

Mistras Group, Inc.  
Form 10-K  
March 14, 2018

UNITED STATES SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

Form 10-K

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

For the fiscal year ended December 31, 2017

Commission File Number 001-34481

Mistras Group, Inc.  
(Exact name of registrant as specified in its charter)

Delaware 22-3341267  
(State or other jurisdiction of (I.R.S. Employer  
incorporation or organization) Identification Number)

195 Clarksville Road  
Princeton Junction, New Jersey 08550  
(609) 716-4000  
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, par value \$.01 par value	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark whether the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act of 1933. Yes  No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 (the "Exchange Act"). Yes  No

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

Indicate by check mark whether the registrant 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  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.

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

Non-accelerated filer  Smaller reporting company   
Emerging growth company

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

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

The aggregate market value of the voting and non-voting common stock held by non-affiliates of the Registrant as of June 30, 2017, based upon the closing price of the common stock as reported by New York Stock Exchange on such date was approximately \$377.7 million.

As of March 5, 2018, the Registrant had 28,301,598 shares of common stock outstanding

#### DOCUMENTS INCORPORATED BY REFERENCE

Information required by Part III (Items 10, 11, 12, 13 and 14) is incorporated by reference to portions of the registrant's definitive Proxy Statement for its 2018 Annual Meeting of Shareholders (the "Proxy Statement"), which is expected to be filed not later than 120 days after the registrant's fiscal year ended December 31, 2017. Except as expressly incorporated by reference, the Proxy Statement shall not be deemed to be a part of this report on Form 10-K.

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ITEM 1. BUSINESS

FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements regarding us and our business, financial condition, results of operations and prospects within the meaning of Section 27A of the Securities Act of 1933 (Securities Act), and Section 21E of the Securities Exchange Act of 1934 (Exchange Act). Such forward-looking statements include those that express plans, anticipation, intent, contingency, goals, targets or future development and/or otherwise are not statements of historical fact. These forward-looking statements are based on our current expectations and projections about future events and they are subject to risks and uncertainties known and unknown that could cause actual results and developments to differ materially from those expressed or implied in such statements.

In some cases, you can identify forward-looking statements by terminology, such as “goals,” “expects,” “anticipates,” “intends,” “plans,” “believes,” “seeks,” “estimates,” “may,” “could,” “should,” “would,” “predicts,” “appears,” “projects,” or the like, or other similar expressions. Factors that could cause or contribute to differences in results and outcomes from those in our forward-looking statements include, without limitation, those discussed elsewhere in this Report in Part I, Item 1A, “Risk Factors,” Part 2, Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and in this Item 1, as well as those discussed in our other Securities and Exchange Commission (SEC) filings. We undertake no obligation to (and expressly disclaim any obligation to) revise or update any forward-looking statements made herein whether as a result of new information, future events or otherwise. However, you should consult any further disclosures we may make on these or related topics in our reports on Form 8-K or Form 10-Q filed with the SEC.

The following discussions should be read in conjunction with the sections of this Report entitled “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Risk Factors.”

Transition Period

On January 3, 2017, the Company's Board of Directors approved a change in the Company's fiscal year end from May 31 to December 31, effective December 31, 2016. In connection with this change, we previously filed a Transition Report on Form 10-K to report the results of the seven-month transition period from June 1, 2016 to December 31, 2016. In this Annual Report, the periods presented are the year ended December 31, 2017, the seven-month transition period from June 1, 2016 to December 31, 2016 (which we sometimes refer to as the "transition period ended December 31, 2016") and the years ended May 31, 2016 and 2015 (which we sometimes refer to as "fiscal 2016 and fiscal 2015", respectively). For comparison purposes, we have also included unaudited data for the year ended December 31, 2016 and for the seven months ended December 31, 2015.

Our Business

We offer our customers “one source for asset protection solutions®” and are a leading global provider of technology-enabled asset protection solutions used to evaluate the structural integrity and reliability of critical energy, industrial and public infrastructure.

We deliver value through a comprehensive “OneSource” portfolio of customized solutions, utilizing a proven systematic method that creates a closed-loop lifecycle for addressing continuous asset protection and improvement. These mission critical solutions enhance our customers’ ability to comply with governmental safety and environmental regulations, extend the useful life of their assets, increase productivity, minimize repair costs, manage risk and avoid catastrophic disasters.

Given the role our solutions play in ensuring the safe and efficient operation of infrastructure, we have historically provided a majority of our solutions to our customers on a regular, recurring basis. We perform these services largely at our customers' facilities, while primarily servicing our aerospace customers at our growing network of state-of-the-art, in-house laboratories. These solutions typically include Non-Destructive Testing (NDT) and inspection services, and can also include a wide range of mechanical services, including engineering assessments, heat tracing, pre-inspection insulation stripping, inspections, coating applications, re-insulation, and long-term condition-monitoring. Under this business model, many customers outsource their inspection to us on a "run and maintain" basis. We have established long-term relationships as a critical solutions provider to many of the leading companies with asset-intensive infrastructure in our target markets. These markets include oil and gas (downstream, midstream, upstream and petrochemical), commercial aerospace and defense, power generation (natural gas, fossil, nuclear, alternative, renewable, and transmission and distribution), public infrastructure, chemicals, transportation, primary metals and metalworking and research and engineering institutions.

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As a global asset protection leader, we provide a comprehensive range of solutions that includes:

Traditional NDT Field Inspections: The foundation of our business, NDT is the examination of assets without impacting current and future usefulness or impairing the integrity of these assets. The ability to inspect infrastructure assets and not interfere with their operating performance makes NDT a highly-attractive alternative to many traditional intrusive inspection techniques, which may require dismantling equipment or shutting down a plant, mill or site. These services include, for example, mechanical integrity (MI) assessments, aboveground storage tank inspection, pipeline inspection, American Petroleum Institute (API) visual inspections and predictive maintenance (PdM) programs.

Advanced NDT Field Inspections: In most cases, these involve proprietary acoustic emission (AE), digital radiography, infrared, wireless and/or automated ultrasonic inspections and sensors, which are operated by our highly-trained technicians.

Mechanical and Maintenance Services: We perform mechanical services to prepare assets for inspection and to return them to working condition. These services include insulation, electrical, coating and heat tracing services; corrosion assessment and mitigation services, including water blasting, sand blasting, and ultra-high pressure water (UHP) blasting, used for both offshore oil and gas platforms and land-based refinery and chemical fixed equipment; and wind turbine repairs and maintenance. NDT inspection services are offered while in post-cleaning mode. Mechanical services are still a small part of our business, and we are careful to try and avoid providing any such services that conflict with our inspection services.

Destructive Testing (DT): A definitive discipline in material testing, which takes specimens through to mechanical failure while examining a host of factors. Hardness, stiffness and strength are a few key indicators drawn from destructive tests per customer specifications. DT is performed by our German and select U.S. labs, which specializes in an array of destructive testing applications utilized throughout the materials selection and approval process in the aerospace, automotive, chemical, oil and gas and power generation industries.

In-House Lab Testing Services: Our in-house inspection services provide cost-effective, efficient solutions that improve the integrity and lifespan of critical assets featuring a dynamic suite of testing and inspection services. With a network of in-house laboratories, we provide a one-stop shop for traditional (NDT), advanced non-destructive testing (ANDT), and destructive testing (DT) of materials and fabricated structures by offering a complete inspection package - from preparation and production all the way to post-processing. These capabilities are available through our state-of-the-art testing equipment and expertise in our grid of in-house testing laboratories across the U.S., Canada and Europe.

Proprietary Products & Systems: A proprietary and customized portfolio of software products for testing and analyzing data captured in real-time by our technicians and sensors, including advanced features such as pattern recognition and neural networks.

Data Management & Analysis Software: Our world-class enterprise inspection database management and analysis software (IDMS), Plant Condition Management Software (PCMS®), stores and analyzes inspection data. It compares data to prior operations and testing of similar assets, industrial standards and specific risk conditions, such as use with highly-flammable or corrosive materials. It also develops asset integrity management plans based on Risk-Based Inspections (RBI) that specify an optimal schedule for the testing, maintenance and retirement of assets.

On-Line Monitoring and Trending Systems: Condition-monitoring systems provide secure, web-based, remote or on-site asset inspection, real-time reports and analysis of plant or enterprise structural integrity data, comparison of integrity data to our library of historical inspection data and analysis to better assess structural integrity. They also provide alerts for and prioritize future inspections and maintenance.

Engineering Consulting Services: These services include plant operations support covering both process and equipment technologies; project planning, management and execution; expert testimony; and technical training. Our Mechanical Integrity (MI) services help improve plant safety, asset reliability and regulatory compliance through a



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systematic, engineering-based approach to ensure the on-going integrity and safety of equipment and industrial facilities. MI services can include conducting an inventory of infrastructure assets; developing, implementing, and training personnel in executing inspection and maintenance procedures; and managing inspections, testing, and assessments of customer assets. We enable customers to identify gaps between existing and desired practices, identify deficiencies and degradations, and establish quality assurance standards for fabrication, engineering and installation of infrastructure assets. Our MI solutions incorporate comprehensive (RBI) data analysis from our proprietary IDMS, providing detailed, integrated, cost-effective solutions that rate the risks of alternative maintenance approaches, recommend actions in accordance with consensus industry standards, and help establish and support key performance indicators (KPIs) to ensure continued safe and economic operations.

**Access Solutions:** Much of our work is conducted in hard-to-access or confined locations. We perform NDT and mechanical services both on the ground and at height, using specialized technicians who work safely while suspended on ropes rather than using scaffolding. We employ trained and certified divers for subsea inspection and maintenance, and we utilize unmanned aerial, land-based and subsea systems for a wide range of inspection applications.

Most of our revenues are generated by deploying technicians at our customers' locations, where NDT and mechanical services are performed on-site. However, the majority of our aerospace revenues are generated at our various in-house laboratories that have Nadcap and numerous other customer accreditations. We have special machinery and equipment and specialized technicians at these labs to perform various forms of NDT inspection and mechanical services, which can include chemical cleaning, coating application, painting, and pressure testing techniques. Our labs hold a wide variety of certifications that allow them to perform inspections to meet or exceed stringent regulatory requirements, such as: Nadcap, AS9100/ISO-9001, FAA Repair Station and ITAR/EAR. With these certifications comes a comprehensive range of approvals from prime contractors of major projects, the military, and internationally-renowned products and systems manufacturers from aerospace to nuclear energy, transportation to petrochemical industries.

We offer our customers a customized package of services, products and systems, or our enterprise software and other niche high-value products on a stand-alone basis. For example, customers can purchase most of our sensors and accompanying software to integrate with their own systems, or they can purchase a complete turn-key solution, including installation, monitoring and assessment services. Importantly, we do not sell certain advanced and proprietary software and other products as stand-alone offerings; instead, we embed them in our comprehensive service offerings to protect our investment in intellectual property while providing our customers an added value which generates a substantial source of recurring revenues.

As of December 31, 2017, we had approximately 6,000 employees, in approximately 120 offices across 14 countries. We generated revenues of \$701.0 million and \$404.2 million, respectively, and net loss of \$2.2 million and net income of \$9.6 million, respectively, for the year ended December 31, 2017 and the transition period ended December 31, 2016. We generated revenues of \$719.2 million and \$711.3 million and net income of \$24.7 million and \$16.1 million for fiscal 2016 and 2015, respectively. For the year ended December 31, 2017, the transition period ended December 31, 2016, and fiscal 2016 and 2015, we generated approximately 78%, 73%, 77% and 76% respectively, of our revenues from our Services segment. Our revenues are diversified, with our top ten customers accounting for approximately 38%, 37%, 36% and 33% of our revenues during the year ended December 31, 2017, the transition period ended December 31, 2016 and fiscal 2016 and 2015, respectively.

### Asset Protection Industry Overview

The asset protection industry consists of NDT inspection, DT, PdM and MI services and inspection data management and analysis. NDT plays a crucial role in assuring the operational and structural integrity and reliability of critical infrastructure without compromising the usefulness of the tested materials or equipment. The evolution of NDT services, in combination with broader industry trends, including increased asset utilization and aging of infrastructure, includes the desire by owners to extend the useful life of their existing infrastructure, new construction projects,

enhanced government regulation and the shortage of certified NDT professionals, have made NDT an integral and increasingly outsourced part of many asset-intensive industries. The industry has progressed such that end users are actively seeking firms that can provide asset protection solutions to both in and out of service issues.

Historically, NDT solutions used qualitative testing methods aimed primarily at detecting defects in the tested materials, also referred to as traditional NDT. The traditional NDT market had been highly fragmented, with a significant number of small vendors providing inspection services to divisions of companies or local governments situated in close proximity to the vendor's field inspection engineers and technicians. The trend has progressed over the past several years, however, for customers to engage a select few vendors capable of providing a wider spectrum of asset protection solutions for global infrastructure. This shift in underlying demand, which began in the early 1990s and has accelerated more recently, has contributed to a transition from traditional NDT solutions to more advanced solutions that employ automated digital sensor

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technologies and accompanying enterprise software, allowing for the effective capture, storage, analysis and reporting of inspection and engineering results electronically and in digital formats. These advanced techniques, taken together with advances in wired and wireless communication and information technologies, have further enabled the development of remote monitoring systems, asset-management and predictive maintenance capabilities and other data analytics and management. We believe that as advanced asset protection solutions continue to gain acceptance and the technology becomes more and more reliable, those vendors offering broad, complete and integrated solutions, scalable operations and a global footprint will have a distinct competitive advantage. Moreover, we believe that vendors that are able to effectively deliver both advanced solutions and data analytics, by virtue of their access to customers' data, create a significant barrier to entry for competitors, leading to the opportunity to further create significant recurring revenues.

We believe the following represent key dynamics of the asset protection industry:

**Extending the Useful Life of Aging Infrastructure.** The prohibitive cost and challenge of building new infrastructure has resulted in the significant aging of existing infrastructure and caused companies to seek ways to extend the useful life of existing assets. For example, due to the significant cost associated with constructing new refineries, stringent environmental regulations which have increased the costs of managing them and difficulty in finding suitable locations on which to build them, only one new refinery has been constructed in the United States since 1976. Another example is in the area of power transmission and distribution. The Smart Grid initiative in the United States is causing increased loading on aging transformers that are more than 40 years old in many cases. The need to test and monitor these units to ensure their reliability until replacement is instrumental in support of a reliable Smart Grid network. Because aging infrastructure requires relatively higher levels of maintenance and repair in comparison to new infrastructure, as well as more frequent, extensive and ongoing testing, companies and public authorities continue to spend on asset protection solutions to ensure the operational and structural integrity of existing infrastructure.

**Outsourcing of Non-Core Activities and Technical Resource Constraints.** The increasing sophistication and automation of NDT programs, together with a decreasing supply of skilled professionals and stricter and increasing governmental regulations, has caused many companies and public authorities to outsource NDT and other services rather than recruit and train such capabilities internally. Owners and operators of infrastructure are increasingly contracting with third party providers that have the necessary technical product portfolio, engineering expertise, technical workforce and proven track record of results-oriented performance to effectively meet their increasing requirements.

**Increasing Asset and Capacity Utilization.** Due to the high repair and replacement costs and the limited construction of new infrastructure, existing infrastructure in some of our target markets has experienced high usage, causing increased stress and fatigue that accelerates deterioration. These dynamic costs also motivate our customers to complete repairs, maintenance, replacements and upgrades more quickly. For example, increasing demand for refined petroleum products, combined with high plant utilization rates, is driving refineries to upgrade facilities to make them more efficient and expand capacity. In order to sustain high capacity utilization rates, customers are increasingly using asset protection solutions to efficiently ensure the integrity and safety of their assets. Implementation of asset protection solutions can also lead to increased productivity as a result of reduced maintenance-related downtime.

**Increasing Corrosion from Low-Quality Inputs.** The increased availability and low cost of crude oil from areas such as shale plays and oil sands resources have led to the use of lower grade raw materials and feedstock used in refinery and power generation processes. These lower grade raw materials and feedstock, especially in the case of the refining process involving petroleum with higher sulfur content, can rapidly corrode the infrastructure with which they come into contact, which in turn increases the need for asset protection solutions to identify such corrosion and enable infrastructure owners to proactively combat the problems caused by such corrosion.

**Increasing Use of Advanced Materials.** Customers in our target markets are increasingly utilizing advanced materials, such as composites, and other unique technologies in the manufacturing and construction of new infrastructure and aerospace applications. As a result, they require advanced testing, assessment and maintenance technologies to inspect and to protect these assets, since many of these advanced materials cannot be tested using traditional NDT techniques. We believe that demand for NDT solutions will increase as companies and public authorities continue to use these advanced materials, not only during the operating phase of the lifecycle of their assets, but also during the design, manufacturing and quality control phases and are more frequently integrating and embedding sensors directly into the end product in support of total life cycle asset management.

**Meeting Safety Regulations.** Owners and operators of infrastructure assets increasingly face strict government regulations and safety requirements. Failure to meet these standards can result in significant financial liabilities, increased scrutiny by Occupational Safety and Health Administration (OSHA), U.S. DOT Pipeline and Hazardous

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Materials Safety Administration (PHMSA) and other regulators, higher insurance premiums and tarnished corporate brand value. There have been several industrial accidents, including explosions and fires, in recent years. These accidents created significant damage to the reputation of refineries and Pipeline Operators, and coupled with concern by owners, led OSHA/PHMSA to strengthen process safety enforcement standards with the continued implementation of the National Emphasis Program (NEP) that also extends to chemical plants for compliance with applicable regulations. As a result, these owners and operators are seeking highly reliable asset protection suppliers with a proven track record of providing asset protection services, products and systems to assist them in meeting these increasingly stringent regulations.

**Expanding Addressable End-Markets.** Advances in NDT sensor technology and asset protection software based systems, and the continued emergence of new technologies, are creating increased demand for asset protection solutions in applications where existing techniques were previously ineffective.

**Expanding Addressable Geographies.** We believe that incremental demand will continue to come from international markets, including Western and Eastern Canada, Europe, Asia and parts of Latin America. Specifically, as companies and governments in these markets build and maintain infrastructure and applications that require the use of asset protection solutions, we believe demand for our solutions will increase.

**Expanding Aerospace Industry.** We believe that increased demand will continue to come from the aerospace industry due to the approximately decade-long backlog for next generation commercial aircraft to be built, driving the need for enhanced levels of inspections.

**Offering Complementary Mechanical Services.** We believe that owners of capital assets will increasingly look for a single vendor who can provide mechanical services that are complementary to inspection services, such as removing insulation in order to inspect piping, then reinstalling insulation.

We believe that the market available to us will continue to grow as these macro-market trends continue to develop.

## Our Target Markets

### Overview

Mistras operates in a highly competitive, but fragmented market. Domestically, the market is serviced by several national competitors, and many regional and/or local companies. Internationally, our primary competitors are divisions of large companies, with additional competition from small independent local companies which may be limited to a specific product, service or technology and focused on a niche market or geographic region. We focus our strategic sales, marketing and product development efforts on a range of infrastructure-intensive based industries and governmental authorities. We view energy-related infrastructure and commercial aerospace as the Company's largest market opportunities. We perform inspection and mechanical services for customers in both industries.

In the energy market there are various economic indicators that drive our business, especially in the U.S. domestic markets. These factors are excerpted below from various Energy Information Administration (EIA) outlook reports;

Natural gas prices are expected to remain less expensive than electric prices for commercial, industrial and residential customers. The use of natural gas as an energy source is projected to grow the most on an absolute basis. Natural gas production will grow at a faster rate through 2020, and thereafter grow at a slower pace. Natural gas used for power generation will generally increase over the time period due to the scheduled expiration of renewable tax credits. The industrial sector accounts for the most growth in natural gas consumption, with expanding use in the chemical industries; for industrial heat and power; and for liquefied natural gas production. Natural gas consumption also

increases significantly in the power sector as a result of the scheduled expiration of renewables tax credits in the mid-2020s. In its monthly short-term energy outlook dated December 12, 2017, the agency forecast that U.S. crude oil output will rise by 780,000 barrels per day (bpd) to 10.02 million bpd in 2018, which would be the highest level for any year on record in the United States.

There are a number of economic factors which drive the aerospace market, including:

- The approximately decade-long backlog for next generation commercial aircraft to be built, including several large and mid-sized aircraft built by Boeing, Airbus, Bombardier and Embraer, among other manufacturers;

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• The backlog of next generation aircraft engines which operate with greater fuel efficiency, including the LEAP engine and the geared-turbo fan engine;

• The continuing regulatory scrutiny to ensure public safety associated with these new technologically advanced aircraft, which serves to ensure continued need for inspection and mechanical services to be performed, as well as to limit the number of participants who can meet the demanding requirements associated with performing these services.

### Revenue by Target Market

The following chart represents the percentage of consolidated revenues we generated from our various markets for the year ended December 31, 2017:

#### Mistras Revenues by Target Market (Year ended December 31, 2017)

##### Oil and Gas

Recently crude oil prices have begun to rebound which should lead to increase spending on maintenance shutdowns in 2018 and 2019. This increased demand will be balanced against the continued focus on process efficiencies and cost savings initiatives. On-line monitoring and permanently mounted sensors, as well as the use of drones and other alternative delivery devices, are all being considered as the Oil and Gas owners look to “smart” technologies that reduce human intervention while delivering highly accurate data to aid in their operational decisions. This helps to drive demand for our integrated approach to asset protection. While we expect off-stream inspection of vessels and piping during a plant shut-down or turnaround to remain a routine practice by companies in these industries, we anticipate this practice will decrease as owners utilize non-invasive, or on-stream inspections, of critical assets. Non-invasive inspections enables companies to minimize the costs associated with shutdowns during testing while enabling the economic and safety advantages of advanced planning and/or predictive maintenance.

##### Aerospace and Defense

The aerospace industry is enjoying unprecedented growth with many original equipment manufacturers (OEMs) reporting record backlogs of up to ten years. We serve this rapidly growing target market by providing our state of the art fully integrated inspection systems to OEMs. For the OEM that prefers to outsource this inspection, we provide a full range of in-house services through our various regional facilities. These facilities have obtained and maintain numerous accreditations and certifications required to meet the stringent inspection criteria that the aerospace industry demands.

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The operational safety, reliability, structural integrity and maintenance of aircraft and associated products is critical to the aerospace and defense industries. Many of the OEM's are positioning themselves to use sensor technology to deliver data that may aid in driving decisions regarding structural and operational integrity of the aircraft as opposed to performing maintenance on time based intervals. Industry participants use asset protection solutions for the inspection of advanced composites found in new classes of aircraft, x-ray of critical engine components, ultrasonic fatigue testing of complete aircraft structures, corrosion detection and on-board monitoring of landing gear and other critical components. We expect increased demand for our solutions to result from wider use of advanced composites and distributed on-line sensor networks and other embedded analytical applications built into the structure of assets that enable real-time performance monitoring and condition-based maintenance.

### Power Generation and Transmission

The growing availability of cheap natural gas, along with environmental concerns with coal has stimulated the construction of new natural gas fired power plants across North America. Our Asset Integrity Management approach offers many tools that aid in the establishment of integrity programs during plant construction using software model. In addition, actual construction drives traditional and Advanced NDT services. We anticipate sharp growth in the plants as natural gas pricing remains low, and the environmental impacts of coal remain unattractive to the public. Asset protection in the power industry has traditionally been associated with the inspection of high-energy, critical steam piping, boilers, rotating equipment, and various other plant components (balance of plant), utility aerial man-lift devices, large transformer testing and various other applications for nuclear and fossil-fuel based power plants. We believe that in recent years the acceptance of asset protection solutions has grown in this industry due to the aging of critical power generation and transmission infrastructure.

### Process Industries

The process industries, or industries in which raw materials are treated or prepared in a series of stages, include chemicals, pharmaceuticals, food processing, paper and pulp and metals and mining, have a need for our products and services. As with oil and gas processing facilities, chemical processing facilities require significant spending on maintenance and monitoring. Given their aging infrastructure and high utilization requirements, growing capacity constraints and increasing capital costs, we believe asset protection solutions will continue to grow in importance in maintenance planning, quality and cost control and prevention of catastrophic failure in the chemicals industry.

### Public Infrastructure, Research and Engineering

We believe that high profile infrastructure catastrophes, such as the collapse of the I-35W Mississippi River Bridge in Minneapolis and others since, have caused public authorities to more actively seek ways to prevent similar events from occurring. Public authorities tasked with new construction and maintenance of existing, public infrastructure increasingly use asset protection solutions to inspect these assets, including the use of embedded sensors to enable on-line monitoring throughout the life of the asset. This is a target market for our application technology and experience. Over the last twenty years, we have provided testing and health monitoring on many bridges and structures worldwide, among which include some of the largest and well-known bridges in the United States and United Kingdom. In fiscal 2015, for example, we installed several wire break systems complete with multiple sensors types (known as sensor fusion). These bridges are being monitored continuously and automatically, alerting the bridge owner when a crack is detected. Other services are offered, including internet and cloud data transfer, secure web sites and monitoring contracts that provide for "around the clock monitoring" and regular reports, which provide information on the status of the bridge and early detection of suspect areas that can be identified and repaired before an alarm is generated. We continue to provide these monitoring services worldwide.



## Industrial

The quality control requirements driven by the need for zero to low defect component tolerance within automated robotic intensive industries such as automotive, consumer electronics and medical industries, serve as key drivers for the recent growth of NDT technologies, such as ultrasonics and radiography. We expect that increasingly stringent quality control requirements and competitive forces will drive the demand for more costly finishing and polishing which, in turn, may promote greater use of NDT throughout the production lifecycle.

## Our Competitive Strengths

We believe the following competitive strengths contribute to our being a leading provider of asset protection solutions and will allow us to further capitalize on growth opportunities in our industry:

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**One Source Provider for Asset Protection Solutions® Worldwide.** We believe we have the most comprehensive portfolio of proprietary and integrated asset protection solutions, including inspection, mechanical and engineering services, products and systems worldwide, which positions us to be the leading single source provider for a customer's asset protection requirements. Through our network of approximately 120 offices, supplemented by independent representatives in 14 countries around the world, we offer an extensive portfolio of solutions that enables our customers to consolidate their inspection and maintenance requirements and the associated data storage and analytics on a single system that spans the customers' entire enterprise.

**Long-Standing Trusted Provider to a Diversified and Growing Customer Base.** By providing critical and reliable NDT services, products and systems for more than 30 years and expanding our asset protection solutions, we have become a trusted partner to a large and growing customer base across numerous infrastructure-intensive industries globally. Our customers include some of the largest and most well-recognized firms in the oil and gas, chemicals, fossil and nuclear power, and aerospace and defense industries as well as some of the largest public authorities.

**Repository of Customer-Specific Inspection Data.** Our enterprise data management and analysis software, PCMS, enables us to capture, warehouse, manage and analyze our customers' testing and inspection data in a centralized relational database. As a result, we have accumulated large amounts of proprietary process data and information that allows us to provide our customers with value-added services, such as benchmarking, risk-based inspection and reliability centered maintenance solutions including predictive maintenance, inspection scheduling, data analytics and regulatory compliance.

**Proprietary Products, Software and Technology Packages.** We have developed systems that have become the cornerstone of several high value-added unique NDT applications, such as those used for the testing of above-ground storage tanks (the TANKPAC® technology package). These proprietary products allow us to efficiently and effectively provide highly valued solutions to our customers' complex applications, resulting in a significant competitive advantage. In addition to the proprietary products and systems that we sell to customers on a stand-alone basis, we also develop a range of proprietary sensors, instruments, systems and software used exclusively by our Services segment.

**Deep Domain Knowledge and Extensive Industry Experience.** In the field of asset protection, we have long and extensive experience and have accumulated vast amount of data and knowledge. We have gained this through our industry leadership in developing advanced asset protection solutions, including acoustic emission testing for non-intrusive on-line monitoring of storage tanks and pressure vessels, bridges and transformers, portable corrosion mapping, ultrasonic testing (UT) systems, on-line plant asset integrity management with sensor fusion, enterprise software solutions for plant-wide and fleet-wide inspection data archiving and management, advanced and thick composites inspection and ultrasonic phased array inspection of thick wall boilers.

**Collaborating with Our Customers.** Our asset protection solutions have historically been designed in response to our customers' unique performance specifications and are supported by our proprietary technologies. Important technology packages, such as TANKPAC for tank floor corrosion detection and Acoustic Turbine Monitoring System (ACTMS), were developed in close cooperation and partnership with key Mistras customers. Our sales and engineering teams work closely with our customers' research and design staff during the design phase in order to incorporate our products into specified infrastructure projects, as well as with facilities maintenance personnel to ensure that we are able to provide the asset protection solutions necessary to meet these customers' changing demands.

**Experienced Management Team.** Our management team has a track record of leadership in NDT, DT, PdM and engineering services, averaging over 20 years of experience in the industry. These individuals also have extensive experience in growing businesses organically and in acquiring and integrating companies, which we believe is

important to facilitate future growth in the fragmented asset protection industry. In addition, our senior managers are supported by highly experienced managers who are responsible for delivering our solutions to customers.

#### Our Growth Strategy

Our growth strategy emphasizes the following key elements:

Continue to Develop Technology-Enabled Asset Protection Services, Products, Software and Systems. We intend to maintain and enhance our technological leadership by continuing to invest in the internal development of new services, products, software and systems. Our highly trained team of Ph.D.'s, engineers, application software

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developers and certified technicians has been instrumental in developing numerous significant asset protection standards. We believe their knowledge base will continue to enable us to innovate a wide range of new asset protection solutions.

**Expand our Service Offerings to Existing Customers.** By branching into adjacent mechanical services, we believe we are providing customers with greater value, which increases our value proposition and our ability to capture additional business. Many of our customers are multinational corporations with asset protection requirements from multiple divisions at multiple locations across the globe. Currently, we believe we capture a relatively small portion of their overall expenditures. We believe our expanded services offerings, coupled with our products and systems, and combined with the trend of outsourcing asset protection solutions to a small number of trusted service providers, positions us to significantly expand both the number of divisions and locations that we serve as well as the types of solutions we provide. We strive to be the preferred global partner for our customers and aim to become the single source provider for their asset protection solution requirements.

**Expand our Focus in the Aerospace Industry.** We believe that the recent introduction of next generation airframes and aircraft engines has created an inherent demand for inspection and mechanical services required for the production of parts that support their build for years to come. Mistras Group has been an active participant in this market for several years. The Company consummated two acquisitions of aerospace inspection companies in 2017 and won a key European contract in 2016. These recent actions are driven by our increased focus in this growing area.

**Continue to Expand Our Customer Base into New End Markets.** We believe we have significant opportunities to expand our customer base in relatively new end markets, including nuclear, wind turbine and other alternative energy and natural gas transportation industries. The expansion of our addressable markets is being driven by the increased recognition and adoption of asset protection services, products and systems, and new NDT technologies enabling further applications in industries such as compressed and liquefied natural gas transportation, and the aging of infrastructure, such as construction and loading cranes and ports, to the point where visual inspection has proven inadequate and new asset protection solutions are required. We expect to continue to expand our global sales organization, grow our inspection data management and data mining services and find new high-value applications. As companies in these emerging end markets realize the benefits of our asset protection solutions, we expect to expand our leadership position by addressing customer needs and winning new business.

**Continue to Capitalize on Acquisitions.** We intend to continue employing a disciplined acquisition strategy to broaden, complement and enhance our service offerings, add new customers, expand our sales channels, supplement our internal development efforts and accelerate our expected growth. We believe the market for asset protection solutions is highly fragmented with a large number of potential acquisition opportunities. We have a proven ability to integrate complementary businesses, as demonstrated by the success of our past acquisitions, which have often contributed new or supplemented existing services that have added to our revenues and profitability.

## Our Segments

The Company has three operating segments:

**Services.** This segment provides asset protection solutions predominantly in North America, with the largest concentration in the United States, consisting primarily of non-destructive testing, inspection, mechanical and engineering services that are used to evaluate the structural integrity and reliability of critical energy, industrial and public infrastructure.

**International.** This segment offers services, products and systems similar to those of our Services and Products and Systems segments to select markets within Europe, the Middle East, Africa, Asia and South America, but not to

customers in China and South Korea, which are served by our Products and Systems segment.

• **Products and Systems.** This segment designs, manufactures, sells, installs and services our asset protection products and systems, including equipment and instrumentation, predominantly in the United States.

For discussion of segment revenues, operating results and other financial information, including geographic areas in which we generated revenues, see “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in Item 7, as well as Note 19 - Segment Disclosure in the notes to consolidated financial statements in Item 8 of this Annual Report.

Our Solutions

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We offer our customers “one source for asset protection solutions”® and are a leading global provider of technology-enabled asset protection solutions used to evaluate the structural integrity and reliability of critical energy, industrial and public infrastructure. We combine industry-leading products and technologies, expertise in MI, NDT, DT, mechanical and PdM services, process and fixed asset engineering and consulting services, and our world class enterprise inspection database management and analysis software PCMS, to deliver a comprehensive portfolio of customized solutions, ranging from routine inspections to complex, plant-wide asset integrity management and assessments. We deliver our solutions through a combination of services and products and systems.

### Our Services

Our Services segment provides a range of testing, inspection and mechanical services to a diversified customer base across energy-related, aerospace, industrial and public infrastructure industries. We either deploy our services directly at the customer’s location or through our own extensive network of field testing facilities. Our footprint allows us to provide asset protection solutions through local offices in close proximity to our customers, permitting us to keep response time, and travel, living and per diem costs to a minimum, while maximizing our ability to develop meaningful, collaborative customer relationships. Examples of our comprehensive portfolio of services include: testing components of new construction as they are built or assembled; providing corrosion monitoring data to help customers determine whether to repair or retire infrastructure; providing material analysis to ensure the integrity of infrastructure components; and supplying non-invasive on-stream techniques that enable our customers to pinpoint potential problem areas prior to failure. In addition, we also provide services to assist in the planning and scheduling of resources for repairs and maintenance activities. Our experienced inspection professionals perform these services, supported by our advanced proprietary software and hardware products. We are also looking to expand our capabilities to offer mechanical services that are complementary to our inspection services. Examples of our services are discussed below.

### Traditional NDT Services

Our certified personnel provide a range of traditional inspection services. For example, our visual inspections provide comprehensive assessments of the condition of our customers’ plant equipment during capital construction projects and maintenance shutdowns. Of the broad set of traditional NDT techniques that we provide, several lend themselves to integration with our other offerings and often serve as the initial entry point to more advanced customer engagements. For example, we provide a comprehensive program for the inspection of above-ground storage tanks designed to meet stringent industry standards for the inspection, repair, alteration and reconstruction of oil and petrochemical storage tanks. This program includes magnetic flux exclusion for the rapid detection of floor plate corrosion, advanced ultrasonic systems and leak detection of floor defects, remote ultrasonic crawlers for shell and roof inspections and trained, certified inspectors for visual inspection and documentation.

### Advanced NDT Services

In addition to traditional NDT services, we provide a broad range of proprietary advanced NDT services that we offer on a stand-alone basis or in combination with software solutions such as our proprietary enterprise inspection data management and plant condition monitoring software and systems (PCMS). We also provide on-line monitoring capabilities and other solutions that enable the delivery of accurate and real-time information to our customers. Our advanced NDT services require more complex equipment and more highly skilled inspection professionals to operate this equipment and interpret test results. Some of the technologies and techniques we use include automated ultrasonic testing, guided ultrasonic long wave testing, phased array ultrasonic testing, risk-based inspection (RBI) and computed and digital radiography.

## Mechanical Integrity Services

We provide a broad range of MI services that enable our customers to meet stringent regulatory requirements. These services increase plant safety, minimize unscheduled downtime and allow our customers to plan for, repair and replace critical components and systems before failure occurs. Our services are designed to complement a comprehensive predictive and preventative inspection and maintenance program that we can provide for our customers in addition to the MI services. Customers of our MI services, in many instances, also have licensed our PCMS software, which allows for the storage and analysis of data captured by our testing and inspection products and services, and implemented this solution to complement our inspection services.

As a result of the information captured by PCMS and its risk-based inspection software module, we are able to provide a professional service known as “Mechanical Integrity Gap Analysis” for process facilities. Our Mechanical Integrity Gap

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Analysis service offers insight into the level of plant readiness, how best to manage and monitor the integrity of process facility assets, and how to extend the useful lives of such assets. Our Mechanical Integrity Gap Analysis service also assists customers in benchmarking and managing their infrastructure through key performance indicators and other metrics.

### Destructive Testing Services

We provide a wide range of destructive testing (DT) services in select locations. Hardness, stiffness and strength are a few key indicators drawn from destructive tests per customer specifications. DT is performed for an array of destructive testing applications utilized throughout the materials selection and approval process in the aerospace, automotive, chemical, oil and gas and power generation industries. Example testing includes:

**Mechanical tests** — Materials, specimens and even composites are subjected to increasing levels of tension, compression, shear and peeling until failure. There are a number of variations of mechanical testing in which adding temperature, strain, unidirectional load or shear can provide useful results.

**Physical/Chemical** — Used to examine specific material and thermal characteristics as well as chemical compositions, including differential scanning calorimetry (DSC), high performance liquid chromatography, fiber volume content and fourier transformation infrared spectroscopy (FTIR).

**Materialography** — Gives an insight into the geometries of structural composites, which presents an inside track with regards to determining failure mechanisms and asset lifespan expectations.

### Our Products and Systems

We provide a range of acoustic emission (AE) products and are a leader in the design and manufacture of AE sensors, instruments and turn-key systems used for monitoring and testing materials, pressure components, processes and structures. Though we principally sell our products as a system, which includes a combination of sensors, an amplifier, signal processing electronics, knowledge-based software and decision and feedback electronics, we can also sell these as individual components to certain customers that have the in-house expertise to perform their own services. Our sensors “listen” to structures and materials to detect real-time AE activity and to determine the presence of active corrosion, crack propagation and other structural flaws in the inspected materials. Such structures include pressure vessels, storage tanks, heat exchangers, piping, turbine blades and reactors.

In addition, we provide leak monitoring and detection systems used in diverse applications, including the detection and location of both gaseous and liquid leaks in valves, vessels, pipelines, boilers and tanks. AE leak monitoring and detection, when applied in a systematic preventive maintenance program, has proven to substantially reduce costs by eliminating the need for visual valve inspection and unscheduled down-time.

We design, manufacture and market a complete line of ultrasonic equipment. While AE technology detects flaws and pinpoints their location, our UT technology has the ability to size defects in three-dimensional geometric representations. Our line of UT systems include various Automated UT scanners, our unique portable UT handheld and tablet systems with motion control to run our many inspection scanners, and our immersion systems ranging from small bench top units to large UT systems over 55 feet long and large production unit gantry systems.

We provide a wide array of digital radiographic systems to solve specific industrial problems, including Computed Radiography (CR), Real-Time Radiography (RTR), Direct Radiography (DR), and Computed Tomography (CT). Digital Radiography is one of the newer forms of radiographic imaging. Thickness profiles of piping systems, both insulated and un-insulated, are performed using computed radiography, while large production runs of smaller parts are inspected using direct radiography. Real time radiography is utilized for large “real time” inspections of insulated piping systems to identify areas of pipe degradation.





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### Technology Solutions

In order to address some of the more common problems faced by our customers, we have developed a number of robust technology solutions. These packages generally allow more rapid and effective testing of infrastructure because they minimize the need for service professionals to customize and integrate asset protection solutions with the infrastructure and interpret test results. These packaged solutions use proprietary and specialized testing procedures and hardware, advanced pattern recognition, neural network software and databases to compare test results against our prior testing data or national and international structural integrity standards. One such package is our ACTMS (Acoustic Combustion Turbine Monitoring System), an on-line system to detect stator blade cracks in gas turbines. Others include TANKPAC for tank inspections, POWERPAC for monitoring discharges in critical power grid transformers, and the AMS boiler tube leak detection and location monitoring system.

### Software Solutions

Our software solutions are designed to meet the demands of our customers inspection data management, risk management, data analysis and asset integrity management requirements. We address these requirements using best in class database management systems and applying enterprise based inspection and data management applications. We apply our comprehensive portfolio of customized Acoustic Emission and Ultrasonic application-specific software products to cover a broad range of materials testing and analysis methods, for neural networks, pattern recognition, wavelet analysis and moment tensor analysis. Some of the key software solutions we offer include:

**PCMS** enterprise software: A leading inspection data management system for supporting asset protection and reliability.

**ISOTRAC**: A multiphase methodology to illustrate in 3-D each element of a plant to help develop an overall asset integrity management program that meets or exceeds compliance with current MI standards and regulations.

Our PCMS application is an enterprise software system that allows for the collection, storage and analysis of data as captured by our testing and inspection products and services and convert it to valuable information for our plant personnel and plant management. PCMS allows our customers to design and develop asset integrity management monitoring plans that include:

- optimal systematic testing schedules for their infrastructure based on real-time data captured by our sensors;
- alerts that notify customers when to perform special testing services on suspect areas, enabling them to identify and resolve flaws on a timely basis by using our PCMS risk-based inspection (RBI) software module; and
- schedules for the maintenance and retirement of assets.

PCMS also offers advantages by allowing the information it develops and stores to be organized, linked and synchronized with enterprise software systems such as SAP and IBM's Maximo. We believe PCMS is one of the more widely used plant condition management software systems in the world and we estimate it is currently used by more than 40% of U.S. refineries, by capacity. This provides us not only with recurring maintenance and support fees, but also marketing opportunities for additional software, asset integrity management and other asset protection solutions. PCMS has also been chosen and installed by leading midstream pipeline energy companies and major energy companies in Canada and Europe.

We also offer other software solutions, such as our Advanced Data Analysis Pattern Recognition and Neural Networks Software (NOESIS), which enables our AE experts to develop automated remote monitoring systems for our customers, and our Loose Parts Monitoring Software (LPMS), which is a software program for monitoring, detecting and evaluating metallic loose parts in nuclear reactor coolant systems in accordance with strict industry standards.

## Engineering and Consulting Services

In addition to software and advanced technologies, Mistras also provides professional engineering and consulting services that is organized under our Asset Integrity Management Services (AIMS) group. Asset integrity management refers to the management system that enables plant owners to maintain the integrity of their assets in a fit for service condition for the desired life of the assets, as well as optimize the assets that are part of a process unit. Our engineering and consulting support capabilities include plant operations support, turn-around planning, project planning, management and execution, facilities planning studies, engineering design, safety reviews, plant operations improvement and optimization evaluations, and technical training.

## On-line Monitoring

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Our on-line monitoring offerings combine all of our asset protection services, products and systems. We provide temporary, periodic and continuous monitoring of static infrastructures such as bridges, pipes, and transformers, as well as dynamic or rotating assets such as pumps, motors, gearboxes, steam and gas turbines. Temporary monitoring is typically used when there is a known defect or problem and the condition needs to be monitored until repaired or new equipment can be placed in service. Periodic monitoring, or “walk around” monitoring, is used as a preventative maintenance tool to take machine and device readings, on a periodic basis, to observe any change in the assets’ condition, such as increased vibration or unusual heat buildup and dissipation. Continuous monitoring is applied “24/7” on critical assets to observe the earliest onset of a defect and to track its progression to avoid catastrophic failure.

## Centers of Excellence

Another differentiator in our business model are our Centers of Excellence (COEs), which focus on specific aspects of inspection technology. The COEs are focused around target applications in our key market segments. They are supported by subject matter experts that will engage in strategic sales opportunities offering customers value-added solutions using advanced technologies and methods providing oversight, management and consultation. The COEs have a blueprint for their areas that can be replicated throughout the world by delivering procedures, equipment, reports, certifications, etc. ensuring a standardized approach to implementation yielding higher margin business.

## Customers

We provide our asset protection solutions to a global customer base of diverse companies primarily in our target markets. One customer, BP plc., accounted for approximately 11%, 12% and 10% of our total revenues for the year ended December 31, 2017, the transition period ended December 31, 2016 and fiscal 2016, respectively. No customer accounted for more than 10% of our revenues in fiscal 2015.

## Geographic Areas

We conduct our business in 14 different countries. Our revenues are primarily derived from our U.S., Canadian and European operations. See Note 19 — Segment Disclosure to the consolidated financial statements in this Annual Report for further disclosure of our revenues, long-lived assets and other financial information regarding our international operations.

## Seasonality

Our business is seasonal. This seasonality relates primarily to our Services segment. U.S. refineries’ non-peak periods are generally in the fall, when they are retooling to produce more heating oil for winter, and in the spring, when they are retooling to produce more gasoline for summer. The peak periods for these customers are the summer and winter months, when they run at peak capacity and are not retooling or performing turnarounds or shut downs. As a result, our revenues in the summer and winter months are typically lower than our revenues in the fall and spring because demand for our asset protection solutions from the oil and gas as well as the fossil and nuclear power industries increases during their non-peak production periods. Because we are increasing our work in the fall and spring, our cash flows are lower in those quarters than in the summer and winter, as collections of receivables lag behind revenues. We expect that this seasonality will continue.

## Competition

We operate in a highly competitive, but fragmented, market. Our primary competitors are divisions of large companies, and many of our other competitors are small companies, limited to a specific product or technology and focused on a niche market or geographic region. We believe that none of our competitors currently provides the full

range of asset protection and NDT products, enterprise software (PCMS) and the traditional and advanced services solutions that we offer. Our competition with respect to NDT services include the Acuren division of Rockwood Service Corporation, SGS Group, the Team Qualspec division of Team, Inc. and APPLUS RTD. Our competition with respect to our PCMS software includes UltraPIPE, Lloyd's Register Capstone, Inc. and Meridium Systems. In the traditional NDT market, we believe the principal competitive factors include project management, availability of qualified personnel, execution, price, reputation and quality. In the advanced NDT market, reputation, quality and size are more significant competitive factors than price. We believe that the NDT market has significant barriers to entry which would make it difficult for new competitors to enter the market. These barriers include: (1) having to acquire or develop advanced NDT services, products and systems technologies, which in our case occurred over many years of customer engagements and at significant internal research and development expense, (2) complex regulations and safety codes that require significant industry experience, (3) license requirements and evolved quality and safety programs,

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(4) costly and time-consuming certification processes, (5) capital requirements and (6) emphasis by large customers on size and critical mass, length of relationship and past service record.

### Sales and Marketing

We sell our asset protection solutions through our experienced and highly trained direct sales and marketing teams within all of our offices worldwide. In addition, our project and laboratory managers as well as our management are trained on our solutions and often are the source of sales leads and customer contacts. Our direct sales and marketing teams work closely with our customers' research and design personnel, reliability engineers and facilities maintenance engineers to demonstrate the benefits and capabilities of our asset protection solutions, refine our asset protection solutions based on changing market and customer needs and identify potential sales opportunities. We divide our sales and marketing efforts into services sales, products and systems sales and marketing and utilize CRM systems to collect, manage and collaborate customer information with our teams globally. Our CRM's also provide critical data to provide accurate forecasting and reporting.

### Manufacturing

Most of our hardware products are manufactured in our Princeton Junction, New Jersey facility. Our Princeton Junction facility includes the capabilities and personnel to fully produce all of our AE products, NDT Automation Ultrasonic equipment and Vibra-Metrics vibration sensing products and systems. Certain other hardware is manufactured by a third party and then loaded by us with our proprietary software. We also design and manufacture automated ultrasonic systems and scanners in France.

### Intellectual Property

Our success depends, in part, on our ability to maintain and protect our proprietary technology and to conduct our business without infringing on the proprietary rights of others. We utilize a combination of intellectual property safeguards, including patents, copyrights, trademarks and trade secrets, as well as employee and third-party confidentiality agreements, to protect our intellectual property.

As of December 31, 2017, we held 4 patents (by direct ownership or exclusive licensing), all in the United States, which will expire at various times between 2021 and 2026, and license certain other patents. However, we do not principally rely on these patents or licenses to provide our proprietary asset protection solutions. Our trademarks and service marks provide us and our products and services with a certain amount of brand recognition in our markets. We do not consider any single patent, trademark or service mark material to our financial condition or results of operations.

As of December 31, 2017, the primary trademarks and service marks that we held in the United States included Mistras® and our stylized globe design. Other trademarks or service marks that we utilize in localized markets or product advertising include PCMS®, Physical Acoustics Corporation and the PAC logo, Ropeworks®, NOESIS, Pocket AE®, Pocket UT®, AEwin®, AEwinPost, UTwin®, UTIA, LST, Vibra-Metrics®, Field CAL®, MONPAC, PERFPAC, TANKPAC®, Valve-Squeak®, VPAC, POWERPAC, Sensor Highway, QSL, NDT Automation, and One Source for Asset Projection Solutions®.

Many elements of our asset protection solutions involve proprietary know-how, technology or data that are not covered by patents or patent applications because they are not patentable, or patents covering them would be difficult to enforce, including technical processes, equipment designs, algorithms and procedures. We believe that this proprietary know-how, technology and data is the most important component of our intellectual property assets used in our asset protection solutions, and is a primary differentiator of our asset protection solutions from those of our

competitors. We rely on various trade secret protection techniques and agreements with our customers, service providers and vendors to protect these assets. All of our employees are subject to confidentiality requirements through our employee handbook. In addition, employees in our Products and Systems segment and our other employees involved in the development of our intellectual property have entered into confidentiality and proprietary information agreements with us. Our employee handbook and these agreements require our employees not to use or disclose our confidential information, to assign to us all of the inventions, designs and technologies they develop during the course of employment with us, and otherwise address intellectual property protection issues. We also seek confidentiality agreements from our customers and business partners before we disclose any sensitive aspects of our asset protection solutions technology or business strategies. We are not currently involved in any material intellectual property claims.

#### Research and Development

Our research and development is principally conducted by engineers and scientists at our Princeton Junction, New Jersey headquarters, and supplemented by other employees in the United States and throughout the world, including France, Greece, and the United Kingdom, who have other primary responsibilities. Our total professional staff includes employees who hold

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Ph.D.'s and engineers and employees who hold Level III certification, the highest level of certification from the American Society of Non-Destructive Testing.

We work with customers to develop new products or applications for our technology. Research and development expenses are reflected on our consolidated statements of income as research and engineering expenses. Our company-sponsored research and engineering expenses were approximately \$2.3 million, \$1.6 million, \$2.5 million and \$2.5 million for the year ended December 31, 2017, the transition period ended December 31, 2016 and fiscal 2016 and 2015, respectively. While we have historically funded most of our research and development expenditures, from time to time we also receive customer-sponsored research and development funding. We also have paid research contracts in Greece, Brazil, France, the United Kingdom, and the Netherlands, for various industries and applications, including testing of new composites, detecting crack propagation and wireless and communications technologies, as well as the development of permanently embedded inspection systems using acoustic emission and acousto-ultrasonics to provide continuous on-line in-service full coverage monitoring of critical structural components. Most of the projects are in our target markets; however, a few of the projects could lead to other future market opportunities.

## Employees

Providing our asset protection solutions requires a highly-skilled and technically proficient employee base. As of December 31, 2017, we had approximately 6,000 employees worldwide, of which approximately 63% were based in the United States. Less than 10% of our employees in the United States are unionized. We believe that we have good relations with our employees.

## Environmental Matters

We are subject to numerous environmental, legal and regulatory requirements related to our operations worldwide. In the United States, these laws and regulations include, among others: the Comprehensive Environmental Response, Compensation, and Liability Act, the Resources Conservation and Recovery Act, the Clean Air Act, the Federal Water Pollution Control Act, the Toxic Substances Control Act, the Atomic Energy Act, the Energy Reorganization Act of 1974, and applicable regulations. In addition to the federal laws and regulations, states and other countries where we do business often have numerous environmental, legal and regulatory requirements by which we must abide. We evaluate and address the environmental impact of our operations by assessing properties in order to avoid future liabilities and comply with environmental, legal and regulatory requirements.

We received a notice in May 2015 that the U.S. Environmental Protection Agency ("EPA") performed a preliminary assessment of a leased facility we operate in Cudahy, California. Based upon the preliminary assessment, the EPA conducted an investigation of the site. The purpose of the investigation is to determine whether any hazardous materials were released from the facility. We have been informed that certain hazardous materials and pollutants have been found in the ground water in the general vicinity of the site and the EPA is attempting to ascertain the origination or source of these materials and pollutants. Given the historic industrial use of the site, the EPA determined that the site of our Cudahy facility should be examined along with numerous other sites in the vicinity. At this time, we are not able to determine whether we have any liability in connection with this matter and if so, the amount or range of any such liability.

## Our Website and Available Information

Our website address is [www.mistrasgroup.com](http://www.mistrasgroup.com). We file reports with the SEC, including Quarterly Reports on Form 10-Q, Annual Reports on Form 10-K, Current Reports on Form 8-K and Proxy Statements. All of the materials we file with or furnish to the SEC are available free of charge on our website at



<http://investors.mistrasgroup.com/sec.cfm>, as soon as reasonably practicable after having been electronically submitted to the SEC. Information contained on or connected to our website is not incorporated by reference into this Annual Report on Form 10-K and should not be considered part of this report or any other filing with the SEC. All of our SEC filings are also available at the SEC's website at [www.sec.gov](http://www.sec.gov). In addition, materials we file with the SEC may be read and copied at the SEC's Public Reference Room at 100 F Street, NE, Washington, DC 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330.

#### Executive Officers

The following are our executive officers and other key employees as of December 31, 2017 and their background and experience:

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Name	Age	Position
Dr. Sotirios J. Vahaviolos	71	Executive Chairman and Director
Dennis Bertolotti	58	President, Chief Executive Officer and Director
Michael C. Keefe	60	Executive Vice President, General Counsel and Secretary
Michael J. Lange	57	Vice Chairman, Senior Executive Vice President of Global Business Development, Marketing & Strategic Planning, and Director
Jonathan H. Wolk	56	Senior Executive Vice President, Chief Financial Officer and Chief Operating Officer

Dr. Sotirios J. Vahaviolos was named Executive Chairman on August 10, 2017. Prior to being named Executive Chairman, Dr. Vahaviolos had been our Chairman and Chief Executive Officer since he founded Mistras in 1978 under the name Physical Acoustics Corporation and was also our President until June 1, 2016. Prior to joining Mistras, Dr. Vahaviolos worked at AT&T Bell Laboratories. Dr. Vahaviolos received a B.S. in Electrical Engineering and graduated first in his engineering class from Fairleigh Dickinson University and received Masters Degrees in Electrical Engineering and Philosophy and a Ph.D. (EE) from the Columbia University School of Engineering. During Dr. Vahaviolos' career in non-destructive testing, he has been elected Fellow of The Institute of Electrical and Electronics Engineers, a member of The American Society for Nondestructive Testing (ASNT) where he served as its President from 1992-1993 and its Chairman from 1993-1994, a member of Acoustic Emission Working Group (AEWG) and an honorary life member of the International Committee for Nondestructive Testing. Additionally, he was the recipient of ASNT's Gold Medal in 2001 and AEWG's Gold Medal in 2005. He was also one of the six founders of NDT Academia International in 2008 headquartered in Brescia, Italy.

Dennis Bertolotti joined Mistras when Conam Inspection Services was acquired in 2003, where Mr. Bertolotti was a Vice President at the time of the acquisition. Since then, Mr. Bertolotti has had increasing levels of responsibility with Mistras, and became our President and Chief Executive Officer and Director, effective August 10, 2017. From June 1, 2016 to August 9, 2017, Mr. Bertolotti was our President and Chief Operating Officer. Mr. Bertolotti has been in the NDT business for over 30 years, and previously held ASNT Level III certifications and various American Petroleum Institute, or API, certifications, and received his Associate of Science degree in NDT from Moraine Valley Community College in 1983. Mr. Bertolotti has also received a Bachelor of Science and MBA from Otterbein College.

Michael C. Keefe joined Mistras in December 2009. Prior to joining Mistras, Mr. Keefe worked at International Fight League, a publicly-traded sports promotion company, from 2007 until 2009, in various executive positions. From 1990 until 2006, Mr. Keefe served in various legal roles with Lucent Technologies and AT&T, the last four years as Vice President, Corporate and Securities Law and Assistant Secretary. Mr. Keefe received a BS in Business Administration (Accounting) from Seton Hall University and a J.D. from Seton Hall University School of Law.

Michael J. Lange joined Mistras when we acquired Quality Services Laboratories in November 2000, and was elected a Director in 2003. Mr. Lange has held various executive level positions with Mistras, becoming Vice Chairman in July 2015 and Senior Executive Vice President, effective June 1, 2016. Mr. Lange is a well-recognized authority in Radiography and has held an ASNT Level III Certificate for almost 20 years. Mr. Lange received an Associate of Science degree in NDT from the Spartan School of Aeronautics.

Jonathan H. Wolk joined Mistras in November 2013 as Executive Vice President, Chief Financial Officer and Treasurer until August 10, 2017, when Mr. Wolk became Senior Executive Vice President and Chief Operating Officer. Mr. Wolk was also acting Chief Financial Officer from August 10, 2017 until the appointment of Mr. Prajzner on January 5, 2018. Prior to joining Mistras, Mr. Wolk served as Senior Vice President, Chief Financial Officer and Secretary of American Woodmark Corporation from 2004 until August 2013. Prior to American Woodmark, he served as the Chief Financial Officer and Treasurer of Tradecard, Inc., from 2000 to 2004, and was the

global controller of GE Capital Real Estate from 1998 to 2000. Mr. Wolk started his career in public accounting at KPMG, received his B.S. in accounting from State University of New York-Albany and is a certified public accountant.

On January 5, 2018, Edward J. Prajzner, joined Mistras as Senior Vice President, Chief Financial Officer and Treasurer. Prior to joining Mistras, Mr. Prajzner worked at CECO Environmental Corp., a global service provider to environmental, energy and filtration industries, and served as Chief Financial Officer and Secretary from 2014 to 2017, Vice President of Finance and Chief Accounting Officer from 2013 until his appointment as CFO in 2014, and Corporate Controller and Chief Accounting Officer from 2012 to 2013. Mr. Prajzner also served in senior finance roles at CDI Corporation (now AE Industrial Partners), and American Infrastructure (now Allan Myers). Mr. Prajzner began his career in public accounting at Ernst & Young, received

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his B.S. in accountancy from Villanova University, his MBA in finance from Temple University and is a certified public accountant.

Our executive officers are elected by, and serve at the discretion of, our board of directors. There are no family relationships among any of our directors or executive officers.

ITEM 1A. RISK FACTORS

This section describes the major risks to us, our business and our common stock. You should carefully read and consider the risks described below, together with the other information contained in this Annual Report, including our financial statements and the notes thereto and “Management’s Discussion and Analysis of Financial Condition and Results of Operations”(MD&A) before making an investment decision. The statements contained in this section constitute cautionary statements under the Private Securities Litigation Reform Act of 1995. If any of these risks occur, our business, financial condition, results of operations and future growth prospects may be adversely affected. As a result, the trading price of our common stock would likely decline, and you may lose all or part of your investment. You should understand that it is not possible to predict or identify all risk factors that could impact us. Accordingly, you should not consider the following to be a complete discussion of all risks and uncertainties pertaining to us and our common stock.

Risks Related to Our Business

Our growth strategy includes acquisitions. We may not be able to identify suitable acquisition candidates or integrate acquired businesses successfully, which may adversely impact our results. Furthermore, acquisitions that we do complete could expose us to a number of unanticipated operational and financial risks.

A significant factor in our growth has been and will continue to be based upon our ability to make acquisitions and successfully integrate these acquired businesses. We intend to continue to seek additional acquisition opportunities, both to expand into new markets and to enhance our position in existing markets. This strategy has provided us with many benefits and has helped fuel our growth, but also carries with it many risks. Some of the risks associated with our acquisition strategy include:

• whether we successfully identify suitable acquisition candidates, negotiate appropriate acquisition terms, and complete proposed acquisitions;

• whether we can successfully integrate acquired businesses into our current operations, including our accounting, internal control and information technology systems, marketing and other key infrastructure;

• whether we can adequately capture opportunities that an acquired business may offer, including the expansion into new markets in which we do not have significant experience or presence;

• whether we value an acquired business properly when determining the purchase price, terms and whether we are able to achieve the returns on the investment we expect;

• whether an acquired business can achieve levels of revenues, profitability, productivity or cost savings we expect;

• whether an acquired business is compatible with our culture and philosophy of doing business;

• the unexpected loss of key personnel and customers of an acquired business;

the assumption of liabilities and risks (including environmental-related costs) of an acquired business, some of which may not be anticipated;

the potential disruption of our ongoing business and distraction of management and other personnel of us and the acquired business resulting from the efforts to acquire, then integrate, an acquired business; and

the use of significant funds, including those borrowed under our bank credit agreement, and the opportunity cost associated with the funds spent on the acquisition and integration of other businesses (some of which acquisition funding may be substantial), as well as the impact of the acquisition and borrowing on our continued compliance with our bank covenants.

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Our ability to undertake acquisitions is limited by our financial resources, including available cash and borrowing capacity. Future acquisitions could result in potentially dilutive issuances of equity securities, the incurrence of substantial additional indebtedness and other expenses, any of which could adversely impact our financial condition and results of operations. Although management intends to: (i) evaluate the risks inherent in any particular transaction, (ii) assume only risks management believes to be acceptable, and (iii) develop plans to mitigate such risks, there are no assurances that we will properly ascertain or accurately assess the extent of all such risks. Difficulties encountered with acquisitions may adversely impact our business, financial condition and results of operations.

In addition, we have a significant amount of goodwill and other intangible assets on our balance sheet from our acquisitions. This will increase as we complete more acquisitions. If our acquisitions do not perform as planned and we do not realize the benefits and profitability we expect, we could incur significant write-downs and impairment charges to our earnings due to the impairment of the goodwill and other intangible assets we have acquired or acquire in the future.

Our international operations are subject to risks relating to non-U.S. operations.

For the year ended December 31, 2017, the transition period ended December 31, 2016 and fiscal 2016 and 2015, we generated approximately 33%, 36%, 28% and 31% of our revenues outside the United States, respectively. In addition, our international operations as a percentage of our business may increase over time. Our primary operations outside the United States are in Canada, Germany, France, the United Kingdom and Brazil. We also have operations in the Netherlands, Belgium and India. There are numerous risks inherent in doing business in international markets, including:

fluctuations in currency exchange rates and interest rates;

- varying regional and geopolitical business and economic conditions and demands;

compliance with applicable foreign regulations and licensing requirements, and U.S. laws and regulation with respect to our business in other countries, including export controls and anti-bribery laws;

the cost and uncertainty of obtaining data and creating solutions that are relevant to particular geographic markets;

the need to provide sufficient levels of technical support in different locations;

the complexity of maintaining effective policies and procedures in locations around the world;

political instability and civil unrest;

- restrictions or limitations on outsourcing contracts or services abroad;

the impact of the United Kingdom exiting the European Union;

restrictions or limitations on the repatriation of funds, or tax consequences on the non-repatriation of overseas operationally generated funds; and

other potentially adverse tax consequences.

Due to our dependency on customers in the oil and gas industry, we are susceptible to prolonged negative trends relating to this industry that could adversely affect our operating results.

Our customers in the oil and gas industry (including the petrochemical market) have accounted for a substantial portion of our historical revenues. Specifically, they accounted for approximately 58%, 55%, 56% and 52% of our revenues for the year ended December 31, 2017, the transition period ended December 31, 2016 and fiscal 2016 and 2015, respectively. Although we have expanded our customer base into industries other than the oil and gas industry, we still receive approximately half of our revenues from this industry. Our services are vital to the operators of plants and refineries and we have expanded our services offerings, such as expanding our mechanical services capabilities. However, economic slowdowns or low oil prices have, and could continue to, result in cutbacks in contracts for our services. In addition, low oil prices could depress the level of new exploration and construction, which would adversely affect our market opportunities. If the oil and gas industry were to continue to operate in a market with low oil prices, our revenues, profits and cash flows may be reduced. While we continue to expand our market presence in the power generation and transmission, and the chemical processing industries, among others, these markets are also cyclical in nature and as such, are subject to economic downturns.

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We expect to continue expanding and our success depends on how effectively we manage our growth.

We expect to continue experiencing growth, including through acquisitions, in the number of employees and the scope of our operations over the long-term. To effectively manage our anticipated future growth, we must continue to implement and improve our managerial, operational, compliance, financial and reporting systems and capabilities, expand our facilities and continue to recruit and train additional qualified personnel. We expect that all these measures will require significant expenditures and will demand the attention of management. Failure to manage our growth effectively could lead us to over or under-invest in technology and operations, result in weaknesses in our infrastructure, systems, compliance programs or controls, give rise to operational mistakes, the loss of business opportunities, the loss of employees and reduced productivity among remaining employees. Our expected growth could require significant capital expenditures and may divert financial resources from other projects, such as the development of new solutions. If our management is unable to effectively manage our expected growth, our expenses may increase more than expected, our profit margins may suffer, our revenues could decline or may grow more slowly than expected and we may be unable to implement our business strategy as anticipated.

Our operating results could be adversely affected by a reduction in business with our significant customers.

We derive a significant amount of revenues from a few customers. For instance, various divisions or business units of our largest customer were responsible for approximately 11% of our revenues for 2017. Taken as a group, our top ten customers were responsible for approximately 38%, 37%, 36% and 33% of our revenues for the year ended December 31, 2017, the transition period ended December 31, 2016 and fiscal 2016 and 2015, respectively. This concentration pertains almost exclusively to our Services segment, which accounted for more than 70% of our revenues for the year ended December 31, 2017, the transition period ended December 31, 2016 and fiscal 2016 and 2015. These customers are primarily in the oil and gas sector. Generally, our customers do not have an obligation to make purchases from us and may stop ordering our products and services or may terminate existing orders or contracts at any time with little or no financial penalty. The loss of any of our significant customers, any substantial decline in sales to these customers or any significant change in the timing or volume of purchases by our customers could result in lower revenues and could harm our business, financial condition or results of operations. During 2017, we have noted a challenged region within our Services segment ("the Challenged Region") which includes a large customer contract. During the first quarter of 2018, the large contract in the Challenged Region was awarded to another contractor. Accordingly, our 2018 results will be impacted by the loss of this contract.

An accident or incident involving our asset protection solutions could expose us to claims, harm our reputation and adversely affect our ability to compete for business and, as a result, harm our operating performance.

We could be exposed to liabilities arising out of the solutions we provide. For instance, we furnish the results of our testing and inspections for use by our customers in their assessment of their assets, facilities, plants and other structures. If such results were to be incorrect or incomplete, as a result of, for instance, poorly designed inspections, malfunctioning testing equipment or our employees' failure to adequately test or properly record data, we could be subject to claims. Further, if an accident or incident involving a structure we tested occurs and causes personal injuries or property damage, such as the collapse of a bridge or an explosion in a facility, and particularly if these injuries or damages could have been prevented by our customers had we provided them with correct or complete results, we may face significant claims relating to personal injury, property damage or other losses. Even if our results are correct and complete, we may face claims for such injuries or damage simply because we tested the structure or facility in question. While we do have insurance, our insurance coverage may not be adequate to cover the damages from any such claims, forcing us to bear these uninsured damages directly, which could harm our operating results and may result in additional expenses and possible loss of revenues. An accident or incident for which we are found partially or fully responsible, even if fully insured, or even an incident at a customer for which we provide services although we



were found not to be responsible, may also result in negative publicity, which would harm our reputation among our customers and the public, cause us to lose existing and future contracts or make it more difficult for us to compete effectively, thereby significantly harming our operating performance. In addition, the occurrence of an accident or incident might also make it more expensive or extremely difficult for us to insure against similar events in the future.

Many of the sites at which we work are inherently dangerous workplaces. If we fail to maintain a safe work environment, we may incur losses and lose business.

Many of our customers, particularly in the oil and gas and chemical industries, require their inspectors and other contractors working at their facilities to have good safety records because of the inherent danger at these sites. If our employees are injured at the work place, we will incur costs for the injuries and lost productivity. In addition, safety records are impacted by the number and amount of workplace incidents involving a contractor's employees. If our safety record is not within the levels required by our customers, or compares unfavorably to our competitors, we could lose business, be prevented from working at

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certain facilities or suffer other adverse consequences, all of which could negatively impact our business, revenues, reputation and profitability.

Most of our computer and communications hardware is located at a single facility, the failure of which would harm our business and results of operations.

Most of our computer and communications hardware is located at a single facility. We have a back-up data-center and storage in a different geographic area. Should a natural disaster or some other event occur that damages our primary data center or significantly disrupts its operation, such as human error, fire, flood, power loss, telecommunications failure, break-ins, terrorist attacks, acts of war and similar events, we could suffer temporary interruption of key functions and capabilities before the back-up facility is fully operational.

If we are unable to attract and retain a sufficient number of trained certified technicians, engineers and scientists at competitive wages, our operational performance may be harmed and our costs may increase.

We believe that our success depends, in part, upon our ability to attract, develop and retain a sufficient number of trained certified technicians, engineers and scientists at competitive wages. The demand for such employees fluctuates as the demand for NDT and inspection services fluctuate. There is currently a reduced demand for technicians because of a slowdown of spending in the oil and gas industry. However, if the demand for qualified technicians increases, we will likely experience increased labor costs. The markets for our products and services require us to use personnel trained and certified in accordance with standards set by domestic or international standard-setting bodies, such as the American Society of Non-Destructive Testing or the American Petroleum Institute. Because of the limited supply of these certified technicians, we expend substantial resources maintaining in-house training and certification programs. If we fail to attract sufficient new personnel or fail to motivate and retain our current personnel, our ability to perform under existing contracts and orders or to pursue new business may be harmed, preventing us from growing our business or causing us to lose customers and revenues, and the costs of performing such contracts and orders may increase, which would likely reduce our margins.

We operate in competitive markets and if we are unable to compete successfully, we could lose market share and revenues and our margins could decline.

We face strong competition from NDT and a variety of niche asset protection providers, both larger and smaller than we are. Some of our competitors have greater financial resources than we do and could focus their substantial financial resources to develop a competing business model or develop products or services that are more attractive to potential customers than what we offer. Some of our competitors are business units of companies substantially larger than us and could attempt to combine asset protection solutions into an integrated offering to customers who already purchase other types of products or services from them. Our competitors may offer asset protection solutions at lower prices than ours in order to attempt to gain market share. Smaller niche competitors with small customer bases could be aggressive in their pricing in order to retain customers. These competitive factors could reduce our market share, revenues and profits.

Certain of our operations are unionized, and as a result, we or our subsidiaries are required to contribute to multi-employer pension plans. A significant reduction in our union work force could result in withdrawal liability to these multi-employer pension plans, which could be significant.

Some of our workforce is unionized and the terms of employment for these workers are governed by collective bargaining agreements, or CBAs. Under these CBAs, we are required to contribute to the national pension funds for the unions representing these employees, which are multi-employer pension plans. If we experience a significant reduction in the employees covered by the CBAs, including as a result of lost business in the Challenged Region, a

complete or partial withdrawal liability to these multi-employer pension plans could result under ERISA. Depending on the circumstances, this liability could be significant and adversely impact our earnings and cash flow.

Events such as natural disasters, industrial accidents, epidemics, war and acts of terrorism, and adverse weather conditions could disrupt our business or the business of our customers, which could significantly harm our operations, financial results and cash flow.

Our operations and those of our customers are susceptible to the occurrence of catastrophic events outside our control, ranging from severe weather conditions to acts of war and terrorism. Any such events could cause a serious business disruption that reduces our customers' need or interest in purchasing our asset protection solutions. In the past, such events have resulted in order cancellations and delays because customer equipment, facilities or operations have been damaged, or are not then operational or available. A large portion of our customer base has operations in the Gulf of Mexico, which is subject to

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hurricanes. Hurricane-related disruptions to our customers' operations have adversely affected our revenues in the past. Such events in the future may result in substantial delays in the provision of solutions to our customers and the loss of valuable equipment. In addition, our results can be adversely impacted by severe winter weather conditions, which can result in lost work days and temporary closures of customer facilities or outdoor projects. Any cancellations, delays or losses due to such events may significantly reduce our revenues and harm our operating performance.

If we lose key members of our senior management team upon whom we are dependent, we may be less effective in managing our operations and may have more difficulty achieving our strategic objectives.

Our future success depends to a considerable degree upon the availability, contributions, vision, skills, experience and effort of our senior management team. We have in place various compensation programs, such as an annual cash incentive program, equity incentive program and a severance policy, each designed to incentivize and retain our key senior managers. We have also made changes to our senior management structure so that executive officers other than our founder, Dr. Sotirios Vahaviolos, provide executive leadership for operational, business development and strategy matters. At this time, we do not have any reason to believe that we may lose the services of any of these key persons in the foreseeable future and we believe our compensation programs will help us retain these individuals. We believe we have sufficient depth in our executive management to continue our success if we were to lose the services of an executive. However, an unplanned loss or interruption of the service of numerous key members of our senior management team could harm our business, financial condition and results of operations and could significantly reduce our ability to manage our operations and implement our strategy.

Deteriorations in economic conditions in certain markets or other factors may cause us to recognize impairment charges for our goodwill.

As of December 31, 2017, the carrying amount of our goodwill was approximately \$203 million, of which approximately \$38 million relates to our International segment. A significant portion of our international operations are concentrated in Europe and Brazil. Significant deterioration in industry or economic conditions in which we operate, disruptions to our business, not effectively integrating acquired businesses, or other factors, may cause impairment charges to goodwill in future periods. During 2017, the Products and Systems segment had contract bids which management assessed as having a reasonable chance of success and were not awarded to the Company. As a result of this missed opportunity, the annual forecasting process was accelerated, resulting in a goodwill impairment test for the Products and Systems reporting unit and a \$13.2 million impairment charge during the third quarter of 2017.

The success of our businesses depends, in part, on our ability to develop new asset protection solutions, increase the functionality of our current offerings and meet the needs and demands of our customers.

The market for asset protection solutions is impacted by technological change, uncertain product lifecycles, shifts in customer demands and evolving industry standards and regulations. We may not be able to successfully develop and market new asset protection solutions that comply with present or emerging industry regulations and technology standards. Also, new regulations or technology standards could increase our cost of doing business.

From time to time, our customers have requested greater value and functionality in our solutions. As part of our strategy to enhance our asset protection solutions and grow our business, we continue to make investments in the research and development of new technologies, inspection tools and methodologies. We believe our future success will depend, in part, on our ability to continue to design new, competitive and broader asset protection solutions, enhance our current solutions and provide new, value-added services. Many traditional NDT and inspection services are subject to price competition by our customers. Accordingly, the need to demonstrate our value-added services is becoming more important. Developing new solutions will require continued investment, and we may experience

unforeseen technological or operational challenges. In addition, our asset protection software is complex and can be expensive to develop, and new software and software enhancements can require long development and testing periods. If we are unable to develop new asset protection solutions or enhancements that meet market demands on a timely basis, we may experience a loss of customers or otherwise be likely to lose opportunities to earn revenues and to gain customers or access to markets, and our business and results of operations will be adversely affected.

Even if we develop new solutions, if our customers, or potential customers, do not see the value our solutions have over competing products and services, our operating results could be adversely impacted. In addition, because the asset protection solutions industry is rapidly evolving, we could lose insight into trends that may be emerging, which would further harm our competitive position by making it difficult to predict and respond to customer needs. If the market for our asset protection solutions does not continue to develop, our ability to grow our business would be limited and we might not be able to maintain

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profitability. If we cannot convince our customers of the advantages and value of our advanced NDT services, we could lose large contracts or suffer lower profit margin.

If our software or system produces inaccurate information or are incompatible with the systems used by our customers and make us unable to successfully provide our solutions, it could lead to a loss of revenues and customers.

Our software and systems are complex and, accordingly, may contain undetected errors or failures. Software or system defects or inaccurate data may cause incorrect recording, reporting or display of information related to our asset protection solutions. Any such failures, defects and inaccurate data may prevent us from successfully providing our asset protection solutions, which could result in lost revenues. Software or system defects or inaccurate data may lead to customer dissatisfaction and could cause our customers to seek to hold us liable for any damages incurred. As a result, we could lose customers, our reputation may be harmed and our financial condition and results of operations could be materially adversely affected.

We currently serve a commercial, industrial and governmental customer base that uses a wide variety of constantly changing hardware, software solutions and operating systems. Our asset protection solutions need to interface with these non-standard systems in order to gather and assess data. Our business depends on the following factors, among others:

- our ability to integrate our technology with new and existing hardware and software systems;
- our ability to anticipate and support new standards, especially internet-based standards; and
- our ability to integrate additional software modules under development with our existing technology and operational processes.

If we are unable to adequately address any of these factors, our results of operations and prospects for growth and profitability would be adversely impacted.

The seasonal nature of our business reduces our revenues and profitability in the winter and summer.

Our business, primarily in our Services segment, is seasonal. The fall and spring revenues for our Services segment are typically higher than our revenues in the winter and summer because demand for our asset protection solutions from the oil and gas as well as the fossil and nuclear power industries increases during their non-peak production periods. For instance, U.S. refineries' non-peak periods are generally in the fall, when they are retooling to produce more heating oil for winter, and in the spring, when they are retooling to produce more gasoline for summer. As a result of these trends, we generally have reduced cash flows in the fall and spring, as collections of receivables lag behind revenues, possibly requiring us to borrow under our credit agreement. In addition, most of our operating expenses, such as employee compensation and property rental expense, are relatively fixed over the short term. Moreover, our spending levels are based in part on our expectations regarding future revenues. As a result, if revenues for a particular quarter are below expectations, we may not be able to proportionately reduce operating expenses for that quarter. We expect that the impact of seasonality will continue.

Our business, and the industries we currently serve, are currently subject to governmental regulation, and may become subject to modified or new government regulation that may negatively impact our ability to market our asset protection solutions.

We incur substantial costs in complying with various government regulations and licensing requirements. For example, the transportation and overnight storage of radioactive materials used in providing certain of our asset

protection solutions such as radiography are subject to regulation under federal and state laws and licensing requirements. Our Services segment is currently licensed to handle radioactive materials by the U.S. Nuclear Regulatory Commission (NRC), over 20 state regulatory agencies and the Canadian Nuclear Safety Commission. If we allegedly fail to comply with these regulations, we may be investigated and incur significant legal expenses associated with such investigations, and if we are found to have violated these regulations, we may be fined or lose one or more of our licenses or permits, which would prevent or restrict our ability to provide radiography services. In addition, while we are investigated, we may be required to suspend work on the projects associated with our alleged noncompliance, resulting in loss of profits or customers, and damage to our reputation. Many of our customers have strict requirements concerning safety or loss time occurrences and if we are unable to meet these requirements it could result in lost revenues. In the future, governmental agencies may seek to change current regulations or impose additional regulations on our business. Any modified or new government regulation applicable to our current or future asset protection solutions may negatively impact the marketing and provision of those solutions and increase our costs of providing these solutions and have a corresponding adverse effect on our margins.

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Additionally, greenhouse gases that result from human activities, including burning of fossil fuels, have been the focus of increased scientific and political scrutiny and are being subjected to various legal requirements. International agreements, national laws, state laws and various regulatory schemes limit or otherwise regulate emissions of greenhouse gases, and additional restrictions are under consideration by different governmental entities. We derive a significant amount of revenues and profits from such industries, including oil and gas, power generation and transmission, and chemicals processing. Such regulations could negatively impact our customers, which could negatively impact the market for the services and products we provide. This could materially adversely affect our business, financial condition, results of operations and cash flows.

We rely on certification of our NDT solutions by industry standards-setting bodies. We and/or our subsidiaries currently have International Organization for Standardization (ISO) 9001:2008 certification, ISO 14001:2004 certification and OHSAS 18001:2007 certification. In addition, we currently have NADCAP (formerly National Aerospace and Defense Contractors Accreditation Program) and similar certifications for certain of our locations. We continually review our NDT solutions for compliance with the requirements of industry specification standards and the NADCAP special processes quality requirements. However, if we fail to maintain our ISO, Nadcap or other certifications, our business may be harmed because our customers generally require that we have these certifications before they purchase our NDT solutions.

Intellectual property may impact our business and results of operations.

Our ability to compete effectively depends in part upon the maintenance and protection of the intellectual property related to our asset protection solutions. Patent protection is unavailable for certain aspects of the technology and operational processes important to our business and any patent or patent applications, trademarks or copyrights held by us or to be issued to us, may not adequately protect us. Some of our trademarks that are not in use may become available to others. To date, we have relied principally on copyright, trademark and trade secrecy laws, as well as confidentiality agreements and licensing arrangements, to establish and protect our intellectual property. However, we have not obtained confidentiality agreements from all of our customers and vendors. Although we obligate our employees to confidentiality, we cannot be certain that these obligations will be honored or enforceable.

We may require additional capital to support business growth, which might not be available.

We intend to continue making investments to support our business growth and may require additional funds to respond to business challenges or opportunities, including the need to develop new, or enhance our current, asset protection solutions, enhance our operating infrastructure or acquire businesses and technologies. Accordingly, we may need to engage in equity or debt financings to secure additional funds. If we raise additional funds through further issuances of equity or convertible debt securities, our current stockholders could suffer significant dilution, and any new equity securities we issue could have rights, preferences and privileges superior to those of holders of our common stock. While our current bank financing is meeting our current need, any debt financing secured by us in the future could involve restrictive covenants relating to our capital-raising activities and other financial and operational matters, which may make it more difficult for us to obtain additional capital and to pursue business opportunities, including potential acquisitions. In addition, no assurance can be given that adequate or acceptable financing will be available to us, in which case we may not be able to grow our business, including through acquisitions, or respond to business challenges.

Our credit agreement contains financial and operating restrictions that may limit our access to credit. If we fail to comply with financial or other covenants in our credit agreement, we may be required to repay indebtedness to our existing lenders, which may harm our liquidity.



Our credit agreement contains financial covenants that require us to maintain compliance with specified financial ratios. If we fail to comply with these covenants, the lenders could prevent us from borrowing under our credit agreement, require us to pay all amounts outstanding, require that we cash collateralize letters of credit issued under the credit agreement and restrict us from making acquisitions. If the maturity of our indebtedness is accelerated, we then may not have sufficient funds available for repayment or the ability to borrow or obtain sufficient funds to replace the accelerated indebtedness on terms acceptable to us, or at all.

Our current credit agreement also imposes restrictions on our ability to engage in certain activities, such as creating liens, making certain investments, incurring more debt, disposing of certain property, paying dividends and making distributions and entering into a new line of business. While these restrictions have not impeded our business operations to date, if our plans change, these restrictions could be burdensome or require that we pay fees to have the restrictions waived.

Any real or perceived internal or external electronic security breaches in connection with the use of our asset protection solutions could harm our reputation, inhibit market acceptance of our solutions and cause us to lose customers.

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We and our customers use our asset protection solutions to compile and analyze sensitive or confidential customer-related information. In addition, some of our asset protection solutions allow us to remotely control and store data from equipment at commercial, institutional and industrial locations. Our asset protection solutions rely on the secure electronic transmission of proprietary data over the internet or other networks. The occurrence or perception of security breaches in connection with our asset protection solutions or our customers' concerns about internet security or the security of our solutions, whether warranted or not, would likely harm our reputation or business, inhibit market acceptance of our asset protection solutions and cause us to lose customers, any of which would harm our financial condition and results of operations.

We may come into contact with sensitive information or data when we perform installation, maintenance or testing functions for our customers. Even the perception that we have improperly handled sensitive, confidential information would have a negative effect on our business. If, in handling this information, we fail to comply with privacy or security laws, we could incur civil liability to government agencies, customers and individuals whose privacy is compromised. In addition, third parties may attempt to breach our security or inappropriately harm our asset protection solutions through computer viruses, electronic break-ins and other disruptions. If a breach is successful, confidential information may be improperly obtained, for which we may be subject to lawsuits and other liabilities.

### Risks Related to Our Common Stock

Our stock price could fluctuate for numerous reasons, including variations in our results.

Our quarterly operating results have fluctuated in the past and may do so in the future. Accordingly, we believe that period-to-period comparisons of our results of operations may be the best indicators of our business. You should not rely upon the results of one quarter as an indication of future performance. Our revenues and operating results may fall below the expectations of securities analysts or investors in any future period. Our failure to meet these expectations may cause the market price of our common stock to decline, perhaps substantially. Our quarterly revenues and operating results may vary depending on a number of factors, including those listed previously under "Risks Related to Our Business." In addition, the price of our common stock is subject to general economic, market, industry, and competitive conditions, the risk factors discussed below and numerous other conditions outside of our control.

A significant stockholder controls the direction of our business. The concentrated ownership of our common stock may prevent other stockholders from influencing significant corporate decisions.

Dr. Sotirios J. Vahaviolos, our Executive Chairman, owns approximately 37% of our outstanding common stock. As a result, Dr. Vahaviolos exhibits significant control over our Company and has the ability to exert substantial influence over all matters requiring approval by our shareholders, including the election and removal of directors, amendments to our certificate of incorporation, and any proposed merger, consolidation or sale of all or substantially all of our assets and other corporate transactions. This concentration of ownership could be disadvantageous to other shareholders with differing interests from Dr. Vahaviolos.

We currently have no plans to pay dividends on our common stock.

We have not declared or paid any cash dividends on our common stock to date, and we do not anticipate declaring or paying any dividends on our common stock in the foreseeable future. To the extent we do not pay dividends on our common stock, investors must look solely to stock appreciation for a return on their investment.

Shares eligible for future sale may cause the market price for our common stock to decline even if our business is doing well.

Future sales by us or by our existing shareholders of substantial amounts of our common stock in the public market, or the perception that these sales may occur, could cause the market price of our common stock to decline. This could also impair our ability to raise additional capital in the future through the sale of our equity securities. Under our certificate of incorporation, we are authorized to issue up to 200,000,000 shares of common stock, of which approximately 28,302,000 shares of common stock were outstanding as of March 5, 2018. In addition, we have approximately 3,093,000 shares of common stock reserved for issuance related to stock options and restricted stock units that were outstanding as of March 5, 2018. We cannot predict the size of future issuances of our common stock or the effect, if any, that future sales and issuances of shares of our common stock, or the perception of such sales or issuances, would have on the market price of our common stock.

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Provisions of our charter, bylaws and of Delaware law could discourage, delay or prevent a change of control of our company, which may adversely affect the market price of our common stock.

Certain provisions of our certificate of incorporation and bylaws could discourage, delay or prevent a merger, acquisition, or other change of control that stockholders may consider favorable, including transactions in which our stockholders might otherwise receive a premium for their shares. These provisions also could limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. Stockholders who wish to participate in these transactions may not have the opportunity to do so. Furthermore, these provisions could prevent or frustrate attempts by our stockholders to replace or remove our management. These provisions:

- allow the authorized number of directors to be changed only by resolution of our board of directors;
- require that vacancies on the board of directors, including newly created directorships, be filled only by a majority vote of directors then in office;
- authorize our board of directors to issue, without stockholder approval, preferred stock that, if issued, could operate as a “poison pill” to dilute the stock ownership of a potential hostile acquirer to prevent an acquisition that is not approved by our board of directors;
- require that stockholder actions must be effected at a duly called stockholder meeting by prohibiting stockholder action by written consent;
- prohibit cumulative voting in the election of directors, which may otherwise allow holders of less than a majority of stock to elect some directors; and
- establish advance notice requirements for stockholder nominations to our board of directors or for stockholder proposals that can be acted on at stockholder meetings and limit the right to call special meetings of stockholders to the Chairman of the Board, the Chief Executive Officer, the board of directors acting pursuant to a resolution adopted by a majority of directors or the Secretary upon the written request of stockholders entitled to cast not less than 35% of all the votes entitled to be cast at such meeting.

In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which may, unless certain criteria are met, prohibit large stockholders, in particular those owning 15% or more of our outstanding voting stock, from merging or combining with us for a prescribed period of time.

### ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

### ITEM 2. PROPERTIES

As of December 31, 2017, we operated approximately 120 offices in 14 countries, with our corporate headquarters located in Princeton Junction, New Jersey. Our headquarters in Princeton Junction is our primary location, where most of our manufacturing and research and development is conducted. While we lease most of our facilities, as of December 31, 2017, we owned properties located in Monroe, North Carolina; Trainer, Pennsylvania; LaPorte, Texas; Burlington, Washington; Gillette, Wyoming; Ellabell, Georgia; and Jonquiere, Quebec. Our Services segment utilizes approximately 80 offices throughout North America (including Canada). Our Products and Systems segment’s primary

location is in our Princeton Junction, NJ facility. Our International segment has approximately 40 offices including locations in Belgium, Brazil, France, Germany, Greece, India, the Netherlands, and the United Kingdom. We believe that all of our facilities are well maintained and are suitable and adequate for our current needs.

ITEM 3.

LEGAL PROCEEDINGS

We are subject to periodic legal proceedings, investigations and claims that arise in the ordinary course of business. See “Litigation” in Note 18 — Commitments and Contingencies to our audited consolidated financial statements contained in Item 8 of this Annual Report for a description of legal proceedings involving us and our business, which is incorporated herein by reference.

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## ITEM 4. MINE SAFETY DISCLOSURES

None.

## ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASE OF EQUITY SECURITIES

## Market for Common Stock

Our common stock currently trades on the New York Stock Exchange (NYSE) under the ticker symbol "MG." The following table sets forth for the periods indicated the range of high and low sales prices, based on closing stock price, of our common stock.

	Year ended December 31, 2017	
	High	Low
Quarter ended March 31, 2017	\$26.33	\$20.00
Quarter ended June 30, 2017	\$22.78	\$20.54
Quarter ended September 30, 2017	\$22.51	\$17.12
Quarter ended December 31, 2017	\$23.47	\$20.38

	Transition period ended December 31, 2016	
Transition period:	High	Low
Quarter ended June 30, 2016 <sup>(1)</sup>	\$25.32	\$23.01
Quarter ended September 30, 2016	\$25.86	\$22.81
Quarter ended December 31, 2016	\$26.07	\$20.04

(1) The first quarter of the transition period ended December 31, 2016 (7-months) included only one month (June 1 - June 30, 2016) as a result of the change in our fiscal year-end.

	Year ended May 31, 2016		Year ended May 31, 2015	
	High	Low	High	Low
Quarter ended August 31,	\$ 20.14	\$ 13.88	\$ 25.04	\$ 20.70
Quarter ended November 30,	\$ 21.53	\$ 12.79	\$ 21.55	\$ 15.98
Quarter ended February 28,	\$ 22.59	\$ 18.42	\$ 21.50	\$ 15.87
Quarter ended May 31,	\$ 26.00	\$ 22.02	\$ 19.34	\$ 17.50

## Holders of Record

As of March 5, 2018, there were 8 holders of record of our Common Stock. The number of record holders was determined from the records of our transfer agent and does not include beneficial owners of common stock whose shares are held in the names of various security brokers, dealers, and registered clearing agencies. The transfer agent of our common stock is American Stock Transfer & Trust Company, 6201 15th Avenue, Brooklyn, New York 11219.

## Dividends

No cash dividends have been paid on our Common Stock to date. We currently intend to retain our future earnings, if any, to finance the expansion of our business and do not expect to pay any cash dividends in the foreseeable future.

#### Purchases of Equity Securities

The following sets forth the shares of our common stock we acquired during the fourth quarter of 2017 pursuant to the surrender of shares by employees to satisfy minimum tax withholding obligations in connection with the vesting of restricted stock units.

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Month Ending	Total Number of Shares (or Units) Purchased	Average Price Paid per Share (or Unit)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs <sup>(1)</sup>	Approximate dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs <sup>(2)</sup>
October 31, 2017	1,233	\$ 20.69	—	\$25,081,657
November 30, 2017	2,741	\$ 21.33	—	\$25,081,657
December 31, 2017	2,918	\$ 23.47	—	\$25,081,657

(1) On August 17, 2016, the Company entered into an agreement with its founder, Chairman and then Chief Executive Officer, Dr. Sotirios Vahaviolos, which provided for the Company to repurchase up to 1 million shares of its common stock from Dr.

Vahaviolos. The plan with Dr. Vahaviolos is included in the \$50.0 million of purchases authorized by our Board of Directors

described in footnote 2 below. The repurchasing of Dr. Vahaviolos shares were completed during the third quarter of 2017. (See Note 20 in the notes to consolidated financial statements in Item 8 of this Annual Report for further details).

(2) - On October 7, 2015, the Company announced that its Board of Directors approved a share repurchase plan, which authorizes the expenditure of up to \$50.0 million for the purchase of the Company's common stock.



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## ITEM 6. SELECTED FINANCIAL DATA

The following table presents selected financial data for the year ended December 31, 2017, the transition period ended December 31, 2016 as well as each of the last four fiscal years. This selected financial data should be read in conjunction with “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in Item 7 and the audited consolidated financial statements and the notes thereto in Item 8 in this Annual Report.

	For the year ended December 31, 2017 (1)	For the Transition period ended December 31, 2016 (2)	For the year ended May 31,			
			2016 (3)	2015 (3)	2014 (3)	2013 (4)
(\$ in thousands, except per share data)						
<b>Statement of Income Data:</b>						
Revenues	\$700,970	\$404,161	\$719,181	\$711,252	\$623,447	\$529,282
Gross profit	187,712	117,004	203,008	184,733	172,943	148,371
Income from operations	4,160	17,533	43,177	30,353	38,295	27,554
Net (loss) income attributable to Mistras Group, Inc.	\$(2,175 )	\$9,568	\$24,654	\$16,081	\$22,518	\$11,646
<b>Per Share Information:</b>						
Weighted average common shares outstanding:						
Basic	28,422	28,989	28,856	28,613	28,365	28,141
Diluted	28,422	30,125	29,891	29,590	29,324	29,106
(Loss) earnings per common share:						
Basic	\$(0.08 )	\$0.33	\$0.85	\$0.56	\$0.79	\$0.41
Diluted	\$(0.08 )	\$0.32	\$0.82	\$0.54	\$0.77	\$0.40
<b>Balance Sheet Data:</b>						
Cash and cash equivalents	\$27,541	\$19,154	\$21,188	\$10,555	\$10,020	\$7,802
Total assets	554,441	469,427	482,675	471,727	443,972	377,997
Total long-term debt and obligations under capital leases, including current portion	181,491	103,466	104,776	132,822	97,563	77,956
Total Mistras Group, Inc. stockholders’ equity	\$270,619	\$270,582	\$276,163	\$244,819	\$242,104	\$210,053
<b>Cash Flow Data:</b>						
Net cash provided by operating activities	\$55,239	\$30,259	\$68,124	\$49,840	\$36,873	\$43,503
Net cash used in investing activities	(102,797 )	(17,374 )	(16,752 )	(49,651 )	(38,005 )	(45,479 )
Net cash (used in) provided by financing activities	53,605	(12,869 )	(40,378 )	2,066	3,262	1,144

1- Includes pre-tax charges of \$21.0 million relating to special items. See the Income from Operations table in Item 7 for a description of these items. The impact of these items, net of taxes, on net income and diluted earnings per share was \$14.9 million and \$0.51, respectively, including a \$2.0 million tax charge related to the Tax Act.

2- Includes pre-tax charges of \$2.2 million relating to special items. The impact of these items, net of taxes, on net income and diluted earnings per share was (\$1.6) million and (\$0.05), respectively.



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3 - Includes pre-tax charges (benefits) of \$6.0 million in fiscal 2016, \$0.1 million in fiscal 2015 and \$(2.4) million in fiscal 2014 relating to special items. Net income was (decreased) increased by these items, net of taxes, by (\$3.2) million in fiscal 2016, \$1.0 million in fiscal 2015 and \$2.4 million in fiscal 2014, respectively. The (decrease) increase of these items on diluted earnings per share were (\$0.11) in fiscal 2016, \$0.03 in fiscal 2015 and \$0.08 in fiscal 2014, respectively.

4 - Includes pre-tax charges of \$7.8 million relating to: goodwill impairment charge of \$9.9 million and acquisition related benefit of (\$2.1 million). The impact of these items, net of taxes, on net income and diluted earnings per share was (\$8.3) million and (\$0.29), respectively.

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ITEM 7. MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATION

The following Management’s Discussion and Analysis (“MD&A”) provides a narrative of our results of operations for the year ended December 31, 2017 and the comparable period ended December 31, 2016, the transition period ended December 31, 2016 and the comparable period ended December 31, 2015 (which is referred to as “transition period 2015”) and the fiscal years ended May 31, 2016 and 2015, respectively, and our financial position as of December 31, 2017 and December 31, 2016, respectively. The MD&A should be read together with our consolidated financial statements and related notes included in Item 8 in this Annual Report on Form 10-K. Unless otherwise specified or the context otherwise requires, “Mistras,” “the Company,” “we,” “us” and “our” refer to Mistras Group, Inc. and its consolidated subsidiaries. The MD&A includes the following sections:

Forward-Looking Statements

Overview

Consolidated Results of Operations

Liquidity and Capital Resources

Critical Accounting Estimates

Recent Accounting Pronouncements

Forward-Looking Statements

This annual report on Form 10-K contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 (Securities Act), and Section 21E of the Securities Exchange Act of 1934 (Exchange Act). Such forward-looking statements include those that express plans, anticipation, intent, contingency, goals, targets or future development and/or otherwise are not statements of historical fact. See “Forward-Looking Statements” at the beginning of Item 1 of this Annual Report.

Overview

We offer our customers “one source for asset protection solutions”® and are a leading global provider of technology-enabled asset protection solutions used to evaluate the structural integrity and reliability of critical energy, industrial and public infrastructure. We combine industry-leading products and technologies, expertise in mechanical integrity (MI), Non-Destructive Testing (NDT), Destructive Testing (DT), mechanical and predictive maintenance (PdM) services, process and fixed asset engineering and consulting services, proprietary data analysis and our world class enterprise inspection database management and analysis software, PCMS, to deliver a comprehensive portfolio of customized solutions, ranging from routine inspections to complex, plant-wide asset integrity management and assessments. These mission critical solutions enhance our customers’ ability to comply with governmental safety and environmental regulations, extend the useful life of their assets, increase productivity, minimize repair costs, manage risk and avoid catastrophic disasters. Our operations consist of three reportable segments: Services, International and Products and Systems.

Services provides asset protection solutions predominantly in North America, with the largest concentration in the United States, followed by Canada, consisting primarily of NDT, inspection, mechanical and engineering services that are used to evaluate the structural integrity and reliability of critical energy, industrial and public infrastructure.

International offers services, products and systems similar to those of the other segments to select markets within Europe, the Middle East, Africa, Asia and South America, but not to customers in China and South Korea, which are served by the Products and Systems segment.

Products and Systems designs, manufactures, sells, installs and services the Company's asset protection products and systems, including equipment and instrumentation, predominantly in the United States.

Given the role our solutions play in ensuring the safe and efficient operation of infrastructure, we have historically provided a majority of our services to our customers on a regular, recurring basis. We serve a global customer base of companies with asset-intensive infrastructure, including companies in the oil and gas (downstream, midstream, upstream and petrochemical), commercial aerospace and defense, power generation (natural gas, fossil, nuclear, alternative, renewable, and transmission and distribution), public infrastructure, chemicals, transportation, primary metals and metalworking, pharmaceutical/biotechnology and food processing industries and research and engineering institutions. As of December 31, 2017, we had approximately

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6,000 employees in approximately 120 offices across 14 countries. We have established long-term relationships as a critical solutions provider to many of the leading companies in our target markets.

For the last several years, we have focused on introducing our advanced asset protection solutions to our customers using proprietary, technology-enabled software and testing instruments, including those developed by our Products and Systems segment. During this period, the demand for outsourced asset protection solutions, in general, has increased, creating demand from which our entire industry has benefited. We believe continued growth can be realized in all of our target markets. Concurrent with this growth, we are working on building our infrastructure to profitably absorb additional growth and have made a number of acquisitions in an effort to leverage our fixed costs, grow our base of experienced, certified personnel, expand our product and technical capabilities and increase our geographical reach.

We have increased our capabilities and the size of our customer base through the development of applied technologies and managed support services, organic growth and the integration of acquired companies. These acquisitions have provided us with additional products, technologies, resources and customers that we believe will enhance our advantages over our competition.

### Note about Non-GAAP Measures

In this MD&A under the heading "Income from Operations", the non-GAAP financial performance measure "Income before special items" is used for each of our three segments, the Corporate segment and the Total Company, with tables reconciling the measure to a financial measure under GAAP. This non-GAAP measure excludes from the GAAP measure "Income from Operations" (a) transaction expenses related to acquisitions, such as professional fees and due diligence costs, (b) the net changes in the fair value of acquisition-related contingent consideration liabilities, (c) impairment charges and (d) other special items. These special items have been excluded from the GAAP measure because these expenses and credits are not related to the Company's or Segment's core business operations. The acquisition related costs and special items can be a net expense or credit in any given period.

We believe investors and other users of our financial statements benefit from the presentation of "Income before special items" for each of our three segments, the Corporate segment and the Total Company in evaluating our performance. Income before special items excludes the identified special items, which provides additional tools to compare our core business operating performance on a consistent basis and measure underlying trends and results in our business. Income before special items is not used to determine incentive compensation for executives or employees, nor is it a replacement for GAAP and/or comparable to other companies non-GAAP financial measures.

### Consolidated Results of Operations

On January 3, 2017, the Company's Board of Directors approved a change in the Company's fiscal year end from May 31 to December 31, effective December 31, 2016. In connection with this change, we previously filed a Transition Report on Form 10-K to report the results of the seven-month transition period from June 1, 2016 to December 31, 2016. In this report, the periods presented are the year ended December 31, 2017, the seven-month transition period from June 1, 2016 to December 31, 2016 and the years ended May 31, 2016 and 2015. For comparison purposes, we have also included unaudited data for the year ended December 31, 2016 and for the seven months ended December 31, 2015.

Year ended December 31, 2017 vs. Year ended December 31, 2016

The following table summarizes our consolidated statements of operations for the years ended December 31, 2017 and 2016:

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	For the year ended		
	December 31,		
	2017	2016	
		(unaudited)	
	(\$ in thousands)		
Revenues	\$700,970	\$684,762	
Gross profit	187,712	194,134	
Gross profit as a % of Revenue	27	%	28 %
Total operating expenses	183,552	168,588	
Operating expenses as a % of Revenue	26	%	25 %
Income from operations	4,160	25,546	
Income from operations as a % of Revenue	1	%	4 %
Interest expense	4,386	3,075	
(Loss) income before provision for income taxes			