In 2014, we wrote down the value of our multi-client data library, primarily associated with Arctic and onshore North American programs by $100.1 million due to current market conditions. The decline in crude oil prices to 12-year lows negatively impacted the economic outlook of our E&P customers. In response to the decline in crude oil prices, E&P companies turned their focus to spending reductions, with exploration spending receiving the largest reductions and seismic spending being one of the most discretionary parts of their exploration budgets. These reductions in exploration spending have had an impact on our results of operations in 2014 and 2015. Sales of Arctic programs have been specifically impacted by events in Russia and the U.S. government canceling future license rounds in Alaska. The decline in crude oil prices as well as U.S. and European Union sanctions against Russia related to Russia's actions in Ukraine, both contributed to the devaluation of the Russian ruble which placed significant pressure on our Russian-based customers and negatively impacted the appeal of seismic data located in Russia to potential non-Russian buyers. In 2015, further declines in oil prices caused in part by the oversupply of crude oil, including the Iran nuclear deal, which allows Iran to export more oil, has caused concerns about further increasing supply. These events have continued to impact North America. E&P customer spending in the natural gas shale plays has been limited due to associated gas being produced from unconventional oil wells in North America increasing natural gas supplies and putting downward pressure on natural gas prices. The number of rigs working in North America has decreased by approximately 62% since late November 2014.

Seismic Data Processing Services — Our Imaging Services group is a strong market participant in advanced marine, and land seismic data processing, imaging, and reservoir services. In addition to applying processing and imaging technologies to data owned or licensed by its customers, we also provide our customers with seismic data acquisition support services, such as data pre-conditioning for imaging and quality control of seismic data acquisition.

We utilize a globally distributed network of Linux-cluster processing centers in combination with our major hubs in Houston and London to process seismic data using advanced, proprietary algorithms and workflows.

Our Imaging team has pioneered several differentiated processing and imaging solutions for both offshore and onshore environments including: Reverse Time Migration, Surface Related Multiple Elimination, and WiBand broadband deghosting. In 2013, we commercially released our new Full Waveform Inversion and non-parametric picking tomography techniques to improve subsurface image resolution in areas with complex geologies. The advantages of these techniques are that they allow for the resolution of complex, small-scale velocity variations. In 2014, we introduced PrecisION™, an innovative compressed seismic inversion technique that is designed to build Earth reconstructions with improved accuracy and aid geoscientists in better quantifying exploration and development risk and uncertainty. In 2015, the focus of our Imaging team has been on the application of our differentiated technology, expertise and access to BasinSPAN data to work with key customers to deliver seismic velocity models and images consistent with geology. In 2015, we released our next generation data processing system, Perseus, which removes our dependence on third party software and has yielded improvements of over four times on our key processes. In a low oil price environment ION Imaging has increasingly adapted to meet the growing need to deliver high value information by reprocessing old data with the latest imaging technology. In addition to processing our own multi-client BasinSPAN 2-D programs and regionally calibrated 3-D programs, our proprietary processing and imaging business has been focused on key customers with complex 3-D imaging challenges predominantly in the marine environment - both towed streamer and seabed. Our focus on close collaboration with key customers has been rewarded by repeat business such as the recent award of a contract extension from PEMEX.

Quantitative Interpretation — The Imaging Services group also offers solutions "downstream" of seismic data processing workflows that enable E&P companies to develop their reservoirs and increase production. This is accomplished by integrating geophysical, geological, petrophysical and rock physics information to identify lithology, fluid or fracture within hydrocarbon reservoirs. Once understood, this information may be used for better well placement and more effective well completions.

At December 31, 2015, our Solutions segment backlog, which consists of commitments for (i) data processing work and (ii) both multi-client new venture and proprietary projects that have been underwritten, has declined to $19.2 million compared with $46.7 million at December 31, 2014. Our Solutions segment's fiscal-year-end backlog includes signed contracts that we can usually fulfill within approximately six months. Investments in our multi-client data library are dependent upon the timing of our new ventures projects and the availability of underwriting by our customers. Our asset light strategy enables us to scale our business to avoid significant fixed costs and to remain financially flexible as we manage the timing and levels of our capital expenditures.

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E&P Advisory Services — Our E&P Advisors group partners with E&P operators, energy industries and capital institutions to capture and monetize E&P opportunities worldwide. This group provides technical, commercial and strategic advice across the exploration and production value chain, working at basin, prospect and field scales. E&P Advisors couple ION's proven technical capabilities with the industry's best commercial and strategic minds to deliver fit-for-purpose solutions, employing a variety of commercial models specific to our clients' needs.

Software Segment

Through this segment, we supply command and control software systems and related services for towed marine streamer and OBS operations. Software developed by our Software group is installed on towed streamer marine vessels worldwide and is a component of many re-deployable and permanent ocean bottom monitoring systems. An advantage of our underlying software platform is that it provides common components from which to build other applications. This enables the acceleration of development and commercialization of new products as market opportunities are identified. Our Narwhal for ice management system, which we released in 2013, is such an example, as is Marlin, our new software solution for optimizing simultaneous operations during marine seismic data acquisition.

Products and services for our Software segment include the following:

Towed Streamer Navigation System — Our command and control software for towed streamer acquisition, Orca, integrates acquisition, planning, positioning, source and quality control systems into a seamless operation.

Ocean Bottom Navigation System — Gator II is our integrated navigation and data management system for multi-vessel OBS, electromagnetic and transition zone operations.

Survey Planning and Optimization — We offer consulting services for planning and supervising complex surveys, including for 4-D (time lapse) and Wide Azimuth Towed Streamer survey operations. Our acquisition expertise and in-field software platforms are designed to allow clients, including both oil companies and seismic data acquisition contractors, to optimize these complex surveys, improving efficiencies, data quality and reducing costs. Our Orca and Gator systems are designed to integrate with our post-survey tools for processing, analysis and data quality control, including the use of our Reflex® software for seismic coverage and attribute analysis. Our proprietary technology known as Optimiser™ is designed to enable improved, safer acquisition through analysis and prediction of sea currents and integration of the information into the acquisition plan.

Operations Management — In 2013, we introduced the first fully integrated ice management system designed to reduce risk and improve efficiency in seismic data acquisition and drilling operations in or near ice, such as in the Arctic. The patented Narwhal system enables operators to gather, monitor and analyze data from various sources, including satellite imagery, ice charts, radar, manual observations, and wind and ocean currents, to forecast and predict ice movements in these harsh environments. With this ability to track, forecast and monitor potential ice threats, operators can make informed, proactive decisions to ensure the safety of individuals, assets and the environment, while minimizing operational downtime. More importantly, we applied this technology to develop and commercialize our Marlin solution for managing simultaneous operations during marine seismic data acquisition.

Systems Segment

Our Systems segment products include the following:

Marine Acquisition Systems — We believe that the market for ocean bottom seismic imaging is growing. E&P companies have shown increased interest in ocean bottom seismic activities, consistent with their desire for higher-quality seismic imaging for complex geological formations and more detailed reservoir characteristics. Since introducing our first ocean bottom acquisition system, VSO, in 2004, we have continued to develop advanced ocean bottom systems, which we are putting to use through OceanGeo.

We also manufacture marine acquisition systems, consisting of towed marine streamers and shipboard electronics that collect seismic data in water depths of greater than 30 meters. Marine streamers, which contain hydrophones, electronic modules and cabling, may measure up to 12,000 meters in length and are towed (up to 20 at a time) behind a seismic acquisition vessel. The hydrophones detect acoustical energy transmitted through water from the Earth's subsurface structures. Our DigiSTREAMER™ system uses solid streamer and integrated continuous acquisition technology for towed streamer operations.

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Marine Positioning Systems — Our manufactured marine streamer positioning system includes streamer cable depth control devices, lateral control devices, compasses, acoustic positioning systems and other auxiliary sensors. This equipment is designed to control the vertical and horizontal positioning of the streamer cables and provides acoustic, compass and depth measurements to allow processors to tie navigation and location data to geophysical data to determine the location of potential hydrocarbon reserves. DigiBIRD II® are designed to maintain streamers at pre-defined target depths more safely, efficiently, and cost effectively than ever before by eliminating workboat operations for battery changes on the majority of seismic surveys. DigiFIN® is an advanced lateral streamer control system that we commercialized in 2008. DigiFIN is designed to maintain tighter, more uniform marine streamer separation along the entire length of the streamer cable, which allows for better sampling of seismic data and improved subsurface images. We believe that DigiFIN also enables faster line changes and minimizes the requirements for in-fill seismic work.

Geophones — Geophones are land sensor devices that measure acoustic energy reflected from rock layers in the Earth's subsurface using a mechanical, coil-spring element. We manufacture and market a full suite of geophones and geophone test equipment that operate in most environments, including land surface, transition zone and downhole. Our geophones are used in other industries as well.

Ocean Bottom Services Segment

ION offers a fully-integrated OBS solution that includes expert survey design, planning and optimization, to maximize seismic image quality, safe, efficient data acquisition by the experienced team at OceanGeo; superior imaging via OceanGeo's exclusive use of our VSO systems; and data processing, interpretation and reservoir services through ION.

INOVA Geophysical Products

INOVA manufactures cable-based (G3i® and ARIES®) and cableless (Hawk®) seismic data acquisition systems, digital sensors (AccuSeis™ and VectorSeis), vibroseis vehicles (i.e., vibrator trucks, known as AHV-IV™ and UNIVIB®) and source controllers for detonator and energy source (Vib Pro™ and Shot Pro™ II) business lines. We wrote our investment in INOVA down to zero as of December 31, 2014. For a discussion of the impairment of our equity method investment in INOVA, see Footnote 15 "Equity Method Investments" of Footnotes to Consolidated Financial Statements contained elsewhere in this Annual Report on Form 10-K.

Product Research and Development

Our ability to compete effectively in the seismic imaging market depends principally upon continued technological innovation in our underlying technologies. As such, the overall focus of our research and development efforts has remained on improving both the quality of the subsurface images we generate and the economics of the seismic data acquisition that lies behind the imaging. In particular, we have concentrated on enhancing the nature and quality of the information that can be extracted from the subsurface images.

During 2015, our research and development efforts were aimed at developing strategic key technologies across all business lines. A large part of this effort was focused on the final phases of development of our Calypso re-deployable ocean bottom acquisition system, which we plan to put into service through our Ocean Bottom Services segment. Within the seismic data processing business, we continued to invest in productivity enhancements and in technologies aimed at handling increasingly complex data acquisition environments and at areas with difficult-to-image subsurface geology. We invested in Marlin, a software system for managing simultaneous marine seismic operations. We also continued research and development into maximizing the value of full-wave seismic data, particularly the extraction of new and more accurate subsurface information with a special emphasis on marine ocean bottom imaging.

As many of these new services and products are under development and, as the development cycles from initial conception through to commercial introduction can extend over a number of years, their commercial feasibility or degree of commercial acceptance may not yet be established. No assurance can be given concerning the successful development of any new service or product, any enhancements to them, the specific timing of their release or their level of acceptance in the marketplace.

Markets and Customers

Our primary customers are E&P companies to whom we market and offer services, primarily imaging-related processing services from our Imaging Services group, multi-client seismic data programs from our Ventures group, and OBS data acquisition services through OceanGeo, as well as consulting services from our E&P Advisors and

Software group. Secondarily, seismic contractors purchase our towed streamer data acquisition systems and related equipment and software to collect data in accordance with their E&P company customers' specifications or for their own seismic data libraries.

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A significant part of our marketing effort is focused on areas outside of the United States. Foreign sales are subject to special risks inherent in doing business outside of the United States, including the risk of political instability, armed conflict, civil disturbances, currency fluctuations, embargo and governmental activities, customer credit risks and risk of non-compliance with U.S. and foreign laws, including tariff regulations and import/export restrictions.

We sell our services and products through a direct sales force consisting of employees and international third-party sales representatives responsible for key geographic areas. The majority of our foreign sales are denominated in U.S. dollars. During 2015, 2014 and 2013, sales to destinations outside of North America accounted for approximately 66%, 74% and 73% of our consolidated net revenues, respectively. Further, systems and equipment sold to domestic customers are frequently deployed internationally and, from time to time, certain foreign sales require export licenses. Traditionally, our business has been seasonal, with strongest demand typically in the fourth quarter of our fiscal year. For information concerning the geographic breakdown of our net revenues, see Footnote 3 “Segment and Geographic Information” of Footnotes to Consolidated Financial Statements contained elsewhere in this Annual Report on Form 10-K for additional information.

Competition

Our Imaging Services group within our Solutions segment competes with more than a dozen companies that provide data processing services to E&P companies. See “ – Services and Products – Solutions Segment.” While the barriers to enter this market are relatively low, we believe the barriers to compete at the higher end of the market–the advanced pre-stack depth migration market where our efforts are focused–are significantly higher. At the higher end of this market, CGG (an integrated geophysical company) and Schlumberger (a large integrated oilfield services company), are our Solutions segment’s two primary competitors for advanced imaging services. Both of these companies are significantly larger than ION in terms of revenue, processing locations, and sales, marketing and financial resources. In addition, both CGG and Schlumberger possess an advantage in the data processing arena, as part of more vertically integrated seismic contractor companies; for example, when these companies acquire large 3-D multi-client surveys, the internal data processing organization will usually be awarded the data processing without any requirement to compete with external vendors. CGG and Schlumberger, along with other competitors, TGS-NOPEC Geophysical Company ASA and Spectrum ASA, also develop and sell data libraries that compete with our BasinSPAN data libraries. BGP also competes in this space by primarily partnering with other competitors to develop and sell data libraries.

In the OBS market, OceanGeo competes with a number of companies, including WesternGeco, Fairfield Nodal, Seabed GeoSolutions (a joint venture of Fugro and CGG), Magseis and BGP. The OBS market primarily addresses the production end of the E&P business. This market is primarily vertically integrated with a variety of proprietary technologies, comprising both cable and nodal systems. Most companies operate one to three crews, and there have been three new entrants in the last few years.

The market for seismic services and products is highly competitive and characterized by frequent changes in technology. Our principal competitor for marine seismic equipment is Sercel (a manufacturing subsidiary of CGG). Sercel has the advantage of being able to sell its products and services to its parent company that operates both land and marine crews, providing it with a significant and stable internal market and a greater ability to test new technology in the field. The recent downturn in the industry has disrupted traditional buying patterns. We have seen a generally increasing trend of companies such as Petroleum GeoServices ASA (“PGS”) developing their own instrumentation to create a competitive advantage through products such as Geostreamer. We also compete with other seismic equipment companies on a product-by-product basis. Our ability to compete effectively in the manufacture and sale of seismic instruments and data acquisition systems depends principally upon continued technological innovation, as well as pricing, system reliability, reputation for quality and ability to deliver on schedule.

Some seismic contractors design, engineer and manufacture seismic acquisition technology in-house (or through a network of third-party vendors) to differentiate themselves. Although this technology competes directly with our marine streamer, and ocean bottom equipment, it is not usually made available to other seismic acquisition contractors. However, the risk exists that other seismic contractors may decide to develop their own seismic technology, which would put additional pressure on the demand for our acquisition equipment.

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In addition, we expect continued reductions in the market for spare parts and service of existing equipment as a result of the fleet reductions currently occurring in the marine seismic market. By 2017, we expect the number of 2-D and 3-D marine streamer vessels, including those in operation, under construction, or announced additions to capacity, to decrease by six, to approximately 88 vessels total. This 2017 projection has decreased by 30 vessels from the projection one year ago. In addition, there has been an increase in recent years of consolidation within the sector, with the major vessel operators - CGG, WesternGeco and PGS - all acquiring new market entrants in the last several years. In 2013, CGG acquired the geoscience division of Fugro, an international energy infrastructure company. This acquisition has resulted in 50% of the high-end 3-D seismic capacity being concentrated among the largest three companies - CGG, WesternGeco and PGS. Those three companies are vertically integrated with technology that uniquely differentiates them from the rest of the players. This consolidation reduces the number of potential customers and vessel outfitting opportunities for us. During the downturn in the price of crude oil and the resulting reduction in capital expenditures by E&P companies, we anticipate that older, smaller and less efficient vessels will drop out of the fleet to be replaced by newer vessels.

In the land seismic equipment market, where INOVA competes, the principal competitors are Sercel and Geospace Technologies. INOVA is a joint venture with BGP as a majority stake owner. BGP purchases land seismic equipment from both INOVA and its competitors.

Intellectual Property

We rely on a combination of patents, copyrights, trademark, trade secrets, confidentiality procedures and contractual provisions to protect our proprietary technologies. We have more than 500 patents and pending patent applications, including filings in international jurisdictions with respect to the same kinds of technologies. Although our portfolio of patents is considered important to our operations, and particular patents may be material to specific business lines, no one patent is considered essential to our consolidated business operations.

Our patents, copyrights and trademarks offer us only limited protection. Our competitors may attempt to copy aspects of our products despite our efforts to protect our proprietary rights, or may design around the proprietary features of our products. Policing unauthorized use of our proprietary rights is difficult, and we may be unable to determine the extent to which such use occurs. Our difficulties are compounded in certain foreign countries where the laws do not offer as much protection for proprietary rights as the laws of the United States. From time to time, third parties inquire and claim that we have infringed upon their intellectual property rights and we make similar inquiries and claims to third parties. Material intellectual property litigation is discussed in detail in Item 3. “Legal Proceedings.”

The information contained in this Annual Report on Form 10-K contains references to trademarks, service marks and registered marks of ION and our subsidiaries, as indicated. Except where stated otherwise or unless the context otherwise requires, the terms “GeoVentures,” “VectorSeis,” “ARIES II,” “DigiFIN,” “DigiCOURSE,” “Hawk,” “Orca,” “Refle “Calypso,” “WiBand,” and “UNIVIB” refer to the GEOVENTURES®, VECTORSEIS®, ARIES® II, DIGIFIN®, DIGICOURSE®, ORCA®, REFLEX®, Calypso®, WiBand®, and UNIVIB® registered marks owned by ION or INOVA Geophysical, and the terms “BasinSPAN,” “DigiSTREAMER,” “Gator,” “AHV-IV,” “Vib Pro,” “Shot Pro,” “Optimis “ResSCAN,” “Narwhal,” “AccuSeis,” “PrecisION” and “Marlin” refer to the BasinSPAN™, DigiSTREAMER™, GATOR™, Vib Pro™, Shot Pro™, Optimiser™, ResSCAN™, Narwhal™, AccuSeis™, PrecisION™ and Marlin™ trademarks and servic owned by ION or INOVA Geophysical.

Regulatory Matters

Our operations are subject to various international conventions, laws and regulations in the countries in which we operate, including laws and regulations relating to the importation of and operation of seismic equipment, currency conversions and repatriation, oil and gas exploration and development, taxation of offshore earnings and earnings of expatriate personnel, environmental protection, the use of local employees and suppliers by foreign contractors and duties on the importation and exportation of equipment. Our operations are subject to government policies and product certification requirements worldwide. Governments in some foreign countries have become increasingly active in regulating the companies holding concessions, the exploration for oil and gas and other aspects of the oil and gas industries in their countries. In some areas of the world, this governmental activity has adversely affected the amount of exploration and development work done by major oil and gas companies and may continue to do so. Operations in less developed countries can be subject to legal systems that are not as mature or predictable as those in more

developed countries, which can lead to greater uncertainty in legal matters and proceedings.

Changes in these conventions, regulations, policies or requirements could affect the demand for our services and products or result in the need to modify them, which may involve substantial costs or delays in sales and could have an adverse effect on our future operating results. Our export activities are subject to extensive and evolving trade regulations. Certain countries are subject to trade restrictions, embargoes and sanctions imposed by the U.S. government. These restrictions and sanctions prohibit or limit us from participating in certain business activities in those countries.

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Our operations are also subject to numerous local, state and federal laws and regulations in the United States and in foreign jurisdictions concerning the containment and disposal of hazardous materials, the remediation of contaminated properties and the protection of the environment. While the industry has experienced an increase in general environmental regulation worldwide and laws and regulations protecting the environment have generally become more stringent, we do not believe compliance with these regulations has resulted in a material adverse effect on our business or results of operations, and we do not currently foresee the need for significant expenditures in order to be able to remain compliant in all material respects with current environmental protection laws. Regulations in this area are subject to change, and there can be no assurance that future laws or regulations will not have a material adverse effect on us.

Our customers' operations are also significantly impacted in other respects by laws and regulations concerning the protection of the environment and endangered species. For instance, many of our marine contractors have been affected by regulations protecting marine mammals in the Gulf of Mexico. To the extent that our customers' operations are disrupted by future laws and regulations, our business and results of operations may be materially adversely affected.

Employees

As of December 31, 2015, we had 560 regular, full-time employees, 362 of whom were located in the U.S. From time to time and on an as-needed basis, we supplement our regular workforce with individuals that we hire temporarily or retain as independent contractors in order to meet certain internal manufacturing or other business needs. Our U.S. employees are not represented by any collective bargaining agreement, and we have never experienced a labor-related work stoppage. We believe that our employee relations are satisfactory.

Financial Information by Segment and Geographic Area

For a discussion of financial information by business segment and geographic area, see Footnote 3 "Segment and Geographic Information" of Footnotes to Consolidated Financial Statements.

Available Information

Our executive headquarters are located at 2105 CityWest Boulevard, Suite 400, Houston, Texas 77042-2839. Our international sales headquarters are located at LOB 16, office 504, Jebel Ali Free Zone, P.O. Box 18627, Dubai, United Arab Emirates. Our telephone number is (281) 933-3339. Our home page on the internet is www.iongeo.com. We make our website content available for information purposes only. Unless specifically incorporated by reference in this Annual Report on Form 10-K, information that you may find on our website is not part of this report.

In portions of this Annual Report on Form 10-K, we incorporate by reference information from parts of other documents filed with the Securities and Exchange Commission ("SEC"). The SEC allows us to disclose important information by referring to it in this manner, and you should review this information. We make our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, annual reports to stockholders, and proxy statements for our stockholders' meetings, as well as any amendments, available free of charge through our website as soon as reasonably practicable after we electronically file those materials with, or furnish them to, the SEC.

You can learn more about us by reviewing our SEC filings on our website. Our SEC reports can be accessed through the Investor Relations section on our website. The SEC also maintains a website at www.sec.gov that contains reports, proxy statements, and other information regarding SEC registrants, including our company.

Item 1A. Risk Factors

This report contains or incorporates by reference statements concerning our future results and performance and other matters that are "forward-looking" statements within the meaning of Section 27A of the Securities Act of 1933, as amended ("Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended ("Exchange Act"). These statements involve known and unknown risks, uncertainties and other factors that may cause our or our industry's results, levels of activity, performance, or achievements to be materially different from any future results, levels of activity, performance, or achievements expressed or implied by such forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as "may," "will," "would," "should," "intend," "expec "plan," "anticipate," "believe," "estimate," "predict," "potential," or "continue" or the negative of such terms or other compara terminology. Examples of other forward-looking statements contained or incorporated by reference in this report include statements regarding:

- the expected outcome of the WesternGeco litigation and future potential adverse effects on our liquidity in the event that we must collateralize our appeal bond for the full amount of the bond or are unsuccessful in our appeal of the judgment;
- future levels of capital expenditures of our customers for seismic activities;
- future oil and gas commodity prices;

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- the effects of current and future worldwide economic conditions (particularly in developing countries) and demand for oil and natural gas and seismic equipment and services;
- future cash needs and future availability to fund our operations and pay our obligations;
- the effects of current and future unrest in the Middle East, North Africa and other regions;
- the timing of anticipated revenues and the recognition of those revenues for financial accounting purposes;
- the effects of ongoing and future industry consolidation, including, in particular, the effects of consolidation and vertical integration in the towed marine seismic streamers market;
- the timing of future revenue realization of anticipated orders for multi-client survey projects and data processing work in our Solutions segment;
- future levels of our capital expenditures;
- future government regulations, pertaining to the oil and gas industry;
- expected net revenues, income from operations and net income;
- expected gross margins for our services and products;
- future benefits to be derived from our OceanGeo subsidiary;
- future seismic industry fundamentals, including future demand for seismic services and equipment;
- future benefits to our customers to be derived from new services and products;
- future benefits to be derived from our investments in technologies, joint ventures and acquired companies;
- future growth rates for our services and products;
- the degree and rate of future market acceptance of our new services and products;
- expectations regarding E&P companies and seismic contractor end-users purchasing our more technologically-advanced services and products;
- anticipated timing and success of commercialization and capabilities of services and products under development and start-up costs associated with their development;
- future opportunities for new products and projected research and development expenses;
- expected continued compliance with our debt financial covenants;
- expectations regarding realization of deferred tax assets; and
- anticipated results with respect to certain estimates we make for financial accounting purposes.

These forward-looking statements reflect our best judgment about future events and trends based on the information currently available to us. Our results of operations can be affected by inaccurate assumptions we make or by risks and uncertainties known or unknown to us. Therefore, we cannot guarantee the accuracy of the forward-looking statements. Actual events and results of operations may vary materially from our current expectations and assumptions. While we cannot identify all of the factors that may cause actual results to vary from our expectations, we believe the following factors should be considered carefully:

An unfavorable outcome in our pending litigation matter with WesternGeco could have a materially adverse effect on our financial results and liquidity.

In June 2009, WesternGeco L.L.C. (“WesternGeco”) filed a lawsuit, styled WesternGeco L.L.C. v. ION Geophysical Corporation, against us in the United States District Court for the Southern District of Texas, Houston Division (for additional information, see Item 3. “Legal Proceedings” below). In the lawsuit, WesternGeco alleged that we had infringed several method and apparatus claims contained in four of its United States patents regarding marine seismic streamer steering devices.

The trial began in July 2012. A verdict was returned by the jury in August 2012, finding that we infringed the claims contained in the four patents by supplying our DigiFIN lateral streamer control units and the related software from the United States and awarded WesternGeco the sum of $105.9 million in damages, consisting of $12.5 million in reasonable royalty and $93.4 million in lost profits.

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In June 2013, the presiding judge entered a Memorandum and Order, denying our post-verdict motions that challenged the jury's infringement findings and the damages amount. In the Memorandum and Order, the judge also stated that WesternGeco is entitled to be awarded supplemental damages for the additional DigiFIN units that were supplied from the United States before and after trial that were not included in the jury verdict due to the timing of the trial. In October 2013, the judge entered another Memorandum and Order, ruling on the number of DigiFIN units that are subject to supplemental damages and also ruling that the supplemental damages applicable to the additional units should be calculated by adding together the jury's previous reasonable royalty and lost profits damages awards per unit, resulting in supplemental damages of $73.1 million.

In April 2014, the judge entered another Order, ruling that lost profits should not have been included in the calculation of supplemental damages in the October 2013 Memorandum and Order (the "Order") and reducing the supplemental damages award in the case from $73.1 million to $9.4 million. In the Order, the judge also further reduced the damages award in the case by $3.0 million to reflect a settlement and license that WesternGeco entered into with a customer of ours that had purchased and used DigiFIN units that were also included in the damage amounts awarded against us.

In May 2014, the judge signed and entered a Final Judgment against us in the amount of $123.8 million. The Final Judgment also included an injunction that enjoins us, our agents and anyone acting in concert with us, from supplying in or from the United States the DigiFIN product or any parts unique to the DigiFIN product, or any instrumentality no more than colorably different from any of these products or parts, for combination outside of the United States. We have conducted our business in compliance with the district court's orders in the case, and we have reorganized our operations such that we no longer supply the DigiFIN product or any parts unique to the DigiFIN product in or from the United States.

We and WesternGeco each appealed the Final Judgment to the United States Court of Appeals for the Federal Circuit in Washington, D.C. On July 2, 2015, the Court of Appeals reversed in part the Final Judgment, holding the district court erred by including lost profits in the Final Judgment. Lost profits were $93.4 million and prejudgment interest on the lost profits was approximately $10.9 million of the $123.8 million Final Judgment award. Pre-judgment interest on the lost profits portion will be treated in the same way as the lost profits. Post-judgment interest will likewise be treated in the same fashion. On July 29, 2015, WesternGeco filed a petition for rehearing en banc before the Court of Appeals. On October 30, 2015, the Court of Appeals denied WesternGeco's petition for rehearing en banc. WesternGeco has up to 90 days to determine whether or not it will file a writ of certiorari requesting that the U.S. Supreme Court review the Court of Appeals' decision. On January 14, 2016, WesternGeco filed a motion to extend until February 26, 2016 the period of time it has to file a writ of certiorari requesting that the U.S. Supreme Court review the Court of Appeals' decision. WesternGeco has also filed a motion requesting that the district court enforce the approximately $22.0 million in royalty damages without regard to whether or not WesternGeco files a writ of certiorari with the U.S. Supreme Court. We have opposed the motion and it has not yet been scheduled for a hearing. As previously disclosed, we had previously taken a loss contingency accrual of $123.8 million. As a result of the reversal by the Court of Appeals, as of June 30, 2015, we reduced our loss contingency accrual to its current amount of $22.0 million. Our assessment of our potential loss contingency may change in the future due to developments in the case and other events, such as changes in applicable law, and such reassessment could lead to the determination that no loss contingency is probable or that a greater or lesser loss contingency is probable. Any such reassessment could have a material effect on our financial condition or results of operations.

In order to stay the judgment during the appeal, we arranged with sureties to post an appeal bond with the trial court on our behalf in the amount of $120.0 million on May 9, 2014. The terms of the appeal bond arrangements provide the sureties the contractual right for as long as the bond is outstanding to require us to post cash collateral for up to the full amount of the bond. If the sureties exercise their right to require collateral while the appeal bond is outstanding, we would intend to utilize a combination of cash on hand and undrawn balances available under our Credit Facility (as defined below). If we are required to collateralize the full amount of the bond, we might also seek additional debt and/or equity financing. The collateralization of the full amount of the bond could have a material adverse effect on our liquidity. Any requirement that we collateralize the appeal bond will reduce our liquidity and may reduce the borrowings otherwise available under our Credit Facility. No assurances can be made whether our efforts to raise

additional cash would be successful and, if so, on what terms and conditions, and at what cost we might be able to secure any such financing. On November 12, 2015, we have received a request for $11.0 million in collateral, and negotiations with the sureties regarding the request are ongoing. For additional discussion about our liquidity related to posting an appeal bond, see Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Meeting our Liquidity Requirements — Loss Contingency – WesternGeco Lawsuit” in Part II of this Form 10-K.

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We may not ultimately prevail in the appeals process and we could be required to pay damages up to the amount of the loss contingency accrual plus any additional amount ordered by the court. Our assessment of our potential loss contingency may change in the future due to developments at the appellate court and other events, such as changes in applicable law, and such reassessment could lead to the determination that no loss contingency is probable or that a greater loss contingency is probable, which could have a material effect on our business, financial condition and results of operations. Amounts of estimated loss contingency accruals as disclosed in this Annual Report on Form 10-K or elsewhere are based on currently available information and involve elements of judgment and significant uncertainties. Actual losses may exceed or be considerably less than these accrual amounts.

Our business depends on the level of exploration and production activities by the oil and natural gas industry. If crude oil and natural gas prices or the level of capital expenditures by E&P companies were to further decline, demand for our services and products would decline and our results of operations would be materially adversely affected.

Demand for our services and products depends upon the level of spending by E&P companies and seismic contractors for exploration and production activities, and those activities depend in large part on oil and gas prices. Spending by our customers on services and products that we provide is highly discretionary in nature, and subject to rapid and material change. Any further significant decline in oil and gas related spending on behalf of our customers could cause alterations in our capital spending plans, project modifications, delays or cancellations, general business disruptions or delays in payment, or non-payment of amounts that are owed to us, any one of which could have a material adverse effect on our financial condition and results of operations and on our ability to continue to satisfy all of the covenants in our debt agreements. Additionally, increases in oil and gas prices may not increase demand for our services and products or otherwise have a positive effect on our financial condition or results of operations. E&P companies' willingness to explore, develop and produce depends largely upon prevailing industry conditions that are influenced by numerous factors over which our management has no control, such as:

- the supply of and demand for oil and gas;
- the level of prices, and expectations about future prices, of oil and gas;
- the cost of exploring for, developing, producing and delivering oil and gas;
- the expected rates of decline for current production;
- the discovery rates of new oil and gas reserves;
- weather conditions, including hurricanes, that can affect oil and gas operations over a wide area, as well as less severe inclement weather that can preclude or delay seismic data acquisition;
- domestic and worldwide economic conditions;
- political instability in oil and gas producing countries;
- technical advances affecting energy consumption;
- government policies regarding the exploration, production and development of oil and gas reserves;
- the ability of oil and gas producers to raise equity capital and debt financing; and
- merger and divestiture activity among oil and gas companies and seismic contractors.

Since early 2014, crude oil prices have dropped by approximately 50%–70% as the non-U.S. economic outlook continues to weaken, North American production continues to expand, and more recently, Saudi Arabia has publicly stated its intention to support its global market share at the expense of lower prices.

The weakening economic outlook for non-U.S. oil demand, especially in China, has put more downward pressure on prices. Thus, the bottom-end of the price range for crude oil has decreased significantly beginning in the fourth quarter of 2015 compared to 2014.

In 2013 continuing through 2015, we started seeing decreased spending on exploration by E&P companies. As a result of recent decreases in crude oil prices, many E&P companies have announced that they are reducing their capital expenditures, which has resulted in diminished demand for our services and products and has caused downward pressure on the prices we charge or the level of work we do for our customers.

The level of oil and gas exploration and production activity has been volatile in recent years. Previously forecasted upward trends in oil and gas exploration and development activities have not continued and, in fact as discussed above, have declined, together with demand for our services and products. Any prolonged substantial reduction in oil and gas prices would likely further affect oil and gas production levels and therefore adversely affect demand for the

services we provide and products we sell.

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Our operating results often fluctuate from period to period, and we are subject to cyclicality and seasonality factors. Our industry and the oil and gas industry in general are subject to cyclical fluctuations. Demand for our services and products depends upon spending levels by E&P companies for exploration, production, development and field management of oil and natural gas reserves and, in the case of new seismic data creation, the willingness of those companies to forgo ownership in the seismic data. Capital expenditures by E&P companies for these activities depend upon several factors, including actual and forecasted prices of oil and natural gas and those companies' short-term and strategic plans.

After a period of exploration-focused activities by E&P companies leading up to the fourth quarter of 2014, many E&P companies turned their focus more to production activities and less on exploration of prospects during 2015 as the continued decline in oil and gas prices resulted in decreasing revenues and prompted cost reduction initiatives across the industry. The World Bank recently slashed its forecast for oil prices for 2016, indicating that the cost of a barrel of crude is expected to stay near its current lows for the rest of 2016. One recent survey indicated that upstream oil and gas companies plan to reduce spending by 15% globally in 2016, following a 23% decline in 2015, representing only the second time spending has declined in consecutive years since 1986 and 1987. As of December 31, 2015, our Solutions segment backlog, consisting of commitments for data processing work and for underwritten multi-client new venture and proprietary projects by our was 59% less than our backlog existing as of December 31, 2014. Our Solutions backlog consists of commitments for both (i) data processing work, and (ii) multi-client new venture and proprietary projects largely underwritten by our customers. The decline in our backlog was primarily due to (i) the softening of customer underwriting for new ventures projects, and (ii) the delay of certain processing projects by customers. We expect the recently awarded contract extension from PEMEX to contribute toward rebuilding our backlog as additional work orders under this contract extension are received.

Our operating results are subject to fluctuations from period to period as a result of introducing new services and products, the timing of significant expenses in connection with customer orders, unrealized sales, levels of research and development activities in different periods, the product and service mix of our revenues and the seasonality of our business. Because some of our products feature a high sales price and are technologically complex, we generally experience long sales cycles for these types of products and historically incur significant expense at the beginning of these cycles, which may not ultimately occur. In addition, the revenues can vary widely from period to period due to changes in customer requirements and demand. These factors can create fluctuations in our net revenues and results of operations from period to period. Variability in our overall gross margins for any period, which depend on the percentages of higher-margin and lower-margin services and products sold in that period, compounds these uncertainties. As a result, if net revenues or gross margins fall below expectations, our results of operations and financial condition will likely be materially adversely affected.

Additionally, our business can be seasonal in nature, with strongest demand typically in the fourth calendar quarter of each year. Customer budgeting cycles at times result in higher spending activity levels by our customers at different points of the year.

Due to the relatively high sales price of many of our products and seismic data libraries, our quarterly operating results have historically fluctuated from period to period due to the timing of orders and shipments and the mix of services and products sold. This uneven pattern makes financial predictions for any given period difficult, increases the risk of unanticipated variations in our quarterly results and financial condition, and places challenges on our inventory management. Delays caused by factors beyond our control, such as the granting of permits for seismic surveys by third parties, the effect from disasters such as the Deepwater Horizon incident in the Gulf of Mexico and the availability and equipping of marine vessels, can affect our Solutions segment's revenues from its imaging and multi-client services from period to period. Also, delays in ordering products or in shipping or delivering products in a given period could significantly affect our results of operations for that period. While we experienced an all-time record for data library sales in the fourth quarter of 2013, sales starting in 2014 and continuing through 2015 have been negatively impacted by a softening of exploration spending by our E&P customers. Fluctuations in our quarterly operating results may cause greater volatility in the market price of our common stock.

Our indebtedness could adversely affect our liquidity, financial condition and our ability to fulfill our obligations and operate our business.

As of December 31, 2015, we had approximately $186.3 million of total outstanding indebtedness, including $9.8 million of capital leases. As of December 31, 2015, there was no outstanding indebtedness under our Credit Facility. Under our Credit Facility, as amended, the lender has committed $40.0 million of revolving credit, subject to a borrowing base. As of December 31, 2015, we have full availability under the Credit Facility. The amount available will increase or decrease monthly as our borrowing base changes. We may also incur additional indebtedness in the future. If we are required to post collateral for an appeal bond with a surety during the appeal process, depending on the size of the bond and the level of required collateral, in order to collateralize the bond we might need to utilize a combination of cash on hand an undrawn sums available for borrowing under our Credit Facility, and possibly incur additional debt financing. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations” appearing below in this Form 10-K.

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In May 2015, Moody's Investor Services ("Moody's") downgraded our company's corporate and debt ratings to Caa3. According to Moody's, this downgrade reflects their expectation that our company will face unclear market conditions as a result of the decrease in crude oil and U.S. natural gas prices. Both Moody's and S&P continue to hold a negative outlook on our company due to the weak seismic sector fundamentals and concerns around maintaining sufficient liquidity to fund contingent liabilities.

Higher levels of indebtedness could have negative consequences to us, including:

- we may have difficulty satisfying our obligations with respect to our outstanding debt;
- we may have difficulty obtaining financing in the future for working capital, capital expenditures, acquisitions or other purposes;
- we may need to use all, or a substantial portion, of our available cash flow to pay interest and principal on our debt, which will reduce the amount of money available to finance our operations and other business activities;
- our vulnerability to general economic downturns and adverse industry conditions could increase;
- our flexibility in planning for, or reacting to, changes in our business and in our industry in general could be limited;
- our amount of debt and the amount we must pay to service our debt obligations could place us at a competitive disadvantage compared to our competitors that have less debt;
- our customers may react adversely to our significant debt level and seek or develop alternative licensors or suppliers;
- we may have insufficient funds, and our debt level may also restrict us from raising the funds necessary to repurchase all of the Notes (defined below) tendered to us upon the occurrence of a change of control, which would constitute an event of default under the Notes; and
- our failure to comply with the restrictive covenants in our debt instruments which, among other things, limit our ability to incur debt and sell assets, could result in an event of default that, if not cured or waived, could have a material adverse effect on our business or prospects.

Our level of indebtedness will require that we use a substantial portion of our cash flow from operations to pay principal of, and interest on, our indebtedness, which will reduce the availability of cash to fund working capital requirements, capital expenditures, research and development and other general corporate or business activities.

If we cannot meet the continued listing requirements of the New York Stock Exchange (the "NYSE"), the NYSE may delist our common shares, which would have an adverse impact on the trading volume, liquidity and market price of our common shares.

On August 11, 2015, we were notified by the NYSE that the average closing price of our common shares had fallen below $1.00 per share over a period of 30 consecutive trading days, which is the minimum average share price required by the NYSE under Section 802.01C of the NYSE Listed Company Manual. The notice has no immediate impact on the listing of our common shares, which will continue to be listed and traded on the NYSE during the six-month period described below, subject to our compliance with other listing standards, under the symbol "IO."

We have six months following receipt of the NYSE's notice to regain compliance with the NYSE's minimum share price requirement. We can regain compliance at any time during the six-month cure period if on the last trading day of any calendar month during the cure period our common shares have a closing share price of at least $1.00 and an average closing share price of at least $1.00 over the 30 trading-day period ending on the last trading day of such month. Notwithstanding the foregoing, if we determine that we must cure the price condition by taking an action that will require approval of our stockholders, we may also regain compliance by: (i) obtaining the requisite stockholder approval by no later than our next annual meeting, (ii) implementing the action promptly thereafter and (iii) the price of our common shares promptly exceeding $1.00 per share, and the price remaining above that level for at least the following 30 trading days.

A delisting of our common shares from the NYSE would negatively impact us because it would: (i) reduce the liquidity and market price of our common shares; (ii) reduce the number of investors willing to hold or acquire our common shares, which could negatively impact our ability to raise equity financing; (iii) limit our ability to use a registration statement to offer and sell freely tradable securities, thereby preventing us from accessing the public capital markets, and (iv) impair our ability to provide equity incentives to our employees.

On February 4, 2016, we completed a one-for-fifteen reverse stock split, and our stock began trading on a reverse-split adjusted basis on February 5, 2016. On February 5, 2016, the closing sale price for our common stock was $6.21 on the NYSE. We can provide no assurances that the reverse stock split will lead to a sustained increase in our share price or that it will allow

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us to regain compliance with the NYSE listing standards. Even if the reverse stock split does cause us to regain compliance, there can be no assurance that our share price will continue to remain in compliance with this standard. Our share price may be adversely affected due to, among other things, our financial results, market conditions and market perception of our business.

We may take steps to reduce or refinance outstanding debt, including the Notes, which could impact the market for our securities and negatively affect our liquidity.

We may from time to time take steps to reduce or refinance outstanding debt, including the Notes, or otherwise to reduce interest expense and other debt service obligations. These steps may include open market repurchases, redemptions, maturity extensions, exchange offers and other retirements, purchases or refinancing of outstanding debt, including the Notes, in whole or in part, in addition to making any required scheduled installment payments. The implementation of any such steps would depend on prevailing market conditions, liquidity requirements, contractual restrictions and other factors. Any such repurchases or redemptions could negatively affect our liquidity.

We are subject to intense competition, which could limit our ability to maintain or increase our market share or to maintain our prices at profitable levels.

Many of our sales are obtained through a competitive bidding process, which is standard for our industry. Competitive factors in recent years have included price, technological expertise, and a reputation for quality, safety and dependability. While no single company competes with us in all of our segments, we are subject to intense competition in each of our segments. New entrants in many of the markets in which certain of our services and products are currently strong should be expected. See Item 1. “Business – Competition.” We compete with companies that are larger than we are in terms of revenues, technical personnel, number of processing locations and sales and marketing resources. A few of our competitors have a competitive advantage in being part of a large affiliated seismic contractor company. In addition, we compete with major service providers and government-sponsored enterprises and affiliates. Some of our competitors conduct seismic data acquisition operations as part of their regular business, which we have traditionally not conducted, 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 natural gas prices, as well as changes in government regulations. In addition, any excess supply of services and products in the seismic services market could apply downward pressure on prices for our services and products. The negative effects of the competitive environment in which we operate could have a material adverse effect on our results of operations. In particular, the consolidation in recent years of many of our competitors in the seismic services and products markets has negatively impacted our results of operations.

There are a number of geophysical companies that create, market and license seismic data and maintain seismic libraries. Competition for acquisition of new seismic data among geophysical service providers historically has been intense and we expect this competition will continue to be intense. Larger and better-financed operators could enjoy an advantage over us in a competitive environment for new data.

Our OceanGeo subsidiary involves numerous risks.

Our OceanGeo subsidiary is focused on operating as a seismic acquisition contractor concentrating on ocean bottom seismic (OBS) data acquisition. Although OceanGeo is actively pursuing several tenders for long-term work in 2016, the vessel was idle during 2015. There can be no assurance that we will achieve the expected benefits from this company. OceanGeo (and any future acquisitions that we may undertake) may result in unexpected costs, expenses and liabilities, which may have a material adverse effect on our business, financial condition or results of operations. OceanGeo may encounter further difficulties in developing and expanding its business.

OceanGeo’s business exposes us to the operating risks of being a seismic contractor with seismic crews:

- Seismic data acquisition activities in marine ocean bottom areas are subject to the risk of downtime or reduced productivity, as well as to the risks of loss to property and injury to personnel, mechanical failures and natural disasters. In addition to losses caused by human errors and accidents, we may also become subject to losses resulting from, among other things, political instability, business interruption, strikes and weather events; and
- OceanGeo’s equipment and services may expose us to litigation and legal proceedings, including those related to product liability, personal injury and contract liability.

We have in place insurance coverage against operating hazards, including product liability claims and personal injury claims, damage, destruction or business interruption related to OceanGeo's equipment and services, and whenever possible, OceanGeo will obtain agreements from customers that limit our liability. We also carry war, strikes, terrorism and related perils coverage for OceanGeo. However, we cannot assure you that the nature and amount of insurance will be sufficient to fully indemnify OceanGeo and us against liabilities arising from pending and future claims or that its insurance coverage will be adequate in all circumstances or against all hazards, and that we will be able to maintain adequate insurance coverage in the future at commercially reasonable rates or on acceptable terms.

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OceanGeo is also subject to, and exposes OceanGeo and us to, various additional risks that could adversely affect our results of operations and financial condition. These risks include the following:

- increased costs associated with the operation of the business and the management of geographically dispersed operations;
- OceanGeo's cash flows may be inadequate to fund its capital requirements, thereby requiring additional contributions to OceanGeo by us;
- risks associated with our Calypso ocean bottom product that is intended to be utilized by OceanGeo in its operations, including risks that the new technology may not perform as well as we anticipate;
- difficulties in retaining and integrating key technical, sales and marketing personnel and the possible loss of such employees and costs associated with their loss;
- the diversion of management's attention and other resources from other business operations and related concerns;
- the requirement to maintain uniform standards, controls and procedures;
- we may not be able to realize operating efficiencies, cost savings or other benefits that we expect from OceanGeo's operations; and
- OceanGeo may experience difficulties and delays in securing new business and customer projects.

The indenture governing the 8.125% Senior Secured Second-Priority Notes due 2018 (the "Notes") contains a number of restrictive covenants that limit our ability to finance future operations or capital needs or engage in other business activities that may be in our interest.

The indenture governing the Notes imposes, and the terms of any future indebtedness may impose, operating and other restrictions on us and our subsidiaries. Such restrictions affect or will affect, and in many respects limit or prohibit, among other things, our ability and the ability of certain of our subsidiaries to:

- incur additional indebtedness;
- create liens;
- pay dividends and make other distributions in respect of our capital stock;
- redeem our capital stock;
- make investments or certain other restricted payments;
- sell certain kinds of assets;
- enter into transactions with affiliates; and
- effect mergers or consolidations.

The restrictions contained in the indenture governing the Notes could:

- limit our ability to plan for or react to market or economic conditions or meet capital needs or otherwise restrict our activities or business plans; and
- adversely affect our ability to finance our operations, acquisitions, investments or strategic alliances or other capital needs or to engage in other business activities that would be in our interest.

A breach of any of these covenants could result in a default under the indenture governing the Notes. If an event of default occurs, the trustee and holders of the Notes could elect to declare all borrowings outstanding, together with accrued and unpaid interest, to be immediately due and payable. An event of default under the indenture governing the Notes would also constitute an event of default under our Credit Facility. See Footnote 4 "Long-term Debt and Lease Obligations" of the Footnotes to Consolidated Financial Statements appearing below in this Form 10-K.

As a technology-focused company, we are continually exposed to risks related to complex, highly technical services and products.

We have made, and we will continue to make, strategic decisions from time to time as to the technologies in which we invest. If we choose the wrong technology, our financial results could be adversely impacted. Our operating results are dependent upon our ability to improve and refine our seismic imaging and data processing services and to successfully develop, manufacture and market our products and other services and products. New technologies generally require a substantial investment before any assurance is available as to their commercial viability. If we choose the wrong technology, or if our competitors develop or select a superior technology, we could lose our existing customers and be unable to attract new customers, which would harm our business and operations.

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New data acquisition or processing technologies may be developed. New and enhanced services and products introduced by one of our competitors may gain market acceptance and, if not available to us, may adversely affect us. The markets for our services and products are characterized by changing technology and new product introductions. We must invest substantial capital to develop and maintain a leading edge in technology, with no assurance that we will receive an adequate rate of return on those investments. If we are unable to develop and produce successfully and timely new or enhanced services and products, we will be unable to compete in the future and our business, our results of operations and our financial condition will be materially and adversely affected. Our business could suffer from unexpected developments in technology, or from our failure to adapt to these changes. In addition, the preferences and requirements of customers can change rapidly.

The businesses of our Solutions and Software segments, being more concentrated in software, processing services and proprietary technologies, have also exposed us to various risks that these technologies typically encounter, including the following:

- future competition from more established companies entering the market;
- technology obsolescence;
- dependence upon continued growth of the market for seismic data processing;
- the rate of change in the markets for these segments' technology and services;
- further consolidation of the participants within this market;
- research and development efforts not proving sufficient to keep up with changing market demands;
- dependence on third-party software for inclusion in these segments' services and products;
- misappropriation of these segments' technology by other companies;
- alleged or actual infringement of intellectual property rights that could result in substantial additional costs;
- difficulties inherent in forecasting sales for newly developed technologies or advancements in technologies;
- recruiting, training and retaining technically skilled, experienced personnel that could increase the costs for these segments, or limit their growth; and
- the ability to maintain traditional margins for certain of their technology or services.

Seismic data acquisition and data processing technologies historically have progressed rather rapidly, and we expect this progression to continue. In order to remain competitive, we must continue to invest additional capital to maintain, upgrade and expand our seismic data acquisition and processing capabilities. However, due to potential advances in technology and the related costs associated with such technological advances, we may not be able to fulfill this strategy, thus possibly affecting our ability to compete.

Our customers often require demanding specifications for performance and reliability of our services and products. Because many of our products are complex and often use unique advanced components, processes, technologies and techniques, undetected errors and design and manufacturing flaws may occur. Even though we attempt to assure that our systems are always reliable in the field, the many technical variables related to their operations can cause a combination of factors that can, and have from time to time, caused performance and service issues with certain of our products. Product defects result in higher product service, warranty and replacement costs and may affect our customer relationships and industry reputation, all of which may adversely impact our results of operations. Despite our testing and quality assurance programs, undetected errors may not be discovered until the product is purchased and used by a customer in a variety of field conditions. If our customers deploy our new products and they do not work correctly, our relationship with our customers may be materially and adversely affected.

As a result of our systems' advanced and complex nature, we expect to experience occasional operational issues from time to time. Generally, until our products have been tested in the field under a wide variety of operational conditions, we cannot be certain that performance and service problems will not arise. In that case, market acceptance of our new products could be delayed and our results of operations and financial condition could be adversely affected.

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We have invested, and expect to continue to invest, significant sums of money in acquiring and processing seismic data for our Solutions' multi-client data library, without knowing precisely how much of this seismic data we will be able to license or when and at what price we will be able to license the data sets. Our business could be adversely affected by the failure of our customers to fulfill their obligations to reimburse us for the underwritten portion of our seismic data acquisition costs for our multi-client library.

We invest significant amounts in acquiring and processing new seismic data to add to our Solutions' multi-client data library. The costs of most of these investments are funded by our customers, with the remainder generally being recovered through future data licensing fees. In 2015, we invested approximately $45.6 million in our multi-client data library. Our customers generally commit to licensing the data prior to our initiating a new data library acquisition program. However, the aggregate amounts of future licensing fees for this data are uncertain and depend on a variety of factors, including the market prices of oil and gas, customer demand for seismic data in the library, and the availability of similar data from competitors.

By making these investments in acquiring and processing new seismic data for our Solutions' multi-client library, we are exposed to the following risks:

- We may not fully recover our costs of acquiring and processing seismic data through future sales. The ultimate amounts involved in these data sales are uncertain and depend on a variety of factors, many of which are beyond our control.
- The timing of these sales is unpredictable and can vary greatly from period to period. The costs of each survey are capitalized and then amortized as a percentage of sales and/or over the expected useful life of the data. This amortization will affect our earnings and, when combined with the sporadic nature of sales, will result in increased earnings volatility.
- Regulatory changes that affect companies' ability to drill, either generally or in a specific location where we have acquired seismic data, could materially adversely affect the value of the seismic data contained in our library.
- Technology changes could also make existing data sets obsolete. Additionally, each of our individual surveys has a limited book life based on its location and oil and gas companies' interest in prospecting for reserves in such location, so a particular survey may be subject to a significant decline in value beyond our initial estimates.
- The value of our multi-client data could be significantly adversely affected if any material adverse change occurs in the general prospects for oil and gas exploration, development and production activities.
- The cost estimates upon which we base our pre-commitments of funding could be wrong. The result could be losses that have a material adverse effect on our financial condition and results of operations. These pre-commitments of funding are subject to the creditworthiness of our clients. In the event that a client refuses or is unable to pay its commitment, we could incur a substantial loss on that project.
- As part of our asset-light strategy, we routinely charter vessels from third-party vendors to acquire seismic data for our multi-client business. As a result, our cost to acquire our multi-client data could significantly increase if vessel charter prices rise materially.

Reductions in demand for our seismic data, or lower revenues of or cash flows from our seismic data, may result in a requirement to increase amortization rates or record impairment charges in order to reduce the carrying value of our data library. These increases or charges, if required, could be material to our operating results for the periods in which they are recorded.

A substantial portion (approximately 86% in 2015) of our seismic acquisition project costs (including third-party project costs) are underwritten by our customers. In the event that underwriters for such projects fail to fulfill their obligations with respect to such underwriting commitments, we would continue to be obligated to satisfy our payment obligations to third-party contractors.

We derive a substantial amount of our revenues from foreign operations and sales, which pose additional risks.

The majority of our foreign sales are denominated in U.S. dollars. Sales to customer destinations outside of North America represented 66%, 74% and 73% of our consolidated net revenues for 2015, 2014 and 2013, respectively, of our consolidated net revenues. We believe that export sales will remain a significant percentage of our revenue. U.S. export restrictions affect the types and specifications of products we can export. Additionally, in order to complete certain sales, U.S. laws may require us to obtain export licenses, and we cannot assure you that we will not experience

difficulty in obtaining these licenses.

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Like many energy services companies, we have operations in and sales into certain international areas, including parts of the Middle East, West Africa, Latin America, Asia Pacific and the former Soviet Union, that are subject to risks of war, political disruption, civil disturbance, political corruption, possible economic and legal sanctions (such as possible restrictions against countries that the U.S. government may in the future consider to be state sponsors of terrorism) and changes in global trade policies. Our sales or operations may become restricted or prohibited in any country in which the foregoing risks occur. In particular, the occurrence of any of these risks could result in the following events, which in turn, could materially and adversely impact our results of operations:

- disruption of E&P activities;
- restriction on the movement and exchange of funds;
- inhibition of our ability to collect advances and receivables;
- enactment of additional or stricter U.S. government or international sanctions;
- limitation of our access to markets for periods of time;
- expropriation and nationalization of assets of our company or those of our customers;
- political and economic instability, which may include armed conflict and civil disturbance;
- currency fluctuations, devaluations and conversion restrictions;
- confiscatory taxation or other adverse tax policies; and
- governmental actions that may result in the deprivation of our contractual rights.

Our international operations and sales increase our exposure to other countries' restrictive tariff regulations, other import/export restrictions and customer credit risk.

In addition, we are subject to taxation in many jurisdictions and the final determination of our tax liabilities involves the interpretation of the statutes and requirements of taxing authorities worldwide. Our tax returns are subject to routine examination by taxing authorities, and these examinations may result in assessments of additional taxes, penalties and/or interest.

We may be unable to obtain broad intellectual property protection for our current and future products and we may become involved in intellectual property disputes; we rely on developing and acquiring proprietary data which we keep confidential.

We rely on a combination of patent, copyright and trademark laws, trade secrets, confidentiality procedures and contractual provisions to protect our proprietary technologies. We believe that the technological and creative skill of our employees, new product developments, frequent product enhancements, name recognition and reliable product maintenance are the foundations of our competitive advantage. Although we have a considerable portfolio of patents, copyrights and trademarks, these property rights offer us only limited protection. Our competitors may attempt to copy aspects of our products despite our efforts to protect our proprietary rights, or may design around the proprietary features of our products. Policing unauthorized use of our proprietary rights is difficult, and we are unable to determine the extent to which such use occurs. Our difficulties are compounded in certain foreign countries where the laws do not offer as much protection for proprietary rights as the laws of the United States.

Third parties inquire and claim from time to time that we have infringed upon their intellectual property rights. Many of our competitors own their own extensive global portfolio of patents, copyrights, trademarks, trade secrets and other intellectual property to protect their proprietary technologies. We believe that we have in place appropriate procedures and safeguards to help ensure that we do not violate a third party's intellectual property rights. However, no set of procedures and safeguards is infallible. We may unknowingly and inadvertently take action that is inconsistent with a third party's intellectual property rights, despite our efforts to do otherwise. Any such claims from third parties, with or without merit, could be time consuming, result in costly litigation, result in injunctions, require product modifications, cause product shipment delays or require us to enter into royalty or licensing arrangements. Such claims could have a material adverse effect on our results of operations and financial condition.

Much of our litigation in recent years have involved disputes over our and others' rights to technology. See Item 3. "Legal Proceedings."

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To protect the confidentiality of our proprietary and trade secret information, we require employees, consultants, contractors, advisors and collaborators to enter into confidentiality agreements. 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. If we are unable to maintain the secrecy of our proprietary, confidential information, we could be materially adversely affected.

If we do not effectively manage our transition into new services and products, our revenues may suffer.

Services and products for the geophysical industry are characterized by rapid technological advances in hardware performance, software functionality and features, frequent introduction of new services and products, and improvement in price characteristics relative to product and service performance. Among the risks associated with the introduction of new services and products are delays in development or manufacturing, variations in costs, delays in customer purchases or reductions in price of existing products in anticipation of new introductions, write-offs or write-downs of the carrying costs of inventory and raw materials associated with prior generation products, difficulty in predicting customer demand for new product and service offerings and effectively managing inventory levels so that they are in line with anticipated demand, risks associated with customer qualification, evaluation of new products, and the risk that new products may have quality or other defects or may not be supported adequately by application software. The introduction of new services and products by our competitors also may result in delays in customer purchases and difficulty in predicting customer demand. If we do not make an effective transition from existing services and products to future offerings, our revenues and margins may decline.

Furthermore, sales of our new services and products may replace sales, or result in discounting of some of our current product or service offerings, offsetting the benefits of a successful introduction. In addition, it may be difficult to ensure performance of new services and products in accordance with our revenue, margin and cost estimations and to achieve operational efficiencies embedded in our estimates. Given the competitive nature of the seismic industry, if any of these risks materializes, future demand for our services and products, and our future results of operations, may suffer.

Global economic conditions and credit market uncertainties could have an adverse effect on customer demand for certain of our services and products, which in turn would adversely affect our results of operations, our cash flows, our financial condition and our stock price.

Historically, demand for our services and products has been sensitive to the level of exploration spending by E&P companies and geophysical contractors. The demand for our services and products will be lessened if exploration expenditures by E&P companies are reduced. During periods of reduced levels of exploration for oil and natural gas, there have been oversupplies of seismic data and downward pricing pressures on our seismic services and products, which, in turn, have limited our ability to meet sales objectives and maintain profit margins for our services and products. In the past, these then-prevailing industry conditions have had the effect of reducing our revenues and operating margins. The markets for oil and gas historically have been volatile and may continue to be so in the future.

Turmoil or uncertainty in the credit markets and its potential impact on the liquidity of major financial institutions may have an adverse effect on 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. Likewise, there can be no assurance that our customers will be able to borrow money for their working capital or capital expenditures on a timely basis or on reasonable terms, which could have a negative impact on their demand for our services and products and impair their ability to pay us for our services and products on a timely basis, or at all.

Our sales have historically been affected by interest rate fluctuations and the availability of liquidity, and we and our customers would be adversely affected by increases in interest rates or liquidity constraints. Rising interest rates may also make certain alternative services and products provided by our competitors more attractive to customers, which could lead to a decline in demand for our services and products. This could have a material adverse effect on our business, results of operations, financial condition and cash flows.

The loss of any significant customer or the inability of our customers to meet their payment obligations to us could materially and adversely affect our results of operations and financial condition.

Our business is exposed to risks related to customer concentration. While no single customer represented 10% or more of our consolidated net revenues for 2015, 2014 and 2013, our top five customers together accounted for approximately 36%, 35% and 29%, respectively, of our consolidated net revenues during those years. The loss of any of our significant customers or deterioration in our relations with any of them could materially and adversely affect our results of operations and financial condition.

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During the last ten years, our traditional seismic contractor customers have been rapidly consolidating, thereby consolidating the demand for our services and products. The loss of any of our significant customers to further consolidation could materially and adversely affect our results of operations and financial condition.

Our business is exposed to risks of loss resulting from nonpayment by our customers. Many of our customers finance their activities through cash flow from operations, the incurrence of debt or the issuance of equity. Declines in commodity prices, and the credit markets could cause the availability of credit could be constrained. The combination of lower cash flow due to commodity prices, a reduction in borrowing bases under reserve-based credit facilities and the lack of available debt or equity financing may result in a significant reduction in our customers' liquidity and ability to pay their obligations to us. Furthermore, some of our customers may be highly leveraged and subject to their own operating and regulatory risks, which increases the risk that they may default on their obligations to us. The inability or failure of our significant customers to meet their obligations to us or their insolvency or liquidation may adversely affect our financial results.

Our stock price has been volatile from time to time, declining precipitously from time to time during the period from 2008 through the present, and it could decline again.

The securities markets in general and our common stock in particular have experienced significant price and volume volatility in recent years. The market price and trading volume of our common stock may continue to experience significant fluctuations due not only to general stock market conditions but also to a change in sentiment in the market regarding our operations or business prospects or those of companies in our industry. In addition to the other risk factors discussed in this section, the price and volume volatility of our common stock may be affected by:

- operating results that vary from the expectations of securities analysts and investors;
- factors influencing the levels of global oil and natural gas exploration and exploitation activities, such as the decline in crude oil prices and depressed prices for natural gas in North America or disasters such as the Deepwater Horizon incident in the Gulf of Mexico in 2010;
- the operating and securities price performance of companies that investors or analysts consider comparable to us;
- actions by rating agencies related to the Notes;
- announcements of strategic developments, acquisitions and other material events by us or our competitors; and
- changes in global financial markets and global economies and general market conditions, such as interest rates, commodity and equity prices and the value of financial assets.

To the extent that the price of our common stock remains at lower levels or it declines further, our ability to raise funds through the issuance of equity or otherwise use our common stock as consideration will be reduced. In addition, further borrowings by us may make it more difficult for us to access additional capital. These factors may limit our ability to implement our operating and growth plans.

On February 4, 2016, we completed a one-for-fifteen reverse stock split, and our stock began trading on a reverse-split adjusted basis on February 5, 2016.

Goodwill, intangible assets and multi-client data library that we have recorded are subject to impairment evaluations and, as a result, we could be required to write-off additional goodwill and intangible assets. In addition, portions of our products inventory may become obsolete or excessive due to future changes in technology, changes in market demand, or changes in market expectations. Write-downs of these assets may adversely affect our financial condition and results of operations.

In accordance with Accounting Standard Codification ("ASC") 350, "Intangibles – Goodwill and Other" ("ASC 350"), we are required to compare the fair value of our goodwill and intangible assets (when certain impairment indicators under ASC 350 are present) to their carrying amount. If the fair value of such goodwill or intangible assets is less than its carrying value, an impairment loss is recorded to the extent that the fair value of these assets within the reporting units is less than their carrying value.

In 2014, we recorded an impairment charge of $21.9 million related to our goodwill in our Marine Systems reporting unit. For goodwill testing purposes, the litigation contingency accrual of $123.8 million as of December 31, 2014 was assigned to this reporting unit. Based on this accrual and the recording of a valuation allowance on substantially all of our net deferred tax assets, this reporting unit's carrying value was negative as of December 31, 2014. The negative carrying value required us to perform Step 2 of the impairment test on Marine Systems; the test determined that the

goodwill associated with the Marine Systems reporting unit was impaired. We also recorded a $1.4 million impairment of certain intangible assets related to customer relationship, and we recorded a $100.1 million impairment of our multi-client data library within our Solutions segment at December 31, 2014.

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Further reductions in or an impairment of the value of our goodwill or other intangible assets will result in additional charges against our earnings, which could have a material adverse effect on our reported results of operations and financial position in future periods. At December 31, 2015, our remaining goodwill and other intangible asset balances were $26.3 million and $4.8 million, respectively.

Our services and products' technologies often change relatively quickly. Phasing out of old products involves estimating the amounts of inventories we need to hold to satisfy demand for those products and satisfy future repair part needs. Based on changing technologies and customer demand, we may find that we have either obsolete or excess inventory on hand. Because of unforeseen future changes in technology, market demand or competition, we might have to write off unusable inventory, which would adversely affect our results of operations. For the year ended December 31, 2015, the reserve for excess and obsolete inventory decreased primarily due to the disposal of reserved inventory.

Due to the international scope of our business activities, our results of operations may be significantly affected by currency fluctuations.

We derive approximately 66% of our consolidated net revenues from international sales, subjecting us to risks relating to fluctuations in currency exchange rates. Currency variations can adversely affect margins on sales of our products in countries outside of the United States and margins on sales of products that include components obtained from suppliers located outside of the United States. Through our subsidiaries, we operate in a wide variety of jurisdictions, including the United Kingdom, Australia, the Netherlands, Brazil, China, Canada, Russia, the United Arab Emirates, Egypt and other countries. Certain of these countries have experienced geopolitical instability, economic problems and other uncertainties from time to time. To the extent that world events or economic conditions negatively affect our future sales to customers in these and other regions of the world, or the collectability of receivables, our future results of operations, liquidity and financial condition may be adversely affected. In the fourth quarter of 2014, the decline in crude oil prices, as well as U.S. and European Union sanctions against Russia related to Russia's actions in Ukraine, have both contributed to the devaluation of the Russian ruble putting significant pressure on our Russian-based customers and negatively impacting the appeal of seismic data located in Russia to potential non-Russian buyers. In 2015, the Russian ruble strengthened briefly during the first quarter of the year. However, it continued to decline sharply in both the third and fourth quarters and into January 2016, reaching its lowest level since the currency was redenominated in 1998. Our results of operations, liquidity and financial condition related to our operations in Russia are primarily denominated in U.S. dollars.

We currently require customers in certain higher risk countries to provide their own financing. We do not currently extend long-term credit through notes to companies in countries where we perceive excessive credit risk.

A majority of our foreign net working capital is within the United Kingdom. Our consolidated balance sheet at December 31, 2015 reflected approximately $21.8 million of net working capital related to our foreign subsidiaries, a majority of which is within the United Kingdom. Our subsidiaries in the U.K. and in other countries receive their income and pay their expenses primarily in their local currencies. To the extent that transactions of these subsidiaries are settled in their local currencies, a devaluation of those currencies versus the U.S. dollar could reduce the contribution from these subsidiaries to our consolidated results of operations as reported in U.S. dollars. For financial reporting purposes, such depreciation will negatively affect our reported results of operations since earnings denominated in foreign currencies would be converted to U.S. dollars at a decreased value. In addition, since we participate in competitive bids for sales of certain of our services and products that are denominated in U.S. dollars, a depreciation of the U.S. dollar against other currencies could harm our competitive position relative to other companies. While we periodically employ economic cash flow and fair value hedges to minimize the risks associated with these exchange rate fluctuations, the hedging activities may be ineffective or may not offset more than a portion of the adverse financial impact resulting from currency variations. Accordingly, we cannot assure you that fluctuations in the values of the currencies of countries in which we operate will not materially adversely affect our future results of operations.

We rely on highly skilled personnel in our businesses, and if we are unable to retain or motivate key personnel or hire qualified personnel, we may not be able to grow effectively.

Our performance is largely dependent on the talents and efforts of highly skilled individuals. Our future success depends on our continuing ability to identify, hire, develop, motivate and retain skilled personnel for all areas of our organization. We require highly skilled personnel to operate and provide technical services and support for our businesses. Competition for qualified personnel required for our data processing operations and our other segments' businesses has intensified in recent years. Our growth has presented challenges to us to recruit, train and retain our employees while managing the impact of potential wage inflation and the lack of available qualified labor in some markets where we operate. A well-trained, motivated and adequately-staffed work force has a positive impact on our ability to attract and retain business. Our continued ability to compete effectively depends on our ability to attract new employees and to retain and motivate our existing employees.

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However, from time to time, we have to rightsize our work force due to economic and market conditions. We initiated workforce reductions in December 2014, combined with continued restructurings through 2015, we have reduced our full-time employee base by approximately 50%. In addition we reduced salaries by 10% for the majority of our employees for the foreseeable future.

If we, our option holders or stockholders holding registration rights sell additional shares of our common stock in the future, the market price of our common stock could decline. The exercise of our stock options could result in substantial dilution to our existing stockholders. Sales in the open market of the shares of common stock acquired upon such exercises may have the effect of reducing the then current market price for our common stock.

The market price of our common stock could decline as a result of sales of a large number of shares of our common stock in the market in the future, or the perception that such sales could occur. These sales, or the possibility that these sales may occur, could make it more difficult for us to sell equity securities in the future at a time and at a price that we deem appropriate. As of February 5, 2016, we had 10,567,558 shares of common stock issued and outstanding. Substantially all of these shares are available for sale in the public market, subject in some cases to volume and other limitations or delivery of a prospectus. At February 5, 2016, we had outstanding stock options to purchase up to 545,544 shares of our common stock at a weighted average exercise price of $89.74 per share. We also had, as of that date, 73,427 shares of common stock reserved for issuance under outstanding restricted stock and restricted stock unit awards. The numbers of shares and option exercise price have been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 5, 2016.

During 2009, we issued in a privately-negotiated transaction 1.23 million shares of our common stock to certain institutional investors. In March 2010, we issued 1.58 million shares to BGP in a privately-negotiated transaction in connection with the formation of our INOVA Geophysical joint venture. These shares may be resold into the public markets in sale transactions pursuant to currently-effective registration statements filed with the SEC or pursuant to another exemption from registration. Sales in the public market of a large number of shares of common stock (or the perception that such sales could occur) could apply downward pressure on the prevailing market price of our common stock. The numbers of shares have been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4, 2016.

Shares of our common stock are also subject to certain demand and piggyback registration rights held by Laitram, L.L.C., an affiliate of one of our directors. We also may enter into additional registration rights agreements in the future in connection with any subsequent acquisitions or securities transactions we may undertake. Any sales of our common stock under these registration rights arrangements with Laitram or other stockholders could be negatively perceived in the trading markets and negatively affect the price of our common stock. Sales of a substantial number of our shares of common stock in the public market under these arrangements, or the expectation of such sales, could cause the market price of our common stock to decline.

Certain of our facilities could be damaged by hurricanes and other natural disasters, which could have an adverse effect on our results of operations and financial condition.

Certain of our facilities are located in regions of the United States that are susceptible to damage from hurricanes and other weather events, and, during 2005, were impacted by hurricanes or other weather events. Our Systems segment leases 150,000 square feet of facilities located in Harahan, Louisiana, in the greater New Orleans metropolitan area. In late August 2005, we suspended operations at these facilities and evacuated and locked down the facilities in preparation for Hurricane Katrina. These facilities did not experience flooding or significant damage during or after the hurricane. However, because of employee evacuations, power failures and lack of related support services, utilities and infrastructure in the New Orleans area, we were unable to resume full operations at the facilities until late September 2005. In September 2008, we lost power and related services for several days at our offices located in the Houston metropolitan area, which includes a substantial portion of our data processing infrastructure, and in Harahan, Louisiana, as a result of Hurricane Ike and Hurricane Gustav.

Future hurricanes or similar natural disasters that impact our facilities may negatively affect our financial position and operating results for those periods. These negative effects may include reduced production, product sales and data processing revenues; costs associated with resuming production; reduced orders for our services and products from customers that were similarly affected by these events; lost market share; late deliveries; additional costs to purchase

materials and supplies from outside suppliers; uninsured property losses; inadequate business interruption insurance and an inability to retain necessary staff. To the extent that climate change increases the severity of hurricanes and other weather events, as some have suggested, it could worsen the severity of these negative effects on our financial position and operating results.

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Our operations, and the operations of our customers, are subject to numerous government regulations, which could adversely limit our operating flexibility. Regulatory initiatives undertaken from time to time, such as restrictions, sanctions and embargoes, can adversely affect, and have adversely affected, our customers and our business.

In addition to the specific regulatory risks discussed elsewhere in this Item 1A. “Risk Factors” section, our operations are subject to other laws, regulations, government policies and product certification requirements worldwide. Changes in such laws, regulations, policies or requirements 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 future operating results. Our export activities in particular are subject to extensive and evolving trade regulations. Certain countries are subject to restrictions, including most recently Russia, sanctions and embargoes imposed by the United States government. These restrictions, sanctions and embargoes also prohibit or limit us from participating in certain business activities in those countries. In addition our operations are subject to numerous local, state and federal laws and regulations in the United States and in foreign jurisdictions concerning the containment and disposal of hazardous materials, the remediation of contaminated properties, and the protection of the environment. These laws have been changed frequently in the past, and there can be no assurance that future changes will not have a material adverse effect on us. In addition, our customers’ operations are also significantly impacted by laws and regulations concerning the protection of the environment and endangered species. Consequently, changes in governmental regulations applicable to our customers may reduce demand for our services and products. To the extent that our customers’ operations are disrupted by future laws and regulations, our business and results of operations may be materially and adversely affected.

Offshore oil and gas exploration and development recently has been a regulatory focus. Future changes in laws or regulations regarding such activities, and decisions by customers, governmental agencies or other industry participants in response, could reduce demand for our services and products, which could have a negative impact on our financial position, results of operations or cash flows. New emissions standards or other environmental regulations imposed on off-shore vessels, for example, could increase our cost of procuring seismic acquisition vessels, cause unexpected downtime or decrease vessel availability. We cannot reasonably or reliably estimate that such changes will occur, when they will occur, or whether they will impact us. Such changes can occur quickly within a region, which may impact both the affected region and global exploration and production, and we may not be able to respond quickly, or at all, to mitigate these changes. In addition, these future laws and regulations could result in increased compliance costs or additional operating restrictions that may adversely affect the financial health of our customers and decrease the demand for our services and products.

Climate change regulations or legislation could result in increased operating costs and reduced demand for the oil and gas our clients intend to produce.

In response to concerns about the effect of greenhouse gases (including carbon dioxide and methane) (“GHGs”) on global climate change, legislative and regulatory measures to address GHG emissions are in various phases of discussion or implementation at the local, state, national and international levels. The Obama Administration, for example, has launched a number of climate change initiatives, including the development of standards restricting GHG emissions from vehicles and a Strategy to Reduce Methane Emissions from the oil and gas industry by 40-45% by 2025 as compared to 2012 levels. At least one-third of the states, either individually or through multi-state regional initiatives, have already taken legal measures intended to reduce GHG emissions, primarily through the planned development of GHG emission inventories, GHG cap and trade programs or incentives to use renewable energy. Regulations and laws relating to GHGs and climate change that are still more stringent may be adopted in the future. Any additional operating restrictions associated with legislation or regulations regarding GHG emissions could increase our costs and downtime and reduce the demand for our services and products. Reductions in our revenues or increases in our expenses as a result of climate control initiatives could have adverse effects on our business, financial position, results of operations and prospects.

Increased regulation of onshore hydraulic fracturing could result in reductions or delays in drilling and completing new oil and natural gas wells, which could adversely impact our revenues by decreasing the demand for our data libraries and seismic acquisition services.

More than 90% of all onshore oil and natural gas wells drilled in the U.S. employ hydraulic fracturing techniques. The fracturing process involves the injection of water, sand or other proppants and chemicals under pressure into the target reservoir to stimulate hydrocarbon production. Our business is highly dependent on the level of activity by our oil and gas E&P customers, and hydrocarbons cannot be economically produced from certain reservoirs, especially low permeability formations such as shales, without extensive hydraulic fracturing.

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Due to public concerns about hydraulic fracturing, including potential impairment of groundwater quality, legislative and regulatory efforts at the federal, state and local levels have been initiated to impose more stringent permitting and compliance obligations on these operations. In certain areas of the country, new drilling permits for hydraulic fracturing even have been put on hold. Ongoing studies of hydraulic fracturing, such as the U.S. Environmental Protection Agency's ongoing assessment of potential impacts on drinking water resources, may lead to further regulations. In the event additional hydraulic fracturing requirements are enacted, demand for our shale data libraries and seismic data acquisition services and products may be adversely affected.

We have outsourcing arrangements with third parties to manufacture some of our products. If these third party suppliers fail to deliver quality products or components at reasonable prices on a timely basis, we may alienate some of our customers and our revenues, profitability and cash flow may decline. Additionally, current global economic conditions could have a negative impact on our suppliers, causing a disruption in our vendor supplies. A disruption in vendor supplies may adversely affect our results of operations.

Our manufacturing processes require us to purchase quality components. In addition, we use contract manufacturers as an alternative to our own manufacturing of products. We have outsourced the manufacturing of our products, including our towed marine streamers, geophone manufacturing and ocean bottom cables. Certain components used in our towed marine manufacturing operations are currently provided by a single supplier. Without these sole suppliers, we would be required to find other suppliers who could build these components for us, or set up to make these parts internally. If, in implementing any outsource initiative, we are unable to identify contract manufacturers willing to contract with us on competitive terms and to devote adequate resources to fulfill their obligations to us or if we do not properly manage these relationships, our existing customer relationships may suffer. In addition, by undertaking these activities, we run the risk that the reputation and competitiveness of our services and products may deteriorate as a result of the reduction of our control over quality and delivery schedules. We also may experience supply interruptions, cost escalations and competitive disadvantages if our contract manufacturers fail to develop, implement, or maintain manufacturing methods appropriate for our products and customers.

Reliance on certain suppliers, as well as industry supply conditions, generally involves several risks, including the possibility of a shortage or a lack of availability of key components, increases in component costs and reduced control over delivery schedules. If any of these risks are realized, our revenues, profitability and cash flows may decline. In addition, the more we come to rely on contract manufacturers, we may have fewer personnel resources with expertise to manage problems that may arise from these third-party arrangements.

Additionally, our suppliers could be negatively impacted by current global economic conditions. If certain of our suppliers were to experience significant cash flow issues or become insolvent as a result of such conditions, it could result in a reduction or interruption in supplies to us or a significant increase in the price of such supplies and adversely impact our results of operations and cash flows.

Under some of our outsourcing arrangements, our manufacturing outsourcers purchase agreed-upon inventory levels to meet our forecasted demand. Our manufacturing plans and inventory levels are generally based on sales forecasts. If demand proves to be less than we originally forecasted and we cancel our committed purchase orders, our outsourcers generally will have the right to require us to purchase inventory which they had purchased on our behalf. Should we be required to purchase inventory under these terms, we may be required to hold inventory that we may never utilize.

Our business is subject to cybersecurity risks and threats.

Threats to our information technology systems associated with cybersecurity risk and cyber incidents or attacks continue to grow. It is also possible that breaches to our systems could go unnoticed for some period of time. Risks associated with these threats include, among other things, loss of intellectual property, impairment of our ability to conduct our operations, disruption of our customers' operations, loss or damage to our customer data delivery systems, and increased costs to prevent, respond to or mitigate cybersecurity events.

Our certificate of incorporation and bylaws, Delaware law and certain contractual obligations under our agreement with BGP contain provisions that could discourage another company from acquiring us.

Provisions of our certificate of incorporation and bylaws, Delaware law and the terms of our investor rights agreement with BGP may have the effect of discouraging, delaying or preventing a merger or acquisition that our stockholders

may consider favorable, including transactions in which you might otherwise receive a premium for shares of our common stock. These provisions include:

- authorizing the issuance of "blank check" preferred stock without any need for action by stockholders;
- providing for a classified board of directors with staggered terms;

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- requiring supermajority stockholder voting to effect certain amendments to our certificate of incorporation and bylaws;
- eliminating the ability of stockholders to call special meetings of stockholders;
- prohibiting stockholder action by written consent; and
- establishing advance notice requirements for nominations for election to the board of directors or for proposing matters that can be acted on by stockholders at stockholder meetings.

In addition, the terms of our INOVA Geophysical joint venture with BGP and BGP's investment in our company contain a number of provisions, such as certain pre-emptive rights granted to BGP with respect to certain future issuances of our stock, that could have the effect of discouraging, delaying or preventing a merger or acquisition of our company that our stockholders may otherwise consider to be favorable.

Failure to maintain effective internal controls in accordance with Section 404 of the Sarbanes-Oxley Act could have a material adverse effect on our stock price.

If, in the future, we fail to maintain the adequacy of our internal controls, as such standards are modified, supplemented or amended from time to time, we may not be able to ensure that we can conclude on an ongoing basis that we have effective internal controls over financial reporting in accordance with Section 404 of the Sarbanes-Oxley Act. Failure to achieve and maintain an effective internal control environment could have a material adverse effect on the price of our common stock.

Note: The foregoing factors pursuant to the Private Securities Litigation Reform Act of 1995 should not be construed as exhaustive. In addition to the foregoing, we wish to refer readers to other factors discussed elsewhere in this report as well as other filings and reports with the SEC for a further discussion of risks and uncertainties that could cause actual results to differ materially from those contained in forward-looking statements. We undertake no obligation to publicly release the result of any revisions to any such forward-looking statements, which may be made to reflect the events or circumstances after the date hereof or to reflect the occurrence of unanticipated events.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our principal operating facilities at December 31, 2015 were as follows:

Operating Facilities	Square Footage	Segment
Houston, Texas	210,000	Global Headquarters, Solutions and Ocean Bottom Services
Harahan, Louisiana	150,000	Systems
Edinburgh, Scotland	23,000	Software
Chertsey, England	19,000	Solutions
Jebel Ali, Dubai, United Arab Emirates	2,000	International Sales Headquarters
	404,000	

Each of these operating facilities is leased by us under long-term lease agreements. These lease agreements have terms that expire ranging from 2016 to 2025. See Footnote 13 "Operating Leases" of Footnotes to Consolidated Financial Statements.

In addition, we lease offices in Beijing, China; Rio de Janiero, Brazil; and Moscow, Russia to support our global sales force. We lease offices for our seismic data processing centers in Port Harcourt, Nigeria; Luanda, Angola; Moscow, Russia; Cairo, Egypt; Villahermosa, Mexico; Rio de Janeiro, Brazil; and Port of Spain, Trinidad. We also lease other facilities in Stafford, Texas; and Calgary, Canada. Our executive headquarters is located at 2105 CityWest Boulevard, Suite 400, Houston, Texas. The machinery, equipment, buildings and other facilities owned and leased by us are considered by our management to be sufficiently maintained and adequate for our current operations.

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Item 3. Legal Proceedings

WesternGeco

In June 2009, WesternGeco filed a lawsuit against us in the United States District Court for the Southern District of Texas, Houston Division. In the lawsuit, styled WesternGeco L.L.C. v. ION Geophysical Corporation, WesternGeco alleged that we had infringed several method and apparatus claims contained in four of its United States patents regarding marine seismic streamer steering devices.

The trial began in July 2012. A verdict was returned by the jury in August 2012, finding that we infringed the claims contained in the four patents by supplying our DigiFIN lateral streamer control units and the related software from the United States and awarded WesternGeco the sum of $105.9 million in damages, consisting of $12.5 million in reasonable royalty and $93.4 million in lost profits.

In June 2013, the presiding judge entered a Memorandum and Order,denying our post-verdict motions that challenged the jury's infringement findings and the damages amount. In the Memorandum and Order, the judge also stated that WesternGeco is entitled to be awarded supplemental damages for the additional DigiFIN units that were supplied from the United States before and after trial that were not included in the jury verdict due to the timing of the trial. In October 2013, the judge entered another Memorandum and Order, ruling on the number of DigiFIN units that are subject to supplemental damages and also ruling that the supplemental damages applicable to the additional units should be calculated by adding together the jury's previous reasonable royalty and lost profits damages awards per unit, resulting in supplemental damages of $73.1 million.

In April 2014, the judge entered another Order, ruling that lost profits should not have been included in the calculation of supplemental damages in the October 2013 Memorandum and Order and reducing the supplemental damages award in the case from $73.1 million to $9.4 million. In the Order, the judge also further reduced the damages award in the case by $3.0 million to reflect a settlement and license that WesternGeco entered into with a customer of ours that had purchased and used DigiFIN units that were also included in the damage amounts awarded against us.

In May 2014, the judge signed and entered a Final Judgment against us in the amount of $123.8 million. The Final Judgment also included an injunction that enjoins us, our agents and anyone acting in concert with us, from supplying in or from the United States the DigiFIN product or any parts unique to the DigiFIN product, or any instrumentality no more than colorably different from any of these products or parts, for combination outside of the United States. We have conducted our business in compliance with the district court's orders in the case, and we have reorganized our operations such that we no longer supply the DigiFIN product or any parts unique to the DigiFIN product in or from the United States.

We and WesternGeco each appealed the Final Judgment to the United States Court of Appeals for the Federal Circuit in Washington, D.C. On July 2, 2015, the Court of Appeals reversed in part the Final Judgment, holding the district court erred by including lost profits in the Final Judgment. Lost profits were $93.4 million and prejudgment interest on the lost profits was approximately $10.9 million of the $123.8 million Final Judgment award. Pre-judgment interest on the lost profits portion will be treated in the same way as the lost profits. Post-judgment interest will likewise be treated in the same fashion. On July 29, 2015, WesternGeco filed a petition for rehearing en banc before the Court of Appeals. On October 30, 2015, the Court of Appeals denied WesternGeco's petition for rehearing en banc. WesternGeco has up to 90 days to determine whether or not it will file a writ of certiorari requesting that the U.S. Supreme Court review the Court of Appeals' decision. On January 14, 2016, WesternGeco filed a motion to extend until February 26, 2016 the period of time it has to file a writ of certiorari requesting that the U.S. Supreme Court review the Court of Appeals' decision. WesternGeco has also filed a motion requesting that the district court enforce the approximately $22.0 million in royalty damages without regard to whether or not WesternGeco files a writ of certiorari with the U.S. Supreme Court. We have opposed the motion and it has not yet been scheduled for a hearing. As previously disclosed, we had previously taken a loss contingency accrual of $123.8 million. As a result of the reversal by the Court of Appeals, as of June 30, 2015, we reduced our loss contingency accrual to its current amount of $22.0 million. Our assessment of our potential loss contingency may change in the future due to developments in the case and other events, such as changes in applicable law, and such reassessment could lead to the determination that no loss contingency is probable or that a greater or lesser loss contingency is probable. Any such reassessment could have a material effect on our financial condition or results of operations.

In order to stay the judgment during the appeal, we arranged with sureties to post an appeal bond with the trial court on our behalf in the amount of $120.0 million. The terms of the appeal bond arrangements provide the sureties the contractual right for as long as the bond is outstanding to require us to post cash collateral for up to the full amount of the bond. If the sureties exercise their right to require collateral while the appeal bond is outstanding, we would intend to utilize a combination of cash on hand and undrawn balances available under our Credit Facility (as defined below). If we are required to collateralize the full amount of the bond, we might also seek additional debt and/or equity financing. The collateralization of the full amount of the bond could have a material adverse effect on our liquidity. Any requirement that we collateralize the appeal bond will

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reduce our liquidity and may reduce the borrowings otherwise available under our Credit Facility. No assurances can be made whether our efforts to raise additional cash would be successful and, if so, on what terms and conditions, and at what cost we might be able to secure any such financing. We have received a request for $11.0 million in collateral, and negotiations with the sureties regarding the request are ongoing. For additional discussion about our liquidity related to posting an appeal bond, see Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations - Meeting our Liquidity Requirements - Loss Contingency - WesternGeco Lawsuit” in Part II of this Form 10-K.

Other Litigation

We have been named in various other lawsuits or threatened actions that are incidental to our ordinary business. Litigation is inherently unpredictable. Any claims against us, whether meritorious or not, could be time-consuming, cause us to incur costs and expenses, require significant amounts of management time and result in the diversion of significant operational resources. The results of these lawsuits and actions cannot be predicted with certainty. We currently believe that the ultimate resolution of these matters will not have a material adverse effect on our financial condition or results of operations.

Item 4. Mine Safety Disclosures

Not applicable.

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PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Our common stock trades on the New York Stock Exchange ("NYSE") under the symbol "IO." The following table sets forth the high and low sales prices of the common stock for the periods indicated, as reported in NYSE composite tape transactions as adjusted for the one-for-fifteen reverse stock split completed on February 4, 2016.

	Price Range	
Period	High [1]	Low [1]
Year ended December 31, 2015:		
Fourth Quarter	$12.15	$3.90
Third Quarter	21.75	5.55
Second Quarter	37.20	15.60
First Quarter	43.05	31.50
Year ended December 31, 2014:		
Fourth Quarter	$45.30	$34.35
Third Quarter	65.40	41.85
Second Quarter	70.95	57.75
First Quarter	68.10	42.30

(1) The high and low sales prices set forth in the table above have been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4, 2016.

We have not historically paid, and do not intend to pay in the foreseeable future, cash dividends on our common stock. We presently intend to retain cash from operations for use in our business, with any future decision to pay cash dividends on our common stock dependent upon our growth, profitability, financial condition and other factors our board of directors consider relevant. In addition, the terms of our Credit Facility and the indenture governing the Notes prohibit us from paying dividends on or repurchasing shares of our common stock without the prior consent of the lenders.

The terms of our Credit Facility contain covenants that restrict us from paying cash dividends on our common stock, or repurchasing or acquiring shares of our common stock, unless (i) there is no event of default under the Credit Facility, (ii) there is excess availability under the Credit Facility greater than $20.0 million (or, at the time that the borrowing base formula amount is less than $20.0 million, the borrowers' level of liquidity (as defined in the revolving credit and security agreement) is greater than $20.0 million) and (iii) the agent receives satisfactory projections showing that excess availability under the Credit Facility for the immediately following period of ninety (90) consecutive days will not be less than $20.0 million (or, at the time that the borrowing base formula amount is less than $20.0 million, the borrowers' level of liquidity is greater than $20.0 million). The aggregate amount of permitted cash dividends and stock repurchases may not exceed $10.0 million in any fiscal year or $40.0 million in the aggregate from and after the closing date of the Credit Facility.

The indenture governing the Notes contains certain covenants that, among other things, limit our ability to pay certain dividends or distributions on our common stock or purchase, redeem or retire shares of our common stock, unless (i) no default under the indenture has occurred or would occur as a result of that payment, (ii) we would have, after giving pro forma effect to the payment, been permitted to incur at least $1.00 of additional indebtedness under a fixed charge coverage ratio test under the indenture, and (iii) the total cumulative amount of all such payments would not exceed a sum calculated by reference to, among other items, our consolidated net income, proceeds from certain sales of equity or assets, certain conversions or exchanges of debt for equity and certain other reductions in our indebtedness and in aggregate not to exceed at any one time $25.0 million.

On December 31, 2015, there were 763 holders of record of our common stock.

On November 4, 2015, our board of directors approved a stock repurchase program authorizing us to repurchase, from time to time from November 10, 2015 through November 10, 2017, up to $25 million in shares of our outstanding common stock. The stock repurchase program may be implemented through open market repurchases or privately

negotiated transactions, at management's discretion. The actual timing, number and value of shares repurchased under the program will be determined by management at its discretion and will depend on a number of factors including the market price of the shares of our common stock and general market and economic conditions, applicable legal requirements and compliance with the terms of our outstanding indebtedness. The repurchase program does not obligate us to acquire any particular amount of common stock and may be modified or suspended at any time and could be terminated prior to completion. Since the program's inception on November 10, 2015 through February 5, 2016, we had repurchased 435,792 shares our common stock under the repurchase program at an average price per share of $6.45. The number of shares repurchased and the average price per repurchased share has been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4, 2016. On February 5, 2016, the closing sale price for our common stock was $6.21 on the NYSE.

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During the three months ended December 31, 2015, we withheld and subsequently canceled shares of our common stock to satisfy minimum statutory income tax withholding obligations on the vesting of restricted stock for employees. The date of cancellation, number of shares and average effective acquisition price per share, were as follows:

Period	(a) Total Number of Shares Acquired (1)	(b) Average Price Paid Per Share (2)	(c) Total Number of Shares Purchased as Part of Publicly Announced Plans or Program	(d) Maximum Number (or Approximate Dollar Value) of Shares That May Yet Be Purchased Under the Plans or Program
October 1, 2015 to October 31, 2015	—	$—	Not applicable	Not applicable
November 1, 2015 to November 30, 2015	—	$—	Not applicable	Not applicable
December 1, 2015 to December 31, 2015	2,705	$8.40	Not applicable	Not applicable
Total	2,705	$8.40		

(1) The numbers of shares set forth in the table above have been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4, 2016.
(2) The average prices paid per share set forth in the table above have been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4, 2016.

Item 6. Selected Financial Data

Special Items Affecting Comparability

The selected consolidated financial data set forth below under “Historical Selected Financial Data” with respect to our consolidated statements of operations for 2015, 2014, 2013, 2012 and 2011, and with respect to our consolidated balance sheets at December 31, 2015, 2014, 2013, 2012 and 2011, have been derived from our audited consolidated financial statements.

Our results of operations and financial condition have been affected by restructuring activities, legal contingencies and settlements, dispositions, debt refinancings and impairments and write-downs of assets during the periods presented, which affect the comparability of the financial information shown. In particular, our results of operations for the years in the 2011 – 2015 time period were impacted by the following items (before tax):

	Years Ended December 31,				
	2015	2014	2013	2012	2011
	(In thousands)				
Cost of sales:					
Write-down of multi-client data library	$(399)	$(100,100)	$(5,461)	$—	$—
Write-down of excess and obsolete inventory	$(151)	$(6,952)	$(21,197)	$(1,326)	$—
Operating expenses:					
Impairment of goodwill and intangible assets	$—	$(23,284)	$—	$—	$—
Write-down of receivables	$—	$(8,214)	$(9,157)	$(5,640)	$—
Write-down of marine equipment	$—	$—	$—	$(5,928)	$—
Other income (expense):					
Reversal of (accrual for) loss contingency related to legal proceedings	$101,978	$69,557	$(183,327)	$(10,000)	$—
Gain on sale of Source product line	$—	$6,522	$—	$—	$—
Gain on sale of cost method investments	$—	$5,463	$3,591	$—	$—
Gain on legal settlements	$—	$—	$—	$30,895	$—
Equity in earnings (losses) of investments	$—	$(49,485)	$(42,320)	$297	$(22,862)
Conversion payment of preferred stock	$—	$—	$(5,000)	$—	$—

The historical selected financial data shown below should not be considered as being indicative of future operations, and should be read in conjunction with Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and the consolidated financial statements and the notes thereto included elsewhere in this Form 10-K.

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Historical Selected Financial Data

	Years Ended December 31,				
	2015	2014	2013	2012	2011
	(In thousands, except for per share data)				
Statement of Operations Data:					
Net revenues	$221,513	$509,558	$549,167	$526,317	$454,621
Gross profit	8,003	62,223	159,313	215,801	173,445
Income (loss) from operations	(100,632)	(117,929)	16,396	74,527	66,795
Net income (loss) applicable to common shares [1]	(25,122)	(128,252)	(251,874)	61,963	23,422
Net income (loss) per basic share [1]	$(2.29)	$(11.72)	$(23.84)	$5.97	$2.27
Net income (loss) per diluted share [1]	$(2.29)	$(11.72)	$(23.84)	$5.71	$2.25
Weighted average number of common shares outstanding [2]	10,957	10,939	10,567	10,387	10,321
Weighted average number of diluted shares outstanding [2]	10,957	10,939	10,567	10,851	10,406
Balance Sheet Data (end of year):					
Working capital	$93,160	$222,099	$248,857	$164,693	$163,677
Total assets	438,416	617,257	864,671	820,583	674,058
Long-term debt	186,320	190,594	220,152	105,328	105,112
Total equity	112,040	135,712	257,885	499,019	425,812
Other Data:					
Investment in multi-client library	$45,558	$67,785	$114,582	$145,627	$143,782
Capital expenditures	19,241	8,264	16,914	16,650	11,060
Depreciation and amortization (other than multi-client library)	26,527	27,656	18,158	16,202	13,917
Amortization of multi-client library	35,784	64,374	86,716	89,080	77,317

(1) The per share calculations set forth in the table above have been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4, 2016.

(2) The share numbers set forth in the table above have been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4, 2016.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Note: The following should be read in conjunction with our Consolidated Financial Statements and related Footnotes to Consolidated Financial Statements that appear elsewhere in this Annual Report on Form 10-K. References to "Footnotes" in the discussion below refer to the numbered Footnotes to Consolidated Financial Statements.

Executive Summary

Our Business

The terms "we," "us" and similar or derivative terms refer to ION Geophysical Corporation and its consolidated subsidiaries, except where the context otherwise requires or as otherwise indicated.

We are a global, technology-focused company that provides geophysical technology, services and solutions to the global oil and gas industry. We provide our services and products through four business segments – Solutions, Software, Systems and Ocean Bottom Services (the segment name for OceanGeo) – as well as through our INOVA Geophysical joint venture.

For a full discussion of our business, see Part I, Item 1. "Business."

Macroeconomic Conditions

Demand for our services and products is cyclical and dependent upon activity levels in the oil and gas industry, particularly our customers' willingness to invest capital in the exploration for oil and natural gas. Our customers' capital spending programs are generally based on their outlook for near-term and long-term commodity prices, economic growth, commodity demand and estimates of resource production. As a result, demand for our services and products is largely sensitive to expected commodity prices, principally related to crude oil and natural gas.

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In 2013 continuing through 2015 we started seeing decreased spending on exploration by E&P companies, which were reportedly focusing more of their current spending towards production optimization of existing assets. We believe this was due to several factors, but primarily because operational cash flows of E&P companies were no longer sufficient to cover capital expenditures and cash was continuing to be paid to shareholders in the form of dividends. E&P companies have been relying on asset sales and debt financings to fund capital requirements amid demands for greater returns to shareholders.

After a period of exploration-focused activities by E&P companies leading up to the fourth quarter of 2014, many E&P companies turned their focus more to production activities and less on exploration of prospects during 2015 as the continued decline in oil and gas prices resulted in decreasing revenues and prompted cost reduction initiatives across the industry. The World Bank recently lowered its 2016 forecast for crude oil prices to $37 per barrel from its previous expectation of $51 per barrel. One recent survey indicated that upstream oil and gas companies plan to reduce spending by 15% globally in 2016, following a 23% decline in 2015, representing only the second time spending has declined in consecutive years since 1986 and 1987. As of December 31, 2015, our Solutions segment backlog, consisting of commitments for data processing work and for underwritten multi-client new venture and proprietary projects by our Ventures group, was 59% less than our backlog existing as of December 31, 2014. Investments in our multi-client data library are dependent upon the timing of our new ventures projects and the availability of underwriting by our customers. Our asset light strategy enables us to scale our business to avoid significant fixed costs and to remain financially flexible as we manage the timing and levels of our capital expenditures.

E&P companies use their cash flow from operations to reinvest in productive assets through capital expenditures, build surplus cash for eventual downturns, or return cash to stakeholders. Due to increasing exploration and production costs, free cash flow at E&P companies as a whole had generally decreased over the last several years. By 2013, the combination of these factors led many E&P companies to a position where they have been unable to cover both their capital expenditure budgets and targeted cash returns to shareholders. As a result, E&P companies have turned their focus to spending reductions, with exploration spending receiving the largest reductions and seismic spending being one of the most discretionary parts of their exploration budgets.

Similar to ION, many seismic industry participants have been reporting lower year-over-year revenue, and decreased funding levels for contract and multi-client exploration activities.

The following is a summary of recent oil and gas pricing trends:

	Brent Crude (per bbl)		West Texas Intermediate Crude (per bbl)		Henry Hub Natural Gas (per mcf)	
Quarter ended	High	Low	High	Low	High	Low
12/31/2015	$52.13	$35.26	$49.67	$34.55	$2.54	$1.63
9/30/2015	$61.73	$41.59	$56.94	$38.22	$2.93	$2.47
6/30/2015	$66.33	$55.73	$61.36	$49.13	$3.04	$2.50
3/31/2015	$61.89	$45.13	$53.56	$43.39	$3.32	$2.62
12/31/2014	$94.57	$55.27	$91.01	$53.27	$4.49	$2.89
9/30/2014	$110.84	$94.53	$105.34	$91.16	$4.46	$3.75
6/30/2014	$115.19	$103.37	$107.26	$99.42	$4.83	$4.28
3/31/2014	$111.26	$105.73	$104.92	$91.66	$6.15	$4.01

Source: U.S. Energy Information Administration (EIA).

In the past few years, crude oil prices have been volatile due to global economic uncertainties. Significant downward crude oil price volatility began in the fourth quarter of 2014 and prices continued to drop throughout the remainder of 2014 and into 2015, with a brief, partial recovery during the second quarter of 2015 followed by a continued decline in oil prices during the third and fourth quarters. The material decrease in crude oil prices can be attributed principally to significant production growth in the U.S. shale plays, strengthening of the U.S. dollar relative to other foreign currencies, the increase in production by Organization of Petroleum Exporting Countries (“OPEC”) and its indication not to cut production, offset somewhat by modest increases in global oil demand. During the fourth quarter of 2015,

crude oil prices continued to decline due to ongoing concerns about the Chinese economy as well as the potential supply increases related to the lifting of sanctions against Iran. In addition, the U.S. Congress recently lifted the 40-year-old ban on the export of crude oil. These events have created concern in the marketplace that crude oil prices will trade in a relatively low-priced range for the foreseeable future. The average prices for West Texas Intermediate ("WTI") and Intercontinental Exchange Brent ("Brent") crude oil decreased from an average of $72 per barrel and $75 per barrel, respectively, in the fourth quarter of 2014 to an average of $42 per barrel and $44 per barrel, respectively, in the fourth quarter of 2015. These data points compare to an average price of $100 per barrel and $107 per barrel, respectively, in the first nine months of 2014.

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Given the historical volatility of crude prices, there remains a risk that prices could continue to deteriorate due to high levels of domestic and OPEC crude oil production, slowing growth rates in various global regions and/or the potential for ongoing supply/demand imbalances. Alternatively, if the global supply of oil were to decrease due to reduced capital investment by our E&P customers or government instability in a major oil-producing nation and energy demand continues to increase in the U.S. and countries such as China and India, a recovery in WTI and Brent crude oil prices could occur. Regardless of the driver, crude oil price improvements will not occur without a rebalancing of global supply and demand, the timing of which is difficult to predict. If commodity prices do not improve or if they decline further, demand for our services and products could continue to decline.

Prices for natural gas in the U.S. averaged $2.09 per mmBtu in the fourth quarter of 2015 compared to $3.69 per mmBtu in the fourth quarter of 2014 and $4.57 per mmBtu in the first nine months of 2014. Natural gas prices declined due to strong production and the recent mild winter this year as compared to last year resulting in significant increases in natural gas inventories in the U.S. during 2015, from 1% below the five-year average as of the end of 2014 to 14% above the five year average this year. Customer spending in the natural gas shale plays has been limited due to associated gas being produced from unconventional oil wells in North America. As a result of natural gas production growth outpacing demand in the U.S., natural gas prices continue to be weak relative to prices experienced from 2006 through 2008 and are expected to remain below levels considered economical for new investments in numerous natural gas fields. If natural gas production growth continues to surpass demand in the U.S., whether the supply comes from conventional or unconventional production or associated natural gas production from oil wells, prices for natural gas could remain constrained for an extended period.

Impact to Our Business

The reductions in exploration spending have had a significant impact on our results of operations for 2015 with total revenues falling versus prior year by 57%. We have seen a continued softening of customer underwriting of our new venture programs. We continue to maintain high standards for underwriting of any new projects, and have delayed certain new venture programs that were originally planned to occur during 2015. We invested approximately $22 million less in our multi-client data library during 2015, compared to 2014.

We saw a significant slowdown in our data processing business during 2015. During the second quarter, various customers delayed processing projects and this trend has continued, which negatively affected our backlog. Data processing revenues were down significantly in 2015 compared to 2014, and we expect our data processing business to remain soft into 2016. During 2014 and 2015, we took measured actions to reduce our data processing cost structure.

Our business has traditionally been seasonal, with the strongest demand for our services and products often in the fourth quarter of our fiscal year. As discussed above, we have seen reduced levels of exploration-related spending by E&P companies as those companies focus more of their current spending on optimizing production of existing assets. At December 31, 2015, our Solutions segment backlog, which consists of commitments for (i) data processing work and (ii) both multi-client new venture projects and proprietary projects underwritten by our customers, was $19.2 million, compared with $46.7 million at December 31, 2014. The decline in backlog was primarily due to (i) the softening of customer underwriting for new ventures projects and (ii) the delay of certain processing projects by customers. We anticipate that the majority of our backlog will be recognized as revenue over the first half of 2016. We also expect the recently awarded contract extension from PEMEX to contribute toward rebuilding our backlog as additional work orders under this contract extension are received.

Our Software segment revenues decreased for 2015 compared to the same period of 2014. This decline is a result of reduced activity by seismic contractors that have taken vessels out of service.

Our traditional seismic contractor customers are also experiencing weakened demand due to the reduction in seismic spend by their customers. As a result, our Systems segment continues to experience weak year-over-year sales. Our Systems segment revenues decreased primarily because of lower towed streamer products sales and a decrease in repair and replacement marine positioning equipment revenues due to vessels having been taken out of service.

In 2014, we increased our ownership in OceanGeo, our ocean bottom seismic data acquisition joint venture, from 30% to 100%. During 2015, OceanGeo’s vessels were idle, causing us to cold stack the vessels and crew. OceanGeo is pursuing several tenders for long-term work in 2016.

We continue to monitor the global economy, the demand for crude oil and natural gas and the resultant impact on the capital spending plans and operations of our E&P customers in order to plan our business. We remain confident that, despite current marketplace issues that we describe above, we have positioned ourselves to take advantage of the next upturn in the energy cycle by shifting our focus towards E&P solutions and away from equipment sales, and by diversifying our offerings across the E&P lifecycle.

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It is our view that technologies that add a competitive advantage through improved imaging, cost reductions or improvements in well productivity will continue to be valued in our marketplace. We believe that our newest technologies, such as Calypso, WiBand, Orca, Narwhal, and Marlin, will continue to attract customer interest, because those technologies are designed to deliver improvements in image quality within more productive delivery systems.

Cost Reduction Initiatives

Due to the current economic conditions described above, including significant reductions in E&P capital expenditures, in 2015, we continued to implement cost cutting initiatives by (i) centralizing our global data processing capabilities to two core geographical hubs in the U.S. and the U.K., (ii) reducing our marine repair facilities to two locations in the U.S. and U.A.E., (iii) making further reductions in personnel across all of our segments that combined with reductions starting in December 2014, and continuing through 2015 have reduced our full-time employee base by approximately 50% and (iv) reducing salaries by 10% for the majority of our employees during 2015. Including actions we began taking in December 2014, we expect that these cost reduction actions will result in annualized savings of approximately $80 million. We now believe these initiatives have rightsized cost structure to reflect current revenue levels. See Footnote 2 “Impairments, Restructurings and Other Charges” of Footnotes to Consolidated Financial Statements.

Reverse Stock Split and Increase in Authorized Shares

On February 1, 2016, our stockholders approved a reverse stock split at a ratio to be selected by our Board of Directors (or any authorized committee of the Board of Directors) from within a range of between one-for-five and one-for-fifteen, inclusive, and a proportionate reduction in the number of authorized shares of our common stock by the selected reverse split ratio. On February 4, 2016, we completed a one-for-fifteen reverse stock split, and our stock began trading on a reverse-split adjusted basis on February 5, 2016. As a result of the reverse stock split, the number of issued and outstanding shares was adjusted and the number of shares underlying outstanding stock options and the related exercise prices were adjusted. Following the effective date of the reverse stock split, the par value of our common stock remained at $0.01 per share, and the number of authorized shares was reduced from 400,000,000 to 26,666,667, adjusted to reflect a one-for-fifteen reverse stock split.

On February 1, 2016, our stockholders approved an increase in the number of authorized shares of common stock from 200 million to 400 million, or 13.3 million to 26.7 million retroactively adjusted to reflect the one-for-fifteen reverse stock split.

Key Financial Metrics

Our results of operations have been materially affected by the impairments, restructuring charges and by other charges, which affect the comparability of certain of the financial information contained in this Form 10-K. In order to assist with the comparability to our historical results of operations, certain of the financial metrics tables and the discussion below exclude charges related to impairments, the restructuring and other write-downs. The gross profit (loss), income (loss) from operations, costs and expenses below that are identified as “As Adjusted” reflect the exclusion of the restructuring and other charges shown and described in the tables below. We believe that the non-GAAP presentation of results of operations excluding these items provides a more meaningful comparison of reporting periods.

The tables below provide (i) a summary of our net revenues for our company as a whole, and by segment, for 2015, 2014 and 2013, and (ii) an overview of other certain key financial metrics for our company as a whole and our four business segments on a comparative basis for 2015, 2014 and 2013, as reported and as adjusted in all three years for the restructuring and other charges recorded for those years.

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	Years Ended December 31,		
	2015	2014	2013
	(In thousands)		
Net revenues:			
Solutions:			
New Venture	$48,294	$98,649	$154,578
Data Library	63,326	66,180	111,998
Total multi-client revenues	111,620	164,829	266,576
Data Processing	45,630	113,075	120,808
Total	$157,250	$277,904	$387,384
Systems:			
Towed Streamer	$15,016	$43,995	$66,991
Ocean Bottom Equipment	—	—	7,307
Other	21,253	44,422	48,134
Total	$36,269	$88,417	$122,432
Software:			
Software Systems	$24,764	$36,203	$35,418
Services	3,230	3,790	3,933
Total	$27,994	$39,993	$39,351
Ocean Bottom Services	$—	$103,244	$—
Total	$221,513	$509,558	$549,167

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	Year Ended December 31, 2015			Year Ended December 31, 2014			Year Ended December 31,		
	As Reported	Restructuring and Other Charges	As Adjusted	As Reported	Restructuring and Other Charges	As Adjusted	As Reported	Restructuring and Other Charges	
	(In thousands, except per share data)								
Gross profit:									
Solutions	$13,508	$3,193	$16,701	$(24,345)	$100,825 [c]	$76,480	$111,108	$5,461	
Systems	10,829	311	11,140	29,829	7,580 [d]	37,409	19,999	25,688	
Software	17,937	225	18,162	28,835	137	28,972	28,206	—	
Ocean Bottom Services	(34,271)	252	(34,019)	27,904	—	27,904	—	—	
Total	$8,003	$3,981 [a]	$11,984	$62,223	$108,542	$170,765	$159,313	$31,149	
Gross margin:									
Solutions	9 %	2 %	11 %	(9)%	37 %	28 %	29 %	1 %	
Systems	30 %	1 %	31 %	34 %	8 %	42 %	16 %	21 %	
Software	64 %	1 %	65 %	72 %	— %	72 %	72 %	— %	
Ocean Bottom Services	— %	— %	— %	27 %	— %	27 %	— %	— %	
Total	4 %	1 %	5 %	12 %	22 %	34 %	29 %	6 %	
Income (loss) from operations:									
Solutions	$(28,916)	$4,295	$(24,621)	$(80,653)	$102,740 [c]	$22,087	$61,146	$5,461	
Systems	(2,735)	1,342	(1,393)	(23,521)	32,492 [d]	8,971	(9,957)	28,050	
Software	9,748	448	10,196	20,212	223 [e]	20,435	23,602	—	
Ocean Bottom Services	(40,756)	252	(40,504)	19,070	—	19,070	—	—	
Corporate and other	(37,973)	877	(37,096)	(53,037)	6,487 [f]	(46,550)	(58,395)	9,157	
Total	$(100,632)	$7,214 [a]	$(93,418)	$(117,929)	$141,942	$24,013	$16,396	$42,668	
Operating margin:									
Solutions	(18)%	2 %	(16)%	(29)%	37 %	8 %	16 %	1 %	
Systems	(8)%	4 %	(4)%	(27)%	37 %	10 %	(8)%	23 %	
Software	35 %	1 %	36 %	51 %	— %	51 %	60 %	— %	
Ocean Bottom Services	— %	— %	— %	18 %	— %	18 %	— %	— %	
Corporate and other	(17)%	— %	(17)%	(10)%	1 %	(9)%	(11)%	2 %	
Total	(45)%	3 %	(42)%	(23)%	28 %	5 %	3 %	8 %	
Net income (loss) applicable	$(25,122)	$(93,587) [b]	$(118,709)	$(128,252)	$94,143 [g]	$(34,109)	$(251,874)	$271,208	

to common shares									
Diluted net income (loss) per common share [1]	$(2.29)	$(8.54)	[k] $(10.83)	$(11.72)	$8.60	[k] $(3.12)	$(23.84)	$25.67	[k]

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(a) Represents severance and facility charges related to the Company's 2015 restructuring.

(b) In addition to item (a), also impacting net income (loss) applicable to common shares was a reduction in the WesternGeco legal contingency by $102.0 million.

(c) Primarily relates to the write-down of our multi-client data library in 2014 and 2013 within the Solutions segment. Also, 2014 and 2015 were impacted by the impairment of intangible assets and severance-related charges.

(d) Primarily relates to the write-down of goodwill, impacting income (loss) from operations, in addition to inventory write-downs, impacting gross profit (loss), and severance-related charges within the Systems segment.

(e) Primarily relates to severance-related charges within the Software segment.

(f) Represents the write-down of receivables from INOVA Geophysical, in addition to severance related charges.

(g) In addition to items (c), (d), (e) and (f), also impacting net income (loss) applicable to common shares was (i) the full write-down of our equity method investment in INOVA Geophysical of $30.7 million, in addition to our share of charges related to excess and obsolete inventory and customer bad debts of $3.5 million, (ii) a reduction in the WesternGeco legal contingency by $69.6 million, and (iii) non-recurring gains on the sale of a cost method investment of $5.5 million and on the sale of the Source product line of $6.5 million (before tax).

(h) Represents excess and obsolete inventory and severance-related charges within the Systems segment in 2013.

(i) Represents the write-down of the carrying value of all receivables due from OceanGeo in 2013.

(j) In addition to items (c),(h) and (i), also impacting net income (loss) applicable to common shares was (i) a charge to income tax expense related to our establishing a valuation allowance on our net deferred tax assets, (ii) a third quarter payment made to the holder of our outstanding Series D Preferred Stock in connection with the holder's conversion of the Series D Preferred Stock, (iii) our additional loss contingency accrual related to the WesternGeco legal proceedings, (iv) $18.8 million representing ION's 49% share of restructuring charges within the INOVA joint venture, associated with the impairment of intangible assets, write-down of excess and obsolete inventory and rental equipment, and severance-related charges, and (v) $12.5 million representing losses incurred as a result of ION taking a larger ownership position in OceanGeo.

(k) The per share calculations in the table above have been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4, 2016.

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We intend that the following discussion of our financial condition and results of operations will provide information that will assist in understanding our consolidated financial statements, the changes in certain key items in those financial statements from year to year, and the primary factors that accounted for those changes.

We account for our 49% interest in INOVA Geophysical as an equity method investment and record our share of earnings (losses) of INOVA Geophysical on a one fiscal quarter lag basis. During 2014, we wrote our in investment in INOVA Geophysical down to zero, and therefore we ceased recording losses in 2015. For, 2014 and 2013, we recognized in our consolidated results of operations our share of earnings (losses) in INOVA Geophysical of approximately $(19.5) million and (excluding the write-down of our investment in INOVA), $(22.5) million, respectively.

Prior to our acquisition of a controlling interest in OceanGeo in January 2014, we accounted for our interest in OceanGeo as an equity method investment and recorded our share of earnings of OceanGeo on a then current quarter basis. In February 2014, we began to consolidate the results of OceanGeo.

For a discussion of factors that could impact our future operating results and financial condition, see Item 1A. “Risk Factors” above.

Results of Operations

Year Ended December 31, 2015 (As Adjusted) Compared to Year Ended December 31, 2014 (As Adjusted)

Our total net revenues of $221.5 million for 2015 decreased $288.1 million, or 57%, compared to total net revenues for 2014. Our overall gross profit percentage for 2015 was 5%, as adjusted, compared to 2014’s gross profit percentage of 34%, as adjusted. Total operating expenses, as adjusted, as a percentage of net revenues for 2015 and 2014 were 48% and 29%, respectively. During 2015, loss from operations of $93.4 million, as adjusted, compared to income of $24.0 million, as adjusted, for 2014.

Our net loss for 2015 was $118.7 million, as adjusted, or $(10.83) per share, compared to net loss of $34.1 million, as adjusted, or $(3.12) per share for 2014. As noted above, net loss for 2015 and 2014 included restructuring and other credits (charges) totaling $93.6 million and ($94.1) million, respectively, impacting our earnings per share by $(8.54) and $8.60, respectively. The per share calculations have been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4,2016.

Net Revenues, Gross Profits and Gross Margins (As Adjusted)

Solutions — Net revenues for 2015 decreased by $120.6 million, or 43%, to $157.3 million, compared to $277.9 million for 2014. Revenues for our multi-client businesses within Solutions decreased due to the continued softness of exploration spending.

Gross profit decreased by $59.8 million to $16.7 million, as adjusted, representing a 11% gross margin, compared to $76.5 million, as adjusted, or a 28% gross margin, for 2014. This decrease was attributable to the significant revenue decline in our multi-client and data processing businesses in 2015.

Systems — Net revenues for 2015 decreased by $52.1 million, or 59%, to $36.3 million, compared to $88.4 million for 2014. This decrease in revenues was principally due to (i) lower sales of new marine positioning products; (ii) lower marine and replacement revenues on existing equipment; and (iii) lower geophone string sales. Gross profit for 2015 decreased by $26.3 million to $11.1 million, as adjusted, representing a 31% gross margin, compared to $37.4 million, as adjusted, or a 42% gross margin, for 2014. Gross profit and gross margin decreased due to the significant reduction in revenues in 2015 compared to 2014.

Software — Net revenues for 2015 decreased by $12.0 million, or 30%, to $28.0 million, compared to $40.0 million for 2014. This decrease in revenues was due to record revenue quarters in the first half of 2014 followed by a reduction in Orca licensing revenues during 2015, due to reduced activity by seismic contractors that have taken vessels out of service. Gross profit for 2015 decreased by $10.8 million to $18.2 million, as adjusted, representing a 65% gross margin, compared to $29.0 million, for 2014, which represented a 72% gross margin. Gross margin decreased due to the decline in revenues in 2015.

Ocean Bottom Services — There were no net revenues or gross margin for 2015, compared to net revenues of $103.2 million and gross margins 27% for 2014, due to OceanGeo’s crew being idle during 2015.

Operating Expenses (As Adjusted)

The following table presents the “As Adjusted” in both 2015 and 2014, excluding special charges that resulted from both the 2015 and 2014 restructurings and other write-downs (in thousands):

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	Year Ended December 31, 2015			Year Ended December 31, 2014		
	As Reported	Special Items[a]	As Adjusted	As Reported	Special Items[b]	As Adjusted
Operating expenses:						
Research, development and engineering	$26,445	$(603)	$25,842	$41,009	$(572)	$40,437
Marketing and sales	30,493	(304)	30,189	39,682	(326)	39,356
General, administrative and other operating expenses	51,697	(2,326)	49,371	76,177	(9,218)	66,959
Impairment of goodwill and intangible assets	—	—	—	23,284	(23,284)	—
Total operating expenses	$108,635	$(3,233)	$105,402	$180,152	$(33,400)	$146,752
Income (loss) from operations	$(100,632)	$7,214	$(93,418)	$(117,929)	$141,942	$24,013

[a] Includes severance affecting operating expenses and facility abandonment charges.

[b] Includes (i) the write-down of goodwill related to our Marine Systems reporting unit, (ii) the write-down of intangible assets, (iii) the write-down of receivables related to INOVA Geophysical and other customer bad debt, and (iv) severance charges affecting operating expense lines.

Research, Development and Engineering — Research, development and engineering expense decreased $14.6 million, or 36%, to $25.8 million, as adjusted, for 2015, compared to $40.4 million, as adjusted, for 2014. This decrease was primarily due to cost cutting measures in order to right-size the business to current revenue levels.

Marketing and Sales — Marketing and sales expense decreased $9.2 million, or 23%, to $30.2 million, as adjusted, for 2015, compared to $39.4 million, as adjusted, for 2014. This decrease was primarily due to cost cutting measures in order to right-size the business to current revenue levels.

General, Administrative and Other Operating Expenses — General, administrative and other operating expenses decreased $17.6 million, or 23%, to $49.4 million, as adjusted, for 2015 compared to $67.0 million, as adjusted, for 2014. This decrease was primarily due to cost cutting measures in order to right-size the business to current revenue levels.

Other Items

Interest Expense, net — Interest expense, net, of $18.8 million for 2015 decreased compared to $19.4 million for 2014. For additional information, please refer to "— Liquidity and Capital Resources — Sources of Capital" below.

Equity in Losses of Investments — We account for our investment in INOVA Geophysical as an equity method investment.

We record our share of earnings and losses of our 49% interest in INOVA Geophysical on a one fiscal quarter lag basis. On December 31, 2014 we wrote down our investment in INOVA Geophysical to zero, therefore we ceased recording losses in 2015.

Other Income (Expense) — Other income for 2015 was $98.3 million compared to other income of $79.9 million for 2014. The difference primarily relates to changes in our accrual for loss contingency related to a legal matter. See further discussion at Footnote 7 "Legal Matters" and in Part 1, Item 3, "Legal Proceedings."

The following table reflects the significant items of other income (expense) (in thousands):

	Years Ended December 31,	
	2015	2014
Reduction of loss contingency related to legal proceedings (Footnote 7)	$101,978	$69,557
Gain on sale of a product line[1]	—	6,522
Gain on sale of a cost method investment[2]	—	5,463
Other expense	(3,703)	(1,682)
Total other income (expense)	$98,275	$79,860

(1) In 2014, we sold our Source product line for approximately $14.4 million, net of transaction fees, recording a gain of approximately $6.5 million before taxes. The historical results of this product line have not been material to our results of operations.

(2) Includes the 2014 sale of our cost method investment in a privately-owned U.S.-based technology company for total proceeds of approximately $16.5 million, of which $14.1 million was due and paid at closing.

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Income Tax Expense — Income tax expense for 2015 was $4.0 million compared to $20.6 million for 2014. Our effective tax rates for 2015 and 2014 were (19.2)% and (19.2)%, respectively. Our effective tax rate for 2015 was negatively impacted by the establishment of a valuation allowance related to our U.S. losses incurred in 2015. See further discussion of establishment of the deferred tax valuation allowance at Footnote 6 “Income Taxes” of Footnotes to Consolidated Financial Statements. Our income tax expense for 2015 relates to income from our non-U.S. businesses. This foreign tax expense has not been offset by the tax benefits on losses within the U.S. and other jurisdictions, from which we cannot currently benefit.

Results of Operations

Year Ended December 31, 2014 (As Adjusted) Compared to Year Ended December 31, 2013 (As Adjusted)

Our total net revenues of $509.6 million for 2014 decreased $39.6 million, or 7%, compared to total net revenues for 2013. Our overall gross profit percentage for 2014 was 34%, as adjusted, compared to a gross profit percentage of 35% for 2013, as adjusted. Total operating expenses, as adjusted, as a percentage of net revenues for 2014 and 2013 were 29% and 24%, respectively. During 2014, income from operations of $24.0 million, as adjusted, compared to $59.1 million, as adjusted, for 2013.

Net loss for 2014 was $34.1 million, as adjusted, or $(3.12) per share, compared to net income of $19.3 million, as adjusted, or $1.83 per diluted share for 2013. As noted above, net loss for 2014 and 2013 included restructuring and other charges totaling $94.1 million and $271.2 million, respectively, impacting our diluted earnings per share by $8.60 and $25.67, respectively. The per share calculations above have been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4, 2016.

Net Revenues, Gross Profits and Gross Margins (As Adjusted)

Solutions — Net revenues for 2014 decreased by $109.5 million, or 28%, to $277.9 million, compared to $387.4 million for 2013. Revenues for our multi-client businesses within Solutions decreased due to (i) the continued softness of exploration spending and (ii) record data library sales in the fourth quarter of 2013 that were not repeated in 2014. Data processing revenues were also impacted by the softness in exploration spending, but benefited by $15.0 million of revenues recognized in the first quarter 2014 that related to work performed for a customer in 2013.

Gross profit decreased by $40.1 million to $76.5 million, as adjusted, representing a 28% gross margin, compared to $116.6 million, as adjusted, or a 30% gross margin, for 2013. This decrease was attributable to the significant revenue decline in our multi-client businesses in 2014, which was partially offset by the inclusion of $15.0 million of revenues recognized in the first quarter of 2014 that related to work performed for a customer in 2013.

Systems — Net revenues for 2014 decreased by $34.0 million, or 28%, to $88.4 million, compared to $122.4 million for 2013. This decrease in revenues was principally due to (i) lower sales of new marine positioning products; (ii) a lack of ocean bottom cable systems sales in 2014; (iii) lower geophone string sales; partially offset by (iv) additional marine repair and replacement revenues in 2014 versus 2013. Gross profit for 2014 decreased by $8.3 million to $37.4 million, as adjusted, representing a 42% gross margin, compared to $45.7 million, as adjusted, or a 37% gross margin, for 2013. Gross profit decreased in line with the decrease in revenues. Gross margin increased primarily due to cost savings from the restructuring in 2013 that took full effect in 2014 and to a lesser extent on a change in sales mix to higher margin repair and replacement business.

Software — Net revenues for 2014 increased by $0.6 million, or 2%, to $40.0 million, compared to $39.4 million for 2013. This increase in revenues was due to record revenue quarters in the first half of 2014, which was mostly offset by a reduction in revenues in the fourth quarter. Gross profit for 2014 increased by $0.8 million to $29.0 million, as adjusted, representing a 72% gross margin, compared to $28.2 million, for 2013, which represented a 72% gross margin. Gross profit increased slightly and is primarily due to recent fluctuations in the U.K. Pound Sterling relative to the U.S. Dollar.

Ocean Bottom Services — Net revenues for 2014 were $103.2 million and gross profit was $27.9 million, representing a 27% gross margin. During 2014, we established a new operating segment through the acquisition of OceanGeo. In February, we began consolidating OceanGeo upon acquiring a controlling interest and therefore have included OceanGeo revenues and gross profit for 2014 related to projects completed in Trinidad and West Africa. In 2013, OceanGeo was an equity-method investment and not a consolidated subsidiary. Therefore, our share of OceanGeo’s results of operations were recorded as equity in income (losses) of investment. See “Other Items — Equity in Losses of

Investments" below.

Operating Expenses (As Adjusted)

The following table presents the "As Adjusted" in both 2014 and 2013, excluding special charges that resulted from both the 2014 and 2013 restructurings and other write-downs (in thousands):

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	Year Ended December 31, 2014			Year Ended December 31, 2013		
	As Reported	Special Items[a]	As Adjusted	As Reported	Special Items[b]	As Adjusted
Operating expenses:						
Research, development and engineering	$41,009	$(572)	$40,437	$37,742	$(1,388)	$36,354
Marketing and sales	39,682	(326)	39,356	38,583	(277)	38,306
General, administrative and other operating expenses	76,177	(9,218)	66,959	66,592	(9,854)	56,738
Impairment of goodwill and intangible assets	23,284	(23,284)	—	—	—	—
Total operating expenses	$180,152	$(33,400)	$146,752	$142,917	$(11,519)	$131,398
Income (loss) from operations	$(117,929)	$141,942	$24,013	$16,396	$42,668	$59,064

(a) Includes (i) the write-down of goodwill related to our Marine Systems reporting unit, (ii) the write-down of intangible assets, (iii) the write-down of receivables related to INOVA Geophysical and other customer bad debt, and (iv) severance charges affecting operating expense lines.

(b) Includes (i) the write-down of the remaining carrying value of our receivables from OceanGeo, and (ii) restructuring charges affecting the operating expense lines.

Research, Development and Engineering — Research, development and engineering expense increased $4.0 million, or 11%, to $40.4 million, as adjusted, for 2014, compared to $36.4 million, as adjusted, for 2013. This increase was due to increased investment in our Calypso ocean bottom cable system to be used in OBS data acquisition services by OceanGeo.

Marketing and Sales — Marketing and sales expense increased $1.1 million, or 3%, to $39.4 million, as adjusted, for 2014, compared to $38.3 million, as adjusted, for 2013. This increase was primarily due to an increase in marketing and sales personnel in our Solutions segment.

General, Administrative and Other Operating Expenses — General, administrative and other operating expenses increased $10.3 million, or 18%, to $67.0 million, as adjusted, for 2014, compared to $56.7 million, as adjusted, for 2013. This increase was primarily related to the consolidation of general and administrative expenses incurred at OceanGeo.

Other Items

Interest Expense, net — Interest expense, net, of $19.4 million for 2014 increased compared to $12.3 million for 2013. This increase is directly related to the issuance of the Notes in May 2013 compared to a full year of interest on the Notes in 2014. For additional information, please refer to "— Liquidity and Capital Resources — Sources of Capital" below.

Equity in Losses of Investments — We account for our investment in INOVA Geophysical as an equity method investment.

Prior to 2015, we recorded our share of earnings and losses of our 49% interest in INOVA Geophysical on a one fiscal quarter lag basis. Thus, our share of INOVA Geophysical's earnings (losses) for the periods from October 1, 2013 to September 30, 2014 ("Fiscal 2014") and from October 1, 2012 to September 30, 2013 ("Fiscal 2013") were included in our consolidated financial results for fiscal 2014 and fiscal 2013, respectively. For 2014, we recorded our 49% share of equity in INOVA Geophysical's losses of approximately $50.2 million (including (i) $3.5 million representing our share of charges associated with the write-down of excess and obsolete inventory and certain receivables and (ii) the $30.7 million write-down of our equity interest in INOVA Geophysical to zero). For 2013, we recorded our 49% share in INOVA Geophysical's losses of approximately $22.5 million (including $18.8 million representing our share of several restructuring charges and write-downs of excess and obsolete inventory). Results for Fiscal 2014 were primarily impacted by a 51% decrease in sales during twelve months ended September 30, 2014 as a result of (i) the soft land seismic market caused by the reduction in exploration spending by E&P companies and (ii) reduced purchases by BGP. For a discussion of the impairment of our equity method investment in INOVA, see Footnote 5

“Equity Method Investments” of Footnotes to Consolidated Financial Statements contained elsewhere in this Annual Report on Form 10-K.

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The following table reflects the summarized financial information for INOVA Geophysical for Fiscal 2014 and Fiscal 2013 (in thousands):

	Fiscal 2014		Fiscal 2013	
Total net revenues	$89,975		$183,619	
Gross profit (loss)	$247	(1)	$(1,988)	(2)
Income (loss) from operations	$(34,540)	(1)	$(44,463)	
Net income (loss)	$(40,087)		$(46,149)	(2)

(1) Impacting INOVA Geophysical's gross profit in Fiscal 2014, is $3.8 million of a write-down of excess and obsolete inventory. In addition to the special item impacting gross profit (loss), income (loss) from operations was also impacted by $3.4 million of charges related to customer bad debts.

(2) Impacting INOVA Geophysical's gross profit in Fiscal 2013, is $36.5 million of restructuring and special items associated with the impairment of intangible assets, write-down of excess and obsolete inventory and rental equipment, and severance-related charges. In addition to the restructuring and special items impacting gross profit, net income (loss) was also impacted by $1.8 million of other restructuring and special items.

For the period of January 1 to January 26, 2014, we accounted for our equity interest in OceanGeo as an equity method investment. For that period, our share of OceanGeo's earnings was $0.7 million. Following our acquisition of a controlling interest in OceanGeo on January 27, 2014, OceanGeo's results of operations are consolidated into our results of operations. For additional information about the acquisition of OceanGeo, see Footnote 3 "Acquisition of OceanGeo" of Footnotes to Consolidated Financial Statements. In 2013, we recorded our share of equity in OceanGeo's losses of approximately $19.8 million.

Other Income (Expense) — Other income for 2014 was $79.9 million compared to other expense of $182.5 million for 2013. The difference primarily relates to changes in our accrual for loss contingency related to a legal matter. See further discussion at Footnote 7 "Legal Matters" and in Part 1, Item 3, "Legal Proceedings."

The following table reflects the significant items of other income (expense) (in thousands):

	Years Ended December 31,	
	2014	2013
Reduction of (accrual for) loss contingency related to legal proceedings (Footnote 7)	$69,557	