

MECHANICAL TECHNOLOGY INC  
Form 10-K  
March 30, 2016

SLJK\*58522S

**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**  
**FOR THE FISCAL YEAR ENDED DECEMBER 31, 2015**  
**OR**  
**TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d)**  
**OF THE SECURITIES EXCHANGE ACT OF 1934**  
**FOR THE TRANSITION PERIOD FROM \_\_\_\_ TO \_\_\_\_**

**Mechanical Technology, Incorporated**  
**(Exact name of registrant as specified in its charter)**

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**New York**  
**(State or other jurisdiction  
of incorporation or organization)**

**000-06890**  
**(Commission File Number)**

**14-1462255**  
**(IRS Employer  
Identification No.)**

**325 Washington Avenue Extension, Albany, New York 12205**

**(Address of principal executive offices)**

**(518) 218-2550**

**(Registrant's telephone number, including area code)**

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

Title of each class	Name of each exchange on which registered
None	None

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

Common Stock

(\$0.01 par value)

Title of Class

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

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

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Indicate by checkmark whether the registrant has submitted electronically and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (Section 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yesx Noo

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (Section 229.405 of this chapter) is not contained herein, and will not be contained, to the best of the 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.

Large accelerated filer	Accelerated filer	Non-accelerated filer (Do not check if a smaller reporting company)
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Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes Nox

The aggregate market value of the voting and non-voting common equity held by non-affiliates as of June 30, 2015 (based on the last sale price of \$1.35 per share for such stock reported on the over-the-counter market for that date) was \$6,146,688.

As of March 22, 2016, the Registrant had 5,250,782 shares of common stock outstanding.

Documents incorporated by reference: Portions of the registrant's Proxy Statement for its 2016 Annual Meeting of Stockholders are incorporated by reference into Part III of this Form 10-K.



## INDEX TO FORM 10-K

### PART I

	<u>Page</u>
Item 1. <u>Business</u>	3
Item 1A. <u>Risk Factors</u>	7
Item 1B. <u>Unresolved Staff Comments</u>	13
Item 2. <u>Properties</u>	13
Item 3. <u>Legal Proceedings</u>	13
Item 4. <u>Mine Safety Disclosure</u>	13

### PART II

Item 5. <u>Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities</u>	14
Item 6. <u>Selected Financial Data</u>	14
Item 7. <u>Management's Discussion and Analysis of Financial Condition and Results of Operations</u>	14
Item 7A. <u>Quantitative and Qualitative Disclosures About Market Risk</u>	20
Item 8. <u>Financial Statements and Supplementary Data</u>	20
Item 9. <u>Changes in and Disagreements with Accountants on Accounting and Financial Disclosure</u>	20
Item 9A. <u>Controls and Procedures</u>	20
Item 9B. <u>Other Information</u>	21

### PART III

Item 10. <u>Directors, Executive Officers and Corporate Governance</u>	21
Item 11. <u>Executive Compensation</u>	21
Item 12. <u>Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters</u>	21

Item 13. Certain Relationships and Related Transactions, and Director Independence 22

Item 14. Principal Accounting Fees and Services 22

**PART IV**

Item 15. Exhibits, Financial Statement Schedules 23

## PART I

### Item 1: Business

*Unless the context requires otherwise in this Annual Report on Form 10-K, the terms the “Company,” “we,” “us,” and “our” refer to Mechanical Technology, Incorporated and “MTI Instruments” refers to MTI Instruments, Inc. Other trademarks, trade names, and service marks used in this Annual Report on Form 10-K are the property of their respective owners.*

Mechanical Technology, Incorporated, a New York corporation, was incorporated in 1961. The Company’s core business is conducted through MTI Instruments, Inc., a wholly-owned subsidiary incorporated in New York on March 8, 2000. The Company’s operations are headquartered in Albany, New York where it designs, manufactures, and markets its products globally.

The Company also owns a 47.5% interest, which as of December 31, 2015 has a fair value of \$0, in MeOH Power, Inc. (formerly MTI MicroFuel Cells, Inc.), which the Company operated as a subsidiary until December 31, 2013, at which time the majority interest was transferred to one of our directors. We do not expect our current interest in MeOH Power, Inc. to have a material impact on our results of operations or financial condition going forward.

MTI Instruments is a supplier of precision linear displacement solutions, vibration measurement and system balancing solutions, and wafer inspection tools. These tools and solutions are developed for markets that require the precise measurements and control of products processes for the development and implementation of automated manufacturing, assembly, and consistent operation of complex machinery.

As part of its strategy, MTI Instruments provides its customers with enabling sensors and sensing technologies that help advance manufacturing processes and new product development efforts. The demand for higher quality and lower cost products ranging from semiconductor chips to electronics and large items such as automobiles continues to drive Original Equipment Manufacturers (OEMs) and their suppliers to invest in technology and the capability to rapidly produce high quality products. The industry has moved towards flexible manufacturing doctrines around mass customization and production incorporating lean principles to reduce labor and waste, while increasing quality.

Modern manufacturing advances at a very rapid pace with the help of automation controls and precision sensing technologies for operating equipment, processes in factories, and other applications with minimal or reduced human intervention. OEMs find that using automation helps them not only improve on quality, but also can save labor, energy and materials while significantly improving accuracy and precision. In some industries like semiconductors, fabrication facilities are fully automated and are aided by humans on a low frequency basis.

Using a combination of integrated smart robotics, manufacturing lines, and a myriad of sensors that measure ongoing equipment performance, monitoring and drive controls have resulted in significant advancements in productivity and quality in manufacturing. There is no question that the world is moving from classic manufacturing and assembly towards automation and measurement.

MTI Instruments has decades of experience in working with OEMs and their subcontractors in the supply of sensor, instruments and systems technology to incorporate into OEMs' equipment and major companies' manufacturing processes as they develop and implement new process, quality and automation controls. The Company has moved to a customer and market-based approach by targeting leading companies in specific market segments including the industrial and consumer electronics, automotive and other precision automated manufacturing industries, turbo machinery and the research and development aspects within these markets for both product and process improvements.

This same approach is driving the demand for engine vibration measurement and balancing. Ongoing efforts to improve engine performance and lower fuel consumption drive both military and commercial axial turbo-machinery operators to maintain their equipment at peak performance.

These market drivers are also providing opportunity and demand for MTI to enhance current and develop new products and technologies. This has become a central theme in our supporting a larger, more complex customer base. Our efforts to become more capable and competitive in operations and quality are being met by our well defined approach to lean manufacturing principles and the achievement of International Organization for Standardization (ISO) ISO 9001:2008 certification in 2014.



As demand increases for higher quality, lower cost, and more efficient products, there is a world-wide need for OEMs to drive continuous improvement efforts through use of the most innovative manufacturing and assembly techniques in products and processes. Due to the level of precision required, these products or processes are managed through automated systems (Piezo positioners, robot guide, dielectric material/LED wafer inspection, etc.) and require precise measurement, data transmission, analysis and management.

MTI Instruments provides advanced, ultra precision linear displacement solutions that help customers achieve higher levels of efficiency through precision measurement systems that enable valuable data collection and allow process and quality control. We customize linear displacement solutions for OEMs that can be incorporated into a tool or equipment manufactured by a company to monitor performance and/or achieve control (“in product application”) or into a process to control the manufacture of parts or measure critical parameters of parts as they enter or leave a process (“in process applications”).

MTI Instruments is a preferred supplier for applications that require complex and extremely precise measurement of small, intricate targets and assemblies. MTI Instruments uses its significant track record and experience using capacitance, laser and fiber optic technologies to make accurate linear displacement measurements to the sub-nanometer level of accuracy. These advanced sensing and physical measurement technologies are used to produce products that range from basic sensors to complete, fully integrated measurement systems. Applications include precision positioning, material surface measurements, off-center vibration measurements, and pattern recognition analysis.

Listed below are selected MTI Instruments’ Automated Manufacturing product offerings and technologies:

	<b>Product Model</b>	<b>Description</b>
	Accumeasure Series	Ultra-high precision capacitive systems offering nanometer accuracy.
NEW	Microtrak 4	Single spot laser sensor equipped with the latest complementary-metal-oxide-semiconductor (CMOS) sensor technology with true digital data output.
	Microtrak PRO-2D	2D laser triangulation scanners that provide profile, displacement, and 3D images.
	MTI-2100 Fotonic Sensor Series	Fiber-optic based displacement sensor systems with high frequency response.
NEW	Accumeasure D Series	Ultra-high precision digital capacitive systems offering sub-nanometer accuracy.
	Microtrak TGS	Intuitive laser thickness systems using two single spot laser heads with digital linearization providing superb linearity.

### **Axial Turbo Machinery**

Turbo machines are categorized according to the type of flow. When the fuel and air flow is parallel to the axis of rotation, they are referred to as axial flow machines. MTI Instruments is a leader in the development and commercialization of vibration measurement and system balancing for axial type engines – typically medium and large turbo fan aircraft engines – for both military and commercial applications. In addition, we are exploring possibilities for expansion of its product offerings for a variety of applications within this market segment.

MTI Instruments designs and manufactures computer-based portable balancing systems (PBS) products which automatically collect and record engine vibration data, identifying vibration or balance trouble, and calculating a solution to the problem. These products are designed to quickly pinpoint engine vibration issues for improved fuel efficiency, lower maintenance cost and safety.

PBS products are used by major aircraft engine manufacturers, the U.S. and foreign militaries, and commercial airlines, as well as gas turbine manufacturers.

Listed below are selected MTI Instruments' Turbo Machinery product offerings and technologies:

<b>Product Model</b>	<b>Description</b>
PBS-4100+ Portable Balancing System	Provides easy to follow solutions for engine vibration and trim balancing problems.
PBS-4100R+ Test Cell Vibration Analysis & Trim Balancing System	Advanced trim balancing and diagnostics for engine test cells.
TSC-4800A Tachometer Signal Conditioner	Tachometer signal conditioner detects and conditions signals for monitoring, measuring, and indicating engine speeds.
1510A Calibrator	National Institute of Standards and Technology (NIST) traceable signal generator that outputs voltage signals useful to test and calibrate electronic equipment.

### **Industrial and Academic Research and Development (R&D)**

Present-day research and process development is a core part of the modern business world; critical decisions are made from data and discoveries made through these efforts. As companies understand and profit from the benefits of organized R&D efforts, they also make further commitments and investments into new R&D cycles making internal R&D budgets reach higher and higher levels. R&D is also a tool for modern companies to proactively leapfrog competition and keep pace with trends, enhance manufacturing processes, and develop products to meet new customer demands.

MTI Instruments has a long track record of working with private sector companies as well as academic institutions on their R&D efforts. We have a dedicated line of tabletop linear displacement instruments, material testers, and wafer metrology tools that help provide valuable information to enhance products and processes. Our family of R&D related products are used widely in applications including wafer surface metrology, nano-material testing, and precision linear displacement and positioning. Our customers include

testing and R&D departments in large industry and academia as well as process development laboratories focused in automotive, electronics, semiconductor, solar, and material development.

Listed below are MTI Instruments' Industrial and Academic Research and Development product offerings and technologies:

<b>Product Model</b>	<b>Description</b>
Accumeasure Digital Series	Ultra-high precision digital capacitive systems offering sub-nanometer accuracy.
Accumeasure Analog Series	Ultra-high precision capacitive displacement systems offering nanometer accuracy.
Semtester Tensile Stages	Tensile testers specifically designed for use inside SEM (scanning electron microscopes) and light microscopes.
Microtrak 4 NEW	Single spot laser sensor equipped with the latest CMOS sensor technology with true digital data output.
Proforma 300i	Manual, non-contact measurement of semiconductor wafer thickness, TTV and bow.
PV 1000	Manual tool for measuring thickness and bow of solar wafers.
MTI-2100 Fotonic Sensor Series	Fiber-optic based displacement sensor systems with high frequency response.

### Marketing and Sales

MTI Instruments markets its products and services using selected and specific channels of distribution. In the Americas, for precision automated manufacturing and the R&D sectors, MTI Instruments uses a combination of direct sales and representatives. Overseas, particularly in Europe and Asia, MTI Instruments uses distributors and agents specific to our targeted end markets. For axial turbo machinery, MTI Instruments primarily sells directly to end users.

To supplement these efforts, we use both commercial and industrial search engines, targeted newsletters, purchased customer lists and participation in trade shows to identify and expand our customer base.

Product Development

MTI Instruments continuously conducts research to develop new and advance existing technologies in support of its business strategy. Along with innovation as a key hallmark to its efforts, we carefully consider a number of factors including customer needs, product or technology uniqueness, market trends, costs, the competitive landscape, and creative marketing and communications plans in developing our products. We take a customer-centered approach in order to find new ways to solve customer needs, engage with customers directly, and create a loyal customer base while offering a more compelling value proposition.

In 2015, MTI Instruments launched its latest laser line to address market demand, the Microtrak 4, which features a “quick start” interface for easy setup and is powered directly by the user’s personal computer using its universal serial bus port (USB). The Microtrak 4 is available in four different models of laser heads with versions capable of measuring standard smooth surfaces, rough surfaces and glass thickness with models that range from 2mm to 20mm. We have priced this new product lower than similar product offerings by our competitors, even though the Microtrak 4 provides the same level of performance as competing products plus the ability to use its 2x exposure feature which provides extra accuracy when scanning very dark or highly shiny (mirror-like) targets.

The Microtrak 4 system has a sensor sampling rate of up to 40,000 samples per second and 0.03% full scale range (FSR) linearity accuracy via a USB connection - covering the majority of applications in our selected target markets. Overall, the last few years of product development for the optical based laser systems has proven successful – today, the Microtrak 4 series of products have been adopted and are being used by some of the largest consumer electronic assembly operations in Asia.

Following the 2014 launch of the Accumeasure D series, our engineers and scientists worked hand in hand to combine capacitance principles with modern enabling digital technology – the result, an ultra precise linear displacement capacitance system with a true digital output, and a range of sensing probes to accommodate a large range of customer applications. This series of products also offers a range of features that give customers the ability to quickly and easily set them up in production, thereby minimizing downtime while also providing internet connectivity conducive for automation.

In 2015, we have further improved our Accumeasure D product line to cover a variety of fast and growing dielectric (non-conductive) materials applications, i.e. glass, plastic sheet thickness and sapphire wafer thickness (used in white light-emitting diode (LED) manufacturing). Additionally, we continue to invest in the development of a system to measure defects in industrial tool and die threading that utilizes our Accumeasure D series of products. We expect to launch this product line extension in mid-2016.

We also developed and commercialized new enhancements in our PBS 4100+ product during 2015, including the capability to measure vibration and balance a number of turbo-shaft engines for rotary wing aircraft (helicopter), which has proven effective with several commercial customers.

With investments in research and product development, we seek to achieve a competitive position by continuously advancing our technology, producing new state-of-the-art precision measurement equipment, expanding our worldwide distribution, and providing intimate customer support. Management believes that MTI Instruments' success depends to a large extent on identifying market requirements, innovation, and utilizing our technological expertise to develop and implement new products.

### Product Manufacturing & Operations

We conduct research, product development and innovation, and manufacture our products, in the United States. While many companies in the sensor, instrument and systems markets have manufacturing operations overseas, MTI is and has always been a U.S. based manufacturing company. Products are conceived, developed, tested, and shipped out from our headquarters in Albany, New York.

Management believes that there are inherent advantages in keeping manufacturing in the U.S. including reducing the risk of inadvertent technology transfer, the ability to control manufacturing quality, and a much more effective customer management and satisfaction process. We have long-term vendor relationships and believe that most raw materials used in our products are readily available from a variety of vendors.

To prepare for future growth, we have also made strides in bringing a more flexible approach to manufacturing. While cross-training our employees in operations in different functional areas, management has also implemented lean principles on the manufacturing floor to increase capacity, productivity and throughput, eliminate waste, and quickly adapt to larger customers' demands while continuing to keep inventory levels under control. MTI has additional capabilities in its existing, flexible manufacturing space as production volumes increase. For example, in 2015, MTI Instruments increased capacity of the Accumeasure D operations by more than double in anticipation of new qualifications at key customers in the Americas, Asia and Europe.

In April 2014, the Company received initial ISO certification 9001:2008 and was recertified in April 2015. The certifications were authorized by TÜVRheinland®, an independent agency. To obtain these certifications, we underwent a rigorous five step process including preparation, documentation, implementation, internal audit, and final certification. The ISO 9001:2008 certification confirms our commitment to an effective management system and continuous improvement, a practice management believes is important for continuous growth.

### Intellectual Property and Proprietary Rights

We rely on trade secret and copyright laws to establish and protect the proprietary rights of our products. In addition, we enter into standard confidentiality agreements with our employees and consultants and seek to control access to and distribution of our proprietary information. Even with these precautions, however, it may be possible for a third party to copy or otherwise obtain and use our products or technology without authorization or to develop similar technology independently. In addition, effective copyright and trade secret protection may be unavailable or limited in certain foreign countries.

### Significant Customers

MTI Instruments' largest customer is an Asian distributor of our general instrumentation products. We also have strong relationships with companies in the electronics, aircraft, aerospace, automotive, semiconductor and research industries. The largest commercial customer in 2015 was the Asian distributor, who accounted for 6.8% of total product revenue in 2015. The largest commercial customer in 2014 was an Asian customer, who accounted for 8.3% of total product revenue in 2014. The largest government customer continues to be the U.S. Air Force, which accounted for 4.4% and 27.9%, respectively, of total product revenues during 2015 and 2014.

### Competition

We compete with several companies, several of which are substantially larger than MTI Instruments.

In the precision automated manufacturing market, MTI Instruments faces competition from companies including Keyence, Micro Epsilon, Schmitt Industries, Capacitec, and Lion Precision Instruments.

In axial turbo machinery, MTI Instruments competes with companies including ACES Systems and Meggitt Sensing Systems.

In R&D, competition includes companies in both precision linear displacement and material testing, including Gatan, Deben, and E+H (Eichhorn+Hausmann) GmbH.

The primary competitive considerations in MTI Instruments' markets are product quality, performance, price, timely delivery, responsiveness and the ability to identify, pursue and obtain new customers. MTI Instruments believes that its employees, product development skills, sales and marketing systems and reputation are competitive advantages.

## **Research and Development**



MTI Instruments conducts research and develops technology to support its existing products and develop new products. MTI incurred research and development costs of approximately \$1.5 million and \$1.3 million for the years ended December 31, 2015 and 2014, respectively. We expect to continue to invest in research and development in the future at MTI Instruments as part of our growth strategy.

## **Employees**

As of December 31, 2015, we had 34 employees including 29 full-time employees.

## **Item 1A: Risk Factors**

### **Factors Affecting Future Results**

This Annual Report on Form 10-K contains forward-looking statements that involve risks and uncertainties within the meaning of Section 27A of the Securities Act of 1933, as amended (Securities Act) and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. Any statements contained, or incorporated by reference, in this Annual Report on Form 10-K that are not statements of historical fact may be forward-looking statements. When we use the words “anticipate,” “estimate,” “plans,” “projects,” “continuing,” “ongoing,” “expects,” “management believes,” “we intend,” “should,” “could,” “may,” “will” and similar words or phrases, we are identifying forward-looking statements. Such forward-looking statements include, but are not limited to, statements regarding:

- anticipated growth, including in revenues and cash flows;
- the expected launching of the product-line extension of our Accumeasure D series of products during mid-2016;
- our expectations regarding the award of a new U.S. Air Force contract and the timing thereof;
- our expectations regarding the receipt of an anticipated product order;
- our ability to continue as a going concern;
- management’s belief that it will have adequate resources to fund the Company’s operations and capital expenditures over at least the next twelve months;
- projected taxable income and the ability to use deferred tax assets (currently held at a full valuation allowance);



- generating earnings in the future;
- that the Company should be able to generate sufficient cash flows to fund its active operations in the foreseeable future;
- the expectation that cost-cutting measures will be avoided;
- future capital expenditures and spending on research and development;
- needing to purchase equipment;
- expected funding of future cash expenditures; and
- the expected impact of our investment in MeOH Power, Inc.

Forward-looking statements involve risks, uncertainties, estimates and assumptions that may cause our actual results, performance or achievements to be materially different from those expressed or implied by forward-looking statements. Important factors that could cause these differences include the following:

- statements with respect to management's strategy and planned initiatives;
- sales revenue growth may not be achieved or maintained;
- the dependence of our business on a small number of customers and potential loss of government contracts - particularly in light of potential cuts that may be imposed as a result of U.S. government budget appropriations;
- our lack of long-term purchase commitments from our customers and the ability of our customers to cancel, reduce, or delay orders for our products;
- our inability to build and maintain relationships with our customers;
- our inability to develop and utilize new technologies that address the needs of our customers;
- our inability to obtain new credit facilities;
- the cyclical nature of the electronics and military industries;
- the uncertainty of the U.S. and global economy;
- the impact of future exchange rate fluctuations;
- failure of our strategic alliances to achieve their objectives or perform as contemplated and the risk of cancellation or early termination of such alliance by either party;
- the loss of services of one or more of our key employees or the inability to hire, train, and retain key personnel;
- risks related to protection and infringement of intellectual property;
- our occasional dependence on sole suppliers or a limited group of suppliers;
- our ability to generate income to realize the tax benefit of our historical net operating losses;
- risks related to the limitation of the use, for tax purposes, of our net historical operating losses in the event of certain ownership changes; and
- other risks discussed below.

Except as may be required by applicable law, we do not undertake or intend to update or revise our forward-looking statements, and we assume no obligation to update any forward-looking statements contained in, or incorporated by reference into, this Annual Report on Form 10-K as a result of new information or future events or developments. Thus, assumptions should not be made that our silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements.

## **Risk Factors**

*You should consider carefully the following risks, along with other information contained in this Annual Report on Form 10-K. The risks and uncertainties described below are not the only ones that may affect us. Additional risks and uncertainties also may adversely affect our business and operations including those discussed in the heading “Factors Affecting Future Results” above. Any of the following events, should they actually occur, could materially and adversely affect our business and financial results.*

*If we are unsuccessful at addressing our business challenges, we may not achieve or maintain profitability in the future, our business and results of operations and financial condition may be adversely affected and our ability to invest in and grow our business could be limited.*

We have incurred significant operating and net losses since our inception. We incurred a net loss of \$2.8 million during the year ended December 31, 2015 and had an accumulated deficit of \$120.6 million as of such date. In order to achieve and maintain profitability and improve liquidity, we must successfully achieve all or some combination of the following initiatives: increasing sales, developing new products, controlling operating expenses, managing our cash flows, successfully obtaining new credit facilities, improving operational efficiency and estimating and projecting accurately our liquidity and capital resources. In “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Management’s Plan, Liquidity and Capital Resources” in this Annual Report on Form 10-K, we made estimates regarding our cash flow and results of operations for the year ending December 31, 2016. If our cash flow or results of operations are less favorable than we have estimated, we may not be able to make all of our planned operating or capital expenditures or fully execute all of our other plans. Our financial success depends in part on management’s ability to execute our growth strategy. We expect that we will depend primarily on cash generated by our operations for funds to pay our expenses and any other indebtedness we may incur. Our ability to make these payments depends on our future performance, which will be affected by financial, business, economic and other factors, many of which we cannot control. Our business may not generate sufficient cash flows from operations in the future and our currently anticipated growth in revenues and cash flows may not be realized, either or both of which could result in our being unable to repay indebtedness or to fund other liquidity needs. If we do not have enough money, we may be required to sell assets or borrow money, in each case on terms that may not be acceptable to us. In addition, the terms of any future debt agreements, including new lines of credit, may restrict us from adopting any of these alternatives. Further, any significant levels of indebtedness in the future could place us at a competitive disadvantage compared to our competitors that may have access to additional resources or proportionately less debt and could make us more vulnerable to economic downturns and adverse developments in our business. Any future loss incurred by the Company could have a material adverse effect on our business and our ability to generate the cash needed to operate our business. Although we generated net income in 2011, 2013 and 2014, we had a net loss

during 2015 and prior to 2011 we had generated net losses since 1998, and we may not be able to achieve or sustain profitability in the future. If we do achieve profitability in the future, the level of any profitability cannot be predicted and may vary significantly from quarter to quarter and from year to year. Failure to continue to successfully implement these initiatives could prevent us from achieving and maintaining profitability and otherwise have a material adverse effect on our business plans, liquidity, results of operations and financial condition and may result in a downsize to the business. Further, even if implemented successfully there is no guarantee that our efforts in this regard would result in sustained and improving profitability.

***Our auditors have expressed substantial doubt as to our ability to continue as a going concern in their report.***

In its report on our consolidated financial statements for the year ended December 31, 2015, our independent registered public accounting firm included an explanatory paragraph expressing substantial doubt regarding our ability to continue as a going concern. A “going concern” opinion means, in general, that our independent registered public accounting firm has substantial doubt about our ability to continue our operations without continuing infusions of capital from external sources. This opinion could impair our ability to finance our operations through the sale of debt or equity securities or commercial bank loans, including though obtaining new lines of credit.

The consolidated financial statements do not include any adjustments that might be necessary should the Company be unable to continue as a going concern. If the going concern basis were not appropriate for these financial statements, adjustments would be necessary in the carrying value of assets and liabilities, the reported expenses and the balance sheet classifications used.

We believe that the going concern opinion resulted primarily from delays in entering into a new agreement with the U.S. Air Force (as discussed in Item 7: Management’s Discussion and Analysis of Financial Condition and Results of Operations ) and in a product order we are expecting but has not yet been placed, as well as our cancellation of our existing lines of credit on March 24, 2016, as further discussed in Item 7: Management’s Discussion and Analysis of Financial Condition and Results of Operations and elsewhere in this Annual Report. While we believe that we will enter into a new agreement with the U.S. Air Force during the second quarter of 2016 and that the new order we are expecting will be received, there can be no assurance that these events will happen; if one or both of these do not occur or our business strategy is not successful in addressing our current financial issues, and if we cannot continue as a going concern, our stockholders may lose their entire investment in us.

***We currently derive all of our product revenue from our MTI Instruments business.***

All of our revenue is currently derived from our MTI Instruments business. We do not have a broad portfolio of other products we could rely on to support operations if we were to experience a substantial slowdown in our MTI Instruments business, which is subject to a number of risks, including:

- dependence on a limited number of customers;
- a continued slowdown or cancellation of sales to the military as a result of a potential redeployment, or sequestration, of governmental funding;
- our ability to maintain, improve, or expand our channels of distribution;

- the potential failure to expand or maintain our business as a result of competition, a lack of brand awareness, or market saturation; and
- an inability to launch new products as a result of intense competition, uncertainty of new technology development, or limited or unavailable resources to fund development.

In addition, revenues from the sale of MTI Instruments' products can vary significantly from one period to the next. We may sell a significant amount of our products to one or a few customers for various short term projects in one period, and then have markedly decreased sales in following periods as these projects end or customers have the products they require for the foreseeable future. The fact that we sell a significant amount of our products to a limited number of customers also results in a customer concentration risk. The loss of any significant portion of such customers or a material adverse change in the financial condition of any one of these customers could have a material adverse effect on our revenues, our business and our ability to generate the cash needed to operate our business.

***We may not be able to enhance our product solutions and develop new product solutions in a timely manner.***

Our future operating results will depend to a significant extent on our ability to provide new products that compare favorably with alternative solutions on the basis of time to introduction, cost, performance, and end-user preferences. Our success in attracting and retaining customers and developing business will depend on various factors, including the following:

- innovative development of new products for customers;
- utilization of advances in technology;
- maintenance of quality standards;
- efficient and cost-effective solutions; and
- timely completion of the design and introduction of new products.

Our inability to develop new product solutions on a timely basis could harm our operating results and impede our growth.

***Our operating results may experience significant fluctuations.***

In addition to the variability resulting from the short-term nature of our customers' commitments, other factors contribute to significant periodic fluctuations in our results of operations. These factors include:

- the cyclical nature of the markets we serve;
- the timing and size of orders;
- the volume of orders relative to our capacity;
- product introductions and market acceptance of new products or new generations of products;



- evolution in the life cycles of our customers' products;
- timing of expenses in anticipation of future orders;
- changes in product mix;
- availability of manufacturing and assembly services;
- changes in cost and availability of labor and components;
- timely delivery of product solutions to customers;
- pricing and availability of competitive products;
- introduction of new technologies into the markets we serve;
- pressures on reducing selling prices;
- our success in serving new markets; and
- changes in economic conditions.

***If we do not keep pace with technological innovations, our products may not be competitive and our revenue and operating results may suffer.***

The electronic, semiconductor, solar, automotive and general industrial segments are subject to constant technological change. Our future success will depend on our ability to respond appropriately to changing technologies and changes in product function and quality. If we rely on products and technologies that are not attractive to end users, we may not be successful in capturing or retaining market share. Technological advances, the introduction of new products, and new design techniques could adversely affect our business prospects unless we are able to adapt to the changing conditions. Technological advances could render our products obsolete, and we may not be able to respond effectively to the technological requirements of evolving markets. As a result, we will be required to expend substantial funds for and commit significant resources to:

- continue research and development activities on all product lines;
- hire additional engineering and other technical personnel; and
- purchase advanced design tools and test equipment.

Our business could be harmed if we are unable to develop and utilize new technologies that address the needs of our customers, or our competitors do so more effectively than we do.

*Our efforts to develop new technologies may not result in commercial success and/or may result in delays in development, which could cause a decline in our revenue and could harm our business.*

Our research and development efforts with respect to our technologies may not result in customer or market acceptance. Some or all of those technologies may not successfully make the transition from the research and development lab to cost-effective production as a result of technology problems, competitive cost issues, yield problems, and other factors. Even when we successfully complete a research and development effort with respect to a particular technology, our customers may decide not to introduce or may discontinue products utilizing the technology for a variety of reasons, including the following:

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- difficulties with other suppliers of components for the products;
- superior technologies developed by our competitors and unfavorable comparisons of our solutions with these technologies;
- price considerations; and
- lack of anticipated or actual market demand for the products.

The nature of our business will require us to make continuing investments to develop new technologies. Significant expenses relating to one or more new technologies that ultimately prove to be unsuccessful for any reason could have a material adverse effect on us. In addition, any investments or acquisitions made to enhance our technologies may prove to be unsuccessful. If our efforts are unsuccessful, our business could be harmed.

***Continuing uncertainty of the U.S. and global economy may have serious implications for the growth and stability of our business.***

Revenue growth and continued profitability of our business will depend significantly on the overall demand for test and measurement instrumentations in key markets including research and development, automotive, semiconductor and electronics. Softening demand in these markets caused by ongoing economic uncertainty, a return to recessionary conditions, technological developments, competitive changes or other factors may result in decreased revenue or earnings levels. The U.S. and global economy has been historically cyclical and market conditions continue to be challenging, which has resulted in individuals and companies delaying or reducing expenditures. Further delays or reductions in spending could have a material adverse effect on demand for our products, and consequently on our business, financial condition, results of operations, prospects, stock price, and ability to continue to operate.

***Variability of customer requirements resulting in cancellations, reductions, or delays may adversely affect our operating results.***

We are required to provide rapid product turnaround and respond to short lead times. A variety of conditions, both specific to individual customers and generally affecting the demand for OEMs' products, may cause customers to cancel, reduce, or delay orders. Cancellations, reductions, or delays by a significant customer or by a group of customers could adversely affect our operating results. Conversely, if our customers unexpectedly and significantly increase product orders, we may be required to rapidly increase production, which could strain our resources and reduce our margins.

*The cyclical nature of the electronics and military industries may result in fluctuations in our operating results.*

The electronics and military industries have experienced significant economic downturns at various times. These downturns are characterized by diminished product demand, accelerated erosion of average selling prices, and production overcapacity. We may seek to reduce our exposure to industry downturns by providing design and production services for leading companies in rapidly expanding industry segments. We may, however, experience substantial period-to-period fluctuations in future operating results because of general industry conditions or events occurring in the general economy.

*International sales risks could adversely affect our operating results. Furthermore, our operating results could be adversely affected by fluctuations in the value of the U.S. dollar against foreign currencies.*

Having a worldwide distribution network for our products exposes us to various economic, political, and other risks that could adversely affect our operations and operating results, including the following:

- unexpected changes in regulatory requirements;
- timing to meet regulatory requirements;
- tariffs, duties and other trade barrier restrictions;
- greater difficulty in collecting accounts receivable;
- the burdens and costs of compliance with a variety of foreign laws;
- potentially reduced protection for intellectual property rights; and
- political or economic instability in certain parts of the world.

The risks associated with international sales could negatively affect our operating results.

We transact our business in U.S. dollars and bill and collect our sales in U.S. dollars. In 2015, approximately 34.6% of our revenue was from customers outside of the United States. A weakening of the dollar could cause our overseas vendors to require renegotiation of either the prices or currency we pay for their goods and services. Similarly, a strengthening of the dollar could cause our products to be more expensive for our international customers, which could impact price and margins and/or cause the demand for our products, and thus our revenue, to decline.



In the future, customers may negotiate pricing and make payments in non-U.S. currencies. If our overseas vendors or customers require us to transact business in non-U.S. currencies, fluctuations in foreign currency exchange rates could affect our cost of goods, operating expenses, and operating margins and could result in exchange losses. In addition, currency devaluation can result in a loss to us if we hold deposits of that currency. Hedging foreign currencies can be difficult, especially if the currency is not freely traded. We cannot predict the impact that future exchange rate fluctuations may have on our operating results.

***Our confidentiality agreements with employees and others may not adequately prevent disclosure of our trade secrets and other proprietary information, which could limit our ability to compete.***

We rely on trade secrets to protect our proprietary technology and processes. Trade secrets are difficult to protect. We enter into confidentiality and intellectual property assignment agreements with our employees, consultants, and other advisors. These agreements generally require that the other party keep confidential and not disclose to third parties confidential information developed by the party under such agreements or made known to the party by us during the course of the party's relationship with us. However, these agreements may not be honored and enforcing a claim that a party illegally obtained and is using our trade secrets is difficult, expensive and time-consuming, and the outcome is unpredictable. Our failure to obtain and maintain trade secret protection could adversely affect our competitive position.

***We depend on key personnel who would be difficult to replace, and our business will likely be harmed if we lose their services or cannot hire additional qualified personnel.***

Our success depends substantially on the efforts and abilities of our senior management and key personnel. The competition for qualified management and key personnel, especially engineers, is intense. Although we maintain non-competition and non-disclosure covenants with most of our key personnel, we do not have employment agreements with most of them. The loss of services of one or more of our key employees or the inability to hire, train, and retain key personnel, especially engineers, technical support personnel, and capable sales and customer-support employees outside the United States, could delay the development and sale of our products, disrupt our business, and interfere with our ability to execute our business plan.

***We may become subject to claims of infringement or misappropriation of the intellectual property rights of others, which could prohibit us from selling our products, require us to obtain licenses from third parties or to develop non-infringing alternatives, and subject us to substantial monetary damages and injunctive relief.***

We may receive notices from third parties that the manufacture, use, or sale of any products we develop infringes upon one or more claims of their patents. Moreover, because patent applications can take many years to issue, there may be currently pending applications, unknown to us, that may later result in issued patents that materially and adversely affect our business. Third parties could also assert infringement or misappropriation claims against us with respect to our future product offerings, if any. We cannot be certain that we have not infringed the intellectual property rights of any third parties. Any infringement or misappropriation claim could result in significant costs, substantial damages, and our inability to manufacture, market, or sell any of our product offerings that are found to infringe another person's patent. Even if we were to prevail in any such action, the litigation could result in substantial cost and diversion of resources that could materially and adversely affect our business. If a court determined, or if we independently discovered, that our product offerings violated third-party proprietary rights, there can be no assurance that we would be able to re-engineer our product offerings to avoid those rights or obtain a license under those rights on commercially reasonable terms, if at all. As a result, we could be prohibited from selling products that are found to infringe upon the rights of others. Even if obtaining a license were feasible, it may be costly and time-consuming. A court could also enter orders that temporarily, preliminarily, or permanently enjoin us from making, using, selling, offering to sell, or importing our products that are found to infringe on third parties' intellectual property rights, or could enter orders mandating that we undertake certain remedial actions. Further, a court could order us to pay compensatory damages for any such infringement, plus prejudgment interest, and could in addition treble the compensatory damages and award attorneys' fees. Any such payments could materially and adversely affect our business and financial condition.

***If we are unable to protect our information systems against service interruption or failure, misappropriation of data or breaches of security, our operations could be disrupted, we could be subject to costly government enforcement actions and private litigation and our reputation may be damaged.***

Our business involves the collection, storage and transmission of personal, financial or other information that is entrusted to us by our customers and employees. Our information systems also contain the Company's proprietary and other confidential information related to our business. Our efforts to protect such information may be unsuccessful due to the actions of third parties, computer viruses, physical or electronic break-ins, catastrophic events, employee error or malfeasance or other attempts to harm our systems. Because the techniques used to obtain unauthorized access, disable or degrade service, or sabotage systems, change frequently and often are not recognized until launched against a target, we may be unable to anticipate these techniques or to implement adequate preventative measures in time. We could also experience a loss of critical data and delays or interruptions in our ability to manage inventories or process transactions. Some of our commercial partners, such as those that help us maintain our websites, may receive or store information provided by us or our users through our websites. If these third parties fail to adopt or adhere to adequate information security practices, or fail to comply with our policies in this regard, or in the event of a breach of their networks, our customers' information may be improperly accessed, used or disclosed.

If our systems are harmed or fail to function properly, we may need to expend significant financial resources to repair or replace systems or to otherwise protect against security breaches or to address problems caused by breaches. If we experience a significant security breach or fail to detect and appropriately respond to a significant security breach, we could be exposed to costly legal actions against us in connection with such incidents, which could result in orders or judgments forcing us to pay damages or fines or to take certain actions with respect to our information systems. Any incidents involving unauthorized access to or improper use of user information, or incidents that are a violation of our online privacy could harm our brand reputation and diminish our competitive position. Any of these events could have a material and adverse effect on our business, reputation or financial results. Our insurance policies carry coverage limits, which may not be adequate to reimburse us for losses caused by security breaches.

***We experienced an ownership change in MeOH Power, Inc. that resulted in a limitation of tax attributes relating to the use of their net operating losses, and we may experience further ownership changes in MTI that would result in a further limitation of the use of our net operating losses.***

A corporation generally undergoes an “ownership change” when the ownership of its stock, by value, changes by more than 50 percentage points over any three-year testing period. In the event of an ownership change, Section 382 of the Internal Revenue Code of 1986 imposes an annual limitation on the amount of post-ownership change taxable income a corporation may offset with pre-ownership change net operating loss (NOL) carryforwards and certain recognized built-in losses.

We estimate that as of December 31, 2015, the Company and MTI Instruments have NOL carryforwards of approximately \$52.3 million. Our ability to utilize the MTI NOL carryforwards, including any future NOL carryforwards that may arise, may be limited by Section 382 if we undergo any further “ownership changes” as a result of subsequent changes in the ownership of our outstanding common stock pursuant to the exercise of MTI options outstanding, additional financings obtained, or otherwise.

***Our risk management process may not identify all risks that we are subject to and will not eliminate all risk.***

Our Enterprise Risk Management (ERM) process seeks to identify and address significant risks. Our ERM process uses the most recent integrated risk framework in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) to assess, manage, and monitor risks. We believe that risk-taking is an inherent aspect of the pursuit of our growth and performance strategy. Our goals are to proactively manage risks in a structured approach in conjunction with strategic planning, with the intent to preserve and enhance shareowner value, and to manage prudently, rather than wholly avoiding, risks. We can mitigate risks and their impact on the Company, however, only to a limited extent, and no ERM process can identify all risks that we may face. Therefore, there may be risks that we are currently unaware of, that may develop in the future or that we



currently consider immaterial. Further, our management of risks may prove inadequate. The emergence of risks of which we were unaware or are unable to manage could have a material adverse effect on our business, prospectus, financial condition and results of operations.

**Item 1B: Unresolved Staff Comments**

Not applicable.

**Item 2: Properties**

We lease approximately 17,400 square feet of office, manufacturing and research and development space at 325 Washington Avenue Extension, Albany, NY 12205. The current lease agreement expires on November 30, 2019. We believe our facilities are generally well maintained and adequate for our current needs and for expansion, if required.

**Item 3: Legal Proceedings**

At any point in time, we may be involved in various lawsuits or other legal proceedings. Such lawsuits could arise from the sale of products or services or from other matters relating to our regular business activities, compliance with various governmental regulations and requirements, or other transactions or circumstances. We do not believe there are any such proceedings presently pending that could have a material effect on our business, financial condition or results of operations.

**Item 4: Mine Safety Disclosure**

Not applicable.



## PART II

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

(a)

#### Market Information

Our common stock is quoted on the OTC Markets Group quotation system (OTCQB: MKTY) on the OTCQB venture stage marketplace for early stage and developing U.S. and international companies. We are current in our reporting and undergo an annual verification and management certification process. Investors can find Real-Time quotes and market information for the Company on [www.otcmarkets.com](http://www.otcmarkets.com). The following table sets forth the high and low bid information for our common stock as reported on the OTC Market Group quotation system for the periods indicated:

	High	Low
<b>Fiscal Year Ended December 31, 2015</b>		
First Quarter	\$ 1.20	\$ 0.70
Second Quarter	1.49	0.86
Third Quarter	1.36	1.06
Fourth Quarter	1.29	0.20
<b>Fiscal Year Ended December 31, 2014</b>		
First Quarter	\$ 1.83	\$ 0.88
Second Quarter	1.66	1.01
Third Quarter	1.38	0.90
Fourth Quarter	1.18	0.64

#### Holders

We have one class of common stock, par value \$.01, and are authorized to issue 75,000,000 shares of common stock. Each share of the Company's common stock is entitled to one vote on all matters submitted to stockholders. As of December 31, 2015, there were 5,258,883 shares of common stock issued and outstanding. As of February 18, 2016, there were approximately 209 shareholders of record of the Company's common stock. The number of shareholders of record does not reflect the number of persons whose shares are held in nominee or "street" name accounts through brokers.

## **Dividends**

We have never declared or paid dividends on our common stock and do not anticipate or contemplate paying cash dividends on our common stock in the foreseeable future. We currently intend to use all available funds to develop our business. We can give no assurances that we will ever have excess funds available to pay dividends. Any future determination as to the payment of dividends will depend upon critical requirements and limitations imposed by our credit agreements, if any, and such other factors as our Board of Directors may consider.

## **Item 6: Selected Financial Data**

Not applicable.

## **Item 7: Management's Discussion and Analysis of Financial Condition and Results of Operations**

*The following discussion of our financial condition and results of operations should be read in conjunction with our Consolidated Financial Statements and the related notes included elsewhere in this Annual Report. This discussion contains forward-looking statements, which involve risk and uncertainties. Our actual results could differ materially from those anticipated in the forward-looking statements as a result of certain factors, including those discussed in Item 1A: "Risk Factors" and elsewhere in this Annual Report.*

## Overview

MTI's core business is conducted through our wholly-owned subsidiary MTI Instruments, Inc. MTI Instruments is a supplier of precision linear displacement sensors, instruments and system solutions, vibration measurement and system balancing solutions, precision tensile measurement systems and wafer inspection tools, serving markets that require 1) the precise measurements and control of products and processes in automated manufacturing, assembly, and consistent operation of complex machinery, 2) metrology tools for semiconductor and solar wafer characterization, 3) tensile stage systems for materials testing and precision linear displacement gauges all for use in academic and industrial research and development settings, and 4) engine balancing and vibration analysis systems for both military and commercial aircraft.

We are continuously working on ways to increase our sales reach, including expanded worldwide sales coverage and enhanced internet marketing.

## Recent Developments

On June 11, 2015, the Board of Directors of the Company approved a share repurchase program of up to 525,000 shares of its outstanding shares of common stock. Stock may be purchased from time to time, in the open market or through private transactions, as market conditions warrant. Such stock repurchases, if and when commenced, may be suspended or discontinued at any time. Any repurchased shares will be held as treasury stock and available for general corporate purposes.

On June 16, 2015, the Company entered into a Loan Agreement with Bank of America, N.A. (the Bank) to replace its previous line of credit with the Bank. See “– Management’s Plan, Liquidity and Capital Resources – Debt” for additional information.

On December 28, 2015, the Company entered into a stock repurchase plan with a registered broker-dealer in accordance with Rule 10b5-1 of the Securities Exchange Act of 1934, as amended, in accordance with the Company’s previously-announced authorization by its Board approving the Company’s repurchase of up to 525,000 of its outstanding shares of common stock. Pursuant to the stock repurchase plan, the broker-dealer will have the authority to repurchase on the Company’s behalf a portion of the shares of common stock authorized by the Board for repurchase. The timing and extent of the repurchases under the repurchase plan are subject to certain price, market volume and other constraints specified in the plan.

**Results of Operations*****Results of Operations for the Year Ended December 31, 2015 Compared to the Year Ended December 31, 2014.***

The following table summarizes changes in the various components of our net (loss) income during the year ended December 31, 2015 compared to the year ended December 31, 2014.

(Dollars in thousands)	<b>Year</b>	<b>Year</b>	<b>\$</b>	<b>%</b>
	<b>Ended</b>	<b>Ended</b>		
	<b>December</b>	<b>December</b>	<b>Change</b>	<b>Change</b>
	<b>31,</b>	<b>31,</b>		
	<b>2015</b>	<b>2014</b>		
Product revenue	\$ 6,330	\$ 8,781	\$ (2,451)	(27.9)%
Operating costs and expenses:				
Cost of product revenue	\$ 2,475	\$ 3,284	\$ (809)	(24.6)%
Research and product development expenses	\$ 1,546	\$ 1,346	\$ 200	14.9%
Selling, general and administrative expenses	\$ 3,779	\$ 3,586	\$ 193	5.4%
Operating (loss) income	\$ (1,470)	\$ 565	\$ (2,035)	(360.2)%
Other (expense) income, net	\$ (2)	\$ 135	\$ (137)	(101.5)%
(Loss) income before income taxes	\$ (1,472)	\$ 700	\$ (2,172)	(310.3)%
Income tax (expense) benefit	\$ (1,360)	\$ 40	\$ (1,400)	(3,500.0)%
Net (loss) income	\$ (2,832)	\$ 740	\$ (3,572)	(482.7)%

**Product Revenue:** Product revenue consists of revenue recognized from our various product lines.

The \$2.5 million decrease in product revenue during the year ended December 31, 2015 compared to 2014 was attributable to \$2.3 million less in U.S. Air Force business due to the expiration of prior contracts with the U.S. Air Force and delays associated with our entry into a new contract with the U.S. Air Force to replace the expired ones (see below), as well as reduced instrument shipments to Asia resulting from the weakness in the Asian economies. Sales from new products during 2015 did not fully offset these decreases. For the year ended December 31, 2015, the largest commercial customer was an Asian distributor of our general instrumentation products, which accounted for 6.8% of the annual product revenue. In 2014, the largest commercial was an Asian customer, which accounted for 8.3% of product revenue during the year ended December 31, 2014. The U.S. Air Force was the largest government customer for the years ended December 31, 2015 and 2014, and accounted for 4.4% and 27.9%, respectively, of annual product revenue.

Information regarding government contracts included in product revenue is as follows:

(Dollars in thousands)

Contract <sup>(1)</sup>	Expiration	Revenues for the		Contract Revenues	Total Contract
		2015	2014	to Date	Orders Received
		Year Ended	Year Ended	Date	To Date
		December 31,	December 31,	December 31,	December 31,
		2015	2014	2015	2015
\$6.5 million U.S. Air Force Maintenance	09/27/2014 <sup>(2)</sup>	\$ 5	\$ 731	\$ 5,006	\$ 5,006
\$4.1 million U.S. Air Force Systems	08/29/2015 <sup>(2)</sup>	\$__	\$1,539	\$ 2,793	\$ 2,793
\$917 thousand U.S. Air Force Kit	09/30/2014 <sup>(2)</sup>	\$__	\$ __	\$ 769	\$ 769

(1) Contract values represent maximum potential values at time of contract placement and may not be representative of actual results.

(2) Date represents expiration of contract, including the exercise of option extensions. At this time, no additional orders are expected under any of these specific contracts.

On March 16, 2016, we received the 2015 solicitation request for proposal by the U.S. Air Force as a follow up to the two aforementioned maintenance and systems contracts which had expired. This current solicitation is for a five year supply of the PBS 4100+ systems, accessories and maintenance and we expect the U.S. Air Force to make a decision in this regard, and that we will enter into a new agreement with the U.S. Air Force, during the second quarter of 2016.

**Cost of Product Revenue:** Cost of product revenue includes the direct material and labor cost as well as an allocation of overhead costs that relate to the manufacturing of products we sell. In addition, cost of product revenue also includes the labor and material costs incurred for product maintenance, replacement parts and service under our contractual obligations.

The \$809 thousand decrease in the cost of product revenue during the year ended December 31, 2015 compared to 2014 was primarily a result of the decreased sales as discussed above under *Product Revenue*. Gross profit, as a percentage of product revenue, decreased to 60.9% in 2015 compared to 62.6% in 2014 due to the composition of the current customer and product mix.

**Research and Product Development Expenses:** Research and product development expenses includes the costs of materials to build development and prototype units, cash and non-cash compensation and benefits for the engineering and related staff, expenses for contract engineers, fees paid to outside suppliers for subcontracted components and services, fees paid to consultants for services provided, materials and supplies consumed, facility related costs such as computer and network services, and other general overhead costs associated with our research and development activities, to the extent not reimbursed by our customers.

Research and product development expenses increased \$200 thousand during the year ended December 31, 2015 compared to 2014 due to additional staffing and increased material spending on current development projects.

**Selling, General and Administrative Expenses:** Selling, general and administrative expenses includes cash and non-cash compensation, benefits and related costs in support of our general corporate functions, including general management, finance and accounting, human resources, selling and marketing, information technology and legal services.

Selling, general and administrative expenses at MTI Instruments for the year ended December 31, 2015 increased by \$301 thousand, or 13.3%, to \$2.6 million in 2015 from \$2.3 million in 2014. This increase is the result of additional sales and engineering staffing, utilization of IT and sales application consultants, increased international travel and \$56 thousand in reserves established during 2015 for potentially uncollectible receivables.

Selling, general and administrative expenses incurred by the Corporate Entity for the year ended December 31, 2015 decreased by \$108 thousand, or 8.2%, to \$1.2 million in 2015 from \$1.3 million in 2014. This decrease is primarily



the result of decreased incentive compensation benefits for executive officers and professional fees.

***Operating (Loss) Income:*** We had an operating loss of \$2 thousand for the year ended December 31, 2015 compared to operating income of \$365 thousand in 2014. The decrease in operating income was a result of the factors noted above, primarily the decrease in product revenue.

**Other (Expense) Income:** Other expense was \$2 thousand for the year ended December 31, 2015 compared to other income of \$135 thousand in 2014. The increase in other expense primarily relates to a \$122 thousand reduction of the allowance on the MeOH Power, Inc. note receivable during 2014 for funds received in 2014 and early 2015 related to New York State tax refunds. See Note 13 of our Consolidated Financial Statements in this Annual Report on Form 10-K for further information on this note receivable.

**Income Tax (Expense) Benefit:** Income tax expense for the year ended December 31, 2015 was \$1.4 million and primarily relates to the increase in the valuation allowance against the previously recognized \$1.3 million deferred tax asset. Our effective income tax rate for the year ended December 31, 2015 was 92%. Income tax benefit for the year ended December 31, 2014 was \$40 thousand and consists primarily of a \$210 thousand New York State tax refund and \$165 thousand in tax expense related to the utilization of our deferred tax assets. Our effective income tax rate for the year ended December 31, 2014 (6)%.

**Net (Loss) Income:** Net loss for the year ended December 31, 2015 was \$2.8 million compared to net income of \$740 thousand in 2014. The increase in net loss is primarily attributable to the decrease in product revenue as well as the increase in the valuation allowance against the previously recognized \$1.3 million deferred tax asset.

## Management's Plan, Liquidity and Capital Resources

Several key indicators of our liquidity are summarized in the following table:

(Dollars in thousands)	Years Ended December 31,	
	2015	2014
Cash	\$ 462	\$ 1,923
Working capital	1,413	2,763
Net (loss) income	(2,832)	740
Net cash (used in) provided by operating activities	(1,426)	686
Purchase of property, plant and equipment	(55)	(77)

The Company has historically incurred significant losses (the majority, until 2012, stemming from the direct methanol fuel cell product development and commercialization programs of its former subsidiary, MeOH Power, Inc.) and had a consolidated accumulated deficit of \$120.6 million as of December 31, 2015. Management believes that the Company currently has adequate resources to avoid cost cutting measures that could adversely affect the business. As of December 31, 2015, we had no debt, no outstanding commitments for capital expenditures and approximately \$462 thousand of cash available to fund our operations.

If production levels rise at MTI Instruments, additional capital equipment may be required in the foreseeable future. We expect to spend approximately \$125 thousand on capital equipment and \$1.5 million in research and development on MTI Instruments' products during 2016. We expect to finance any future expenditures and continue funding our operations from our current cash position and our projected 2016 cash flow pursuant to management's current plan. We may also seek to supplement our resources by renegotiating or obtaining new credit facilities. The Company has no other formal commitments for funding future needs of the organization at this time and such additional financing during 2016, if required, may not be available to us on acceptable terms or at all.

While it cannot be assured, management believes that, due in part to our current working capital level, recent replacements in sales and engineering staff, effective inventory management and stabilized spending, the Company should be able to generate sufficient cash flows to fund the Company's active operations for the foreseeable future, even in the absence of lines of credit following the termination of our existing lines with the Bank. However, if our revenue estimates are off either in timing or amount, the Company may need to implement additional steps to ensure liquidity including, but not limited to, the deferral of planned capital spending and/or delaying existing or pending product development initiatives. Such steps, if required, could potentially have a material and adverse effect on our business, results of operations and financial condition. See Note 1 to the consolidated financial statements included in this report for additional information regarding liquidity and going concern.

### ***Debt***

On June 16, 2015, the Company entered into a Loan Agreement (the Loan) with Bank of America, N.A. to replace its previous line of credit with the Bank. The Loan contained three different line of credit facilities for use in future capital requirements and strategic initiatives, and under their terms were available until July 31, 2016, and subject to renewal. As of December 31, 2015, there were no amounts outstanding under these credit facilities. See Note 15 to the consolidated financial statements included in this report for additional information regarding these credit facilities.

During the first quarter of 2016, we entered into discussions with the Bank to strengthen the lines of credit and re-align their terms to be more consistent with our current business plan. During such discussions, the Bank informed the Company that based on its results for 2015 it was not in compliance with certain financial covenants of the Loan. Since an agreement on new covenants could not be reached, the Company decided that the lines of credit could not be utilized and therefore were terminated by the Company on March 24, 2016. There were no amounts outstanding under the credit facilities at the time of cancellation.

### ***Backlog, Inventory and Accounts Receivable***

At December 31, 2015, the Company's order backlog was \$234 thousand, compared to \$665 thousand at December 31, 2014. The decrease in backlog was due to a semiconductor metrology tool and several large capacitance product orders that were awaiting shipment at December 31, 2014.

Our inventory turnover ratios and average accounts receivable days outstanding for the years ended December 31, 2015 and 2014 and their changes are as follows:

	<b>Years Ended December 31,</b>		
	<b>2015</b>	<b>2014</b>	<b>Change</b>
Inventory turnover	2.6	3.9	(1.3)
Average accounts receivable days outstanding	53	39	14

The decrease in inventory turns is due to an 8% increase in average inventory balances in anticipation of orders from Asia.

The average accounts receivable days' outstanding increased 14 days in 2015 compared with 2014 due to the aforementioned decrease in sales to the U.S. Government, which pays within 30 days.

### **Off-Balance Sheet Arrangements**

We have no off balance sheet arrangements.

### **Critical Accounting Policies and Significant Judgments and Estimates**

The prior discussion and analysis of our financial condition and results of operations is based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America. Note 2 of the Consolidated Financial Statements included in this Annual Report on Form 10-K includes a summary of our most significant accounting policies. The preparation of these consolidated financial statements requires management to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue, expenses, and related disclosure of assets and liabilities. On an ongoing basis, we evaluate our estimates and judgments, including those related to revenue recognition, inventories, income taxes and share-based compensation. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. Periodically, our management reviews our critical accounting estimates with the Audit Committee of our Board of Directors.

The significant accounting policies that we believe are most critical to aid in fully understanding and evaluating our consolidated financial statements include the following:

**Revenue Recognition.** We recognize product revenue when there is persuasive evidence of an arrangement, delivery of the product to the customer or distributor has occurred, at which time title generally is passed to the customer or distributor, and we have determined that collection of a fixed fee is probable, all of which occur upon shipment of the product. If the product requires that we provide installation, all revenue related to the product is deferred and recognized upon the completion of the installation.

**Inventory.** Inventory is valued at the lower of cost or the current estimated market value of the inventory. We periodically review inventory quantities on hand and record a provision for excess or obsolete inventory based primarily on our estimated forecast of product demand, as well as based on historical usage. Demand and usage for products and materials can fluctuate significantly. A significant decrease in demand for our products could result in a short-term increase in the cost of inventory purchases and an increase of excess inventory quantities on hand. Therefore, although we make every effort to assure the accuracy of our forecasts of future product demand, any significant unanticipated changes in demand could have a significant impact on the value of our inventory and our reported operating results. If changes in market conditions result in reductions in the estimated net realizable value of our inventory below our previous estimate, we would increase our reserve in the period in which we made such a determination and record a charge to cost of product revenue.



**Share-Based Payments.** We grant options to purchase our common stock and award restricted stock to our employees and directors under our equity incentive plans. The benefits provided under these plans are share-based payments subject to the appropriate accounting provisions regarding Share-Based Payments. We use the fair value method of accounting with the modified prospective application, which provides for certain changes to the method for valuing share-based compensation. The valuation provisions apply to new awards and to awards that are outstanding on the effective date and subsequently modified. Under the modified prospective application, prior periods are not revised for comparative purposes.

We estimate the fair value of share-based awards on the date of grant using a Black-Scholes option-pricing model. The determination of the fair value of share-based payment awards on the date of grant using an option-pricing model is affected by our stock price as well as assumptions regarding a number of complex and subjective variables. These variables include our expected stock price volatility over the term of the awards, actual and projected employee stock option exercise behaviors, risk-free interest rate, and expected dividends.

If factors change and we employ different assumptions for the accounting methodology during future periods, the compensation expense that we record may differ significantly from what we have recorded in the current period. Therefore, we believe it is important for investors to be aware of the high degree of subjectivity involved when using option-pricing models to estimate share-based compensation. Option-pricing models were developed for use in estimating the value of traded options that have no vesting or hedging restrictions, are fully transferable and do not cause dilution. Because our share-based payments have characteristics significantly different from those of freely traded options, and because changes in the subjective input assumptions can materially affect our estimates of fair values, in our opinion, existing valuation models, including the Black-Scholes Option Pricing model, may not provide reliable measures of the fair values of our share-based compensation. Consequently, there is a risk that our estimates of the fair values of our share-based compensation awards on the grant dates may bear little resemblance to the intrinsic values realized upon the exercise, expiration, cancellation, or forfeiture of those share-based payments in the future. Certain share-based payments, such as employee stock options, may expire worthless or otherwise result in zero intrinsic value as compared to the fair values originally estimated on the grant date and expensed in our financial statements. Alternatively, value may be realized from these instruments that are significantly in excess of the fair values originally estimated on the grant date and expensed in our financial statements. There currently is neither a market-based mechanism nor other practical application to verify the reliability and accuracy of the estimates stemming from these valuation models, nor a way to compare and adjust the estimates to actual values. Although the fair value of employee share-based awards is determined using a qualified option-pricing model, that value may not be indicative of the fair value observed in a willing buyer/willing seller market transaction. Estimates of share-based compensation expenses are significant to our financial statements, but these expenses are based on the aforementioned option valuation model and will never result in our payment of cash.

Theoretical valuation models and market-based methods are evolving and may result in lower or higher fair value estimates for share-based compensation. The timing, readiness, adoption, general acceptance, reliability, and testing of

these methods is uncertain. Sophisticated mathematical models may require voluminous historical information, modeling expertise, financial analyses, correlation analyses, integrated software and databases, consulting fees, customization, and testing for adequacy of internal controls.

For purposes of estimating the fair value of stock options granted during the twelve months ended December 31, 2015 using the Black-Scholes model, we used the historical volatility of our stock for the expected volatility assumption input to the Black-Scholes model, consistent with the accounting guidance. The risk-free interest rate is based on the risk-free zero-coupon rate for a period consistent with the expected option term at the time of grant. We do not currently pay nor do we anticipate paying dividends, but we are required to assume a dividend yield as an input to the Black-Scholes model. As such, we use a zero dividend rate. The expected option term is calculated as an average time to forfeiture for all grants.

**Income Taxes.** As part of the process of preparing our consolidated financial statements, we calculate income taxes for each of the jurisdictions in which we operate. This involves estimating actual current taxes due together with assessing temporary differences resulting from differing treatment for tax and accounting purposes that are recorded as deferred tax assets and liabilities. We periodically evaluate deferred tax assets, net operating loss carryforwards and tax credit carryforwards to determine their recoverability based primarily on our ability to generate future taxable income.

Significant management judgment is required in determining our provision for income taxes, our deferred tax assets and liabilities, and any valuation allowance recorded against our net deferred tax assets. We considered all available evidence, both positive and negative, such as historical levels of income and future forecasts of taxable income amongst other items in determining our valuation allowance. In addition, our assessment requires us to schedule future taxable income in accordance with accounting standards that address income taxes to assess the appropriateness of a valuation allowance, which further requires the exercise of significant management judgment.

We account for taxes in accordance with the asset and liability method of accounting for income taxes. Under this method, we must recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The tax benefits recognized in the financial statements from such a position are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate resolution. The impact of our reassessment of our tax positions for these standards did not have a material impact on our results of operations, financial condition, or liquidity.



### **Recent Accounting Pronouncements**

A discussion of recently adopted and new accounting pronouncements is included in Note 2 of the Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K.

### **Item 7A. Quantitative and Qualitative Disclosures About Market Risk**

Not applicable.

### **Item 8: Financial Statements and Supplementary Data**

The Company's Consolidated Financial Statements begin on page F-1 and are incorporated in this Item 8 by reference.

### **Item 9: Changes in and Disagreements with Accountants on Accounting and Financial Disclosure**

Not applicable.

### **Item 9A: Controls and Procedures**

**(a) Evaluation of Disclosure Controls and Procedures**

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of MTI's disclosure controls and procedures as of December 31, 2015. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. We recognize that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and we necessarily apply our judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of December 31, 2015, our Chief Executive Officer and Chief Financial Officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

**(b) Management's Report on Internal Control Over Financial Reporting**

Management of our Company is responsible for establishing and maintaining adequate internal control over financial reporting, as that term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f). Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Under the supervision and with the participation of our management, including the principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting using the criteria set forth in *Internal Control—Integrated Framework* (2013 version) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our evaluation using the criteria set forth in *Internal Control—Integrated Framework*, Management has concluded that our internal control over financial reporting was effective as of December 31, 2015.

This annual report does not include an attestation report of our registered public accounting firm regarding internal control over financial reporting. Our report was not subject to attestation by our independent registered public accounting firm pursuant to rules of the SEC that permit us to provide only Management's Report in this annual report.

/s/ Kevin G. Lynch  
Chief Executive Officer  
(Principal Executive Officer)

/s/ Frederick W. Jones  
Chief Financial Officer  
(Principal Financial Officer)

20

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**(c) Changes in Internal Control over Financial Reporting**

There have been no changes in our internal control over financial reporting, as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act, during our fiscal quarter ended December 31, 2015 that have materially affected, or are reasonable likely to materially affect, our internal control over financial reporting.

**Item 9B: Other Information**

As discussed in Item 7: “Management’s Discussion and Analysis of Financial Condition and Results of Operation,” effective March 24, 2016, the Company canceled its three existing credit facilities totaling \$2.5 million with Bank of America, N.A. following unsuccessful attempts to reach satisfactory terms during renegotiations of the lines. The Company did not incur any early termination penalties as a result of the cancellation and there were no amounts outstanding under these lines at termination.

Also effective March 24, 2016, as a result of its cancellation of its existing lines of credit, the Company terminated its stock repurchase plan pursuant to Rule 10b5-1 under the Exchange Act that it had entered into with a registered broker-dealer in December 2015. The June 2015 board authorization for the Company to repurchase up to 525,000 shares of its outstanding common stock remains in effect.

**PART III**

**Item 10: Directors, Executive Officers and Corporate Governance**

Code of Ethics: We have adopted a Code of Ethics for employees, officers and directors. A copy of the Code of Ethics is available on our website at <http://www.mechtech.com> under Investor Relations, Corporate Governance.

The remaining information required by this Item 10 is incorporated herein by reference to the information appearing under the captions “Information about our Directors,” “Executive Officers,” “Board of Director Meetings and Committees – Audit Committee” and “Section 16(a) Beneficial Ownership Reporting Compliance” in our definitive Proxy Statement for our 2016 Annual Meeting of Stockholders to be filed with the SEC on or before April 29, 2016.

**Item 11: Executive Compensation**

The information required by this Item 11 is incorporated herein by reference to the information appearing under the caption “Executive Compensation” in the Company’s definitive Proxy Statement for our 2016 Annual Meeting of Stockholders to be filed with the SEC on or before April 29, 2016.

**Item 12: Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters****Equity Compensation Plans**

As of December 31, 2015, we have five equity compensation plans, each of which was originally approved by our stockholders; the Mechanical Technology, Incorporated 1996 Stock Incentive Plan (the 1996 Plan), 1999 Employee Stock Incentive Plan (the 1999 Plan), 2006 Equity Incentive Plan (the 2006 Plan), the Mechanical Technology Incorporated 2012 Equity Incentive Plan (the 2012 Plan) and the Mechanical Technology Incorporated 2014 Equity Incentive Plan (the 2014 Plan). The 2006 Plan was amended and restated and approved by our Board of Directors in 2011 and 2009. We refer collectively to these as the Plans. See Note 11 of our Consolidated Financial Statements in this Annual Report on Form 10-K for a description of these Plans.

The following table presents information regarding these plans as of December 31, 2015:

Plan Category	Number of Securities To Be Issued Upon Exercise of Outstanding Options, Warrants, Rights <sup>(1)</sup> (a)	Weighted Average Exercise Price of Outstanding Options, Warrants, Rights (b)	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (excluding securities reflected in column (a)) <sup>(2)</sup> (c)
Equity compensation plans approved by security holders	818,565	\$ 0.78	280,436
Equity compensation plans not approved by security holders <sup>(3)</sup>	108,000	0.73	-0-



- (1) Under the 1996, 1999, 2006, 2012 and 2014 Plans, the securities available under the Plans for issuance and issuable pursuant to exercises of outstanding options may be adjusted in the event of a change in outstanding stock by reason of stock dividend, stock splits, reverse stock splits, etc.
- (2) The 2012 and 2014 Plans are the only plans under which future awards can currently be made.
  
- (3) Includes options outstanding under the 2006 Plan, which was amended by our Board of Directors without stockholder approval in 2009 and 2011 to increase the number of shares available for issuance thereunder. Under the 2006 Plan, the Board of Directors is authorized to issue stock options, stock appreciation rights, restricted stock, and other stock-based incentives to officers, employees and others. See Note 11 of our Consolidated Financial Statements in this Annual Report on Form 10-K for a further description of this Plan.

The remaining information required by this Item 12 is incorporated herein by reference to information appearing under the caption “Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters” in our definitive Proxy Statement for our 2016 Annual Meeting of Stockholders to be filed with the SEC on or before April 29, 2016.

### **Item 13: Certain Relationships and Related Transactions, and Director Independence**

The information required by this Item 13 is incorporated herein by reference to the information appearing under the captions “Certain Relationships and Related Transactions” and “Information about our Directors” in our definitive Proxy Statement for the 2016 Annual Meeting of Stockholders to be filed with the SEC on or before April 29, 2016.

### **Item 14: Principal Accounting Fees and Services**

The information required by this Item 14 is incorporated herein by reference to the information appearing under the caption “Independent Registered Public Accounting Firm” in our definitive Proxy Statement for the 2016 Annual

Meeting of Stockholders to be filed with the SEC on or before April 29, 2016.

22

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**PART IV**

**Item 15: Exhibits, Financial Statement Schedules**

**15(a) (1) Financial Statements:** The financial statements filed herewith are set forth on the Index to Consolidated Financial Statements on page F-1 of the separate financial section which accompanies this Report, which is incorporated herein by reference.

**15(a) (2) Financial Statement Schedules:** Financial statement schedules not listed have been omitted because they are either not required, not applicable, or the information has been included elsewhere in the consolidated financial statements or notes thereto.

**15(a) (3) Exhibits:** The exhibits listed in the Exhibit Index below are filed as part of this Annual Report on Form 10-K.

Exhibit Number	Description
3.1	Certificate of Incorporation of the registrant, as amended and restated (Incorporated by reference from Exhibit 3.1 of the Company's Form 10-K Report for the year ended December 31, 2007).
3.2	Certificate of Amendment of the Certificate of Incorporation of the registrant (Incorporated by reference from Exhibit 3.2 of the Company's Form 8-K Report filed May 15, 2008).
3.3	Amended and Restated By-Laws of the registrant (Incorporated by reference from Exhibit 3.3 of the Company's Form 8-K Report filed December 14, 2007).
10.1	Mechanical Technology, Incorporated 1996 Stock Incentive Plan (Incorporated by reference from Appendix A of the Company's Definitive Proxy Statement Schedule 14A filed November 19, 1996).*
10.2	Mechanical Technology, Incorporated 1999 Employee Stock Incentive Plan (Incorporated by reference from Exhibit A of the Company's Proxy Statement Schedule 14A filed February 13, 1999).*
10.3	Form of Restricted Stock Agreement for the 1996 and 1999 Mechanical Technology, Inc. Stock Incentive Plans (Incorporated by reference from Exhibit 10.140 of the Company's Form 8-K Report filed May 18, 2006).*
10.4	Mechanical Technology, Incorporated Amended and Restated 2006 Equity Incentive Plan (Incorporated by reference from Exhibit 10.1 of the Company's Form S-8 Registration Statement filed

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September 18, 2009).\*

- 10.5 Mechanical Technology, Incorporated Amended and Restated 2006 Equity Incentive Plan (Incorporated by reference from Exhibit 10.1 of the Company's Form S-8 Registration Statement (File No. 333-175406) filed July 8, 2011).\*
- 10.6 Form of Restricted Stock Agreement for Mechanical Technology, Incorporated Amended and Restated 2006 Equity Incentive Plan (Incorporated by reference from Exhibit 10.2 of the Company's Form 8-K Report filed July 11, 2011).\*
- 10.7 Mechanical Technology, Incorporated 2012 Equity Incentive Plan (Incorporated by reference from Exhibit 10.1 of the Company's Form S-8 Registration Statement (File No. 333-182730) filed July 18, 2012).\*
- 10.8 Form of Restricted Stock Agreement Notice for Board of Directors and Employees for Mechanical Technology, Incorporated 2012 Equity Incentive Plan (Incorporated by reference from Exhibit 10.2 of the Company's Form 10-Q Report for the quarter ended June 30, 2012).\*
- 10.9 Form of Incentive Stock Option Notice for Employees for Mechanical Technology, Incorporated 2012 Equity Incentive Plan (Incorporated by reference from Exhibit 10.3 of the Company's Form 10-Q Report for the quarter ended June 30, 2012).\*
- 10.10 Form of Non-Qualified Stock Option Notice for Employees for Mechanical Technology, Incorporated 2012 Equity Incentive Plan (Incorporated by reference from Exhibit 10.4 of the Company's Form 10-Q Report for the quarter ended June 30, 2012).\*
- 10.11 Form of Non-Qualified Stock Option Notice for Board of Directors for Mechanical Technology, Incorporated 2012 Equity Incentive Plan (Incorporated by reference from Exhibit 10.5 of the Company's Form 10-Q Report for the quarter ended June 30, 2012).\*
- 10.12 Mechanical Technology, Incorporated 2014 Equity Incentive Plan (incorporated by reference to Exhibit A to the Registrant's Proxy Statement on Schedule 14A filed with the Commission on April 25, 2014). \*
- 10.13 Form of Restricted Stock Grant Agreement under the Mechanical Technology, Incorporated 2014 Equity Incentive Plan (incorporated by reference from Exhibit 4.2 of the Company's Registration Statement on Form S-8 (File No. 333-196989) filed with the Commission on June 24, 2014). \*
- 10.14 Form of Nonstatutory Stock Option Grant Agreement under the Mechanical Technology, Incorporated 2014 Equity Incentive Plan (incorporated by reference from Exhibit 4.3 of the Company's Registration Statement on Form S-8 (File No. 333-196989) filed with the Commission on June 24, 2014). \*
- 10.15 Form of Incentive Stock Option Grant Agreement under the Mechanical Technology, Incorporated 2014 Equity Incentive Plan (incorporated by reference from Exhibit 4.4 of the Company's Registration Statement on Form S-8 (File No. 333-196989) filed with the Commission on June 24, 2014). \*



- 10.16 Lease dated August 10, 1999 between Carl E. Touhey and Mechanical Technology, Inc. (Incorporated by reference from Exhibit 10.38 of the Company's Form 10-K Report for the fiscal year ended September 30, 1999).
- 10.17 Amendment No. 1 to Lease Agreement Between Mechanical Technology Inc. and Carl E. Touhey dated September 29, 2009 (Incorporated by reference from Exhibit 10.166 of the Company's Form 10-K Report for the year ended December 31, 2009).
- 10.18 Amendment No. 2 to Lease Agreement Between MTI Instruments Inc. and Carl E. Touhey dated May 2, 2014 (Incorporated by reference from Exhibit 10.1 of the Company's Form 10-Q Report for the quarter ended March 31, 2014).
- 10.19 Security Agreement dated May 5, 2014 between Mechanical Technology, Incorporated and Bank of America, N.A. (Incorporated by reference from Exhibit 10.3 of the Company's Form 10-Q Report for the quarter ended March 31, 2014).
- 10.20 Continuing and Unconditional Guaranty Agreement dated May 5, 2014 between MTI Instruments, Inc. and Bank of America, N.A. (Incorporated by reference from Exhibit 10.4 of the Company's Form 10-Q Report for the quarter ended March 31, 2014).
- 10.21 Loan Agreement dated June 16, 2015 between Mechanical Technology, Incorporated and Bank of America, N.A. (Incorporated by reference from Exhibit 10.1 of the Company's Form 10-Q Report for the quarter ended June 30, 2015).
- 21 Subsidiaries of the Registrant
- 23.1 Consent of Independent Registered Public Accounting Firm – UHY LLP.
- 31.1 Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
- 31.2 Certification of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
- 32.1 Certification of Chief Executive Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
- 32.2 Certification of Chief Financial Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
- 101.INS XBRL Instance Document
- 101.SCH XBRL Taxonomy Extension Schema Document
- 101.CAL XBRL Taxonomy Extension Calculation Linkbase Document
- 101.DEF XBRL Taxonomy Definition Linkbase Document
- 101.LAB XBRL Taxonomy Extension Label Linkbase Document

101.PRE XBRL Taxonomy Extension Presentation Linkbase Document

All exhibits for which no other filing information is given are filed herewith.

\* Represents management contract or compensation plan or arrangement.



**Signatures**

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

**MECHANICAL TECHNOLOGY, INCORPORATED**

Date: March 30, 2016

By: /s/ Kevin G. Lynch  
Kevin G. Lynch  
Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Kevin G. Lynch</u> Kevin G. Lynch	Chairman, Chief Executive Officer and Director (Principal Executive Officer)	March 30, 2016
<u>/s/ Frederick W. Jones</u>	Chief Financial Officer and Secretary	
Frederick W. Jones	(Principal Financial and Accounting Officer)	March 30, 2016
<u>/s/ Thomas J. Marusak</u> Thomas J. Marusak	Director	March 30, 2016
<u>/s/ David C. Michaels</u> David C. Michaels	Director	March 30, 2016
<u>/s/ E. Dennis O'Connor</u> E. Dennis O'Connor	Director	March 30, 2016
<u>/s/ William P. Phelan</u> William P. Phelan	Director	March 30, 2016

/s/ Walter L. Robb  
Dr. Walter L. Robb

Director

March 30, 2016



**MECHANICAL TECHNOLOGY, INCORPORATED AND SUBSIDIARIES**

**INDEX TO CONSOLIDATED FINANCIAL STATEMENTS**

	Page
Report of Independent Registered Public Accounting Firm	F-2
Consolidated Financial Statements:	
<u>Balance Sheets as of December 31, 2015 and 2014</u>	F-3
<u>Statements of Operations for the Years Ended December 31, 2015 and 2014</u>	F-4
<u>Statements of Changes in Equity for the Years Ended December 31, 2015 and 2014</u>	F-5
<u>Statements of Cash Flows for the Years Ended December 31, 2015 and 2014</u>	F-6
<u>Notes to Consolidated Financial Statements</u>	F-7 to F-21

**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors and  
Stockholders of Mechanical Technology, Incorporated

We have audited the accompanying consolidated balance sheets of Mechanical Technology, Incorporated as of December 31, 2015 and 2014, and the related consolidated statements of operations, changes in equity, and cash flows for each of the years in the two-year period ended December 31, 2015. The Company's management is responsible for these financial statements. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We

believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Mechanical Technology, Incorporated as of December 31, 2015 and 2014, and the results of its operations and its cash flows for each of the years in the two-year period ended December 31, 2015 in conformity with accounting principles generally accepted in the United States of America.

The accompanying financial statements have been prepared assuming that Mechanical Technology, Incorporated will continue as a going concern. As more fully described in Note 1, the Company incurred a significant operating loss in 2015 and its current liquidity position raises substantial doubt about the Company's ability to continue as a going concern. Management's plans in regards to these matters are also described in Note 1. The financial statements do not include any adjustments that might result from the outcome of this uncertainty. Our opinion is not modified with respect to that matter.

/s/ UHY LLP

Albany, New York

March 30, 2016

A member of UHY International, a network of independent accounting and consulting firms

F - 2

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**MECHANICAL TECHNOLOGY, INCORPORATED AND SUBSIDIARIES****CONSOLIDATED BALANCE SHEETS****December 31, 2015 and 2014**

(Dollars in thousands, except per share)

	<b>December 31,</b>	
	<b>2015</b>	<b>2014</b>
<b>Assets</b>		
<b>Current Assets:</b>		
Cash	\$ 462	\$ 1,923
Accounts receivable – less allowances of \$56 in 2015 and \$0 in 2014	931	1,196
Notes receivable – related party, net	—	20
Inventories	1,006	773
Deferred income taxes, net	—	20
Prepaid expenses and other current assets	72	92
Total Current Assets	2,471	4,024
<b>Deferred income taxes, net</b>	<b>—</b>	<b>1,315</b>
<b>Property, plant and equipment, net</b>	<b>115</b>	<b>140</b>
<b>Total Assets</b>	<b>\$ 2,586</b>	<b>\$ 5,479</b>
<b>Liabilities and Stockholders' Equity</b>		
<b>Current Liabilities:</b>		
Accounts payable	\$ 152	\$ 216
Accrued liabilities	907	1,045
Total Current Liabilities	1,059	1,261
<b>Commitments and Contingencies (Note 12)</b>		
<b>Stockholders' Equity:</b>		
Common stock, par value \$0.01 per share, authorized 75,000,000; 6,263,975 issued in both 2015 and 2014	63	63
Additional paid-in-capital	135,839	135,698
Accumulated deficit	(120,621)	(117,789)
Common stock in treasury, at cost, 1,005,092 shares in both 2015 and 2014	(13,754)	(13,754)
Total Stockholders' Equity	1,527	4,218
<b>Total Liabilities and Stockholders' Equity</b>	<b>\$ 2,586</b>	<b>\$ 5,479</b>

The accompanying notes are an integral part of the consolidated financial statements.



**MECHANICAL TECHNOLOGY, INCORPORATED AND SUBSIDIARIES****CONSOLIDATED STATEMENTS OF OPERATIONS****For the Years Ended December 31, 2015 and 2014**

(Dollars in thousands, except per share)

	<b>Year Ended December 31, 2015</b>	<b>Year Ended December 31, 2014</b>
Product revenue	\$ 6,330	\$ 8,781
Operating costs and expenses:		
Cost of product revenue	2,475	3,284
Research and product development expenses	1,546	1,346
Selling, general and administrative expenses	3,779	3,586
Operating (loss) income	(1,470)	565
Other (expense) income, net	(2)	135
(Loss) income before income taxes	(1,472)	700
Income tax (expense) benefit	(1,360)	40
Net (loss) income	\$ (2,832)	\$ 740
(Loss) income per share (Basic)	\$ (0.54)	\$ 0.14
(Loss) income per share (Diluted)	\$ (0.54)	\$ 0.14
Weighted average shares outstanding (Basic)	5,258,883	5,257,360
Weighted average shares outstanding (Diluted)	5,258,883	5,464,003

The accompanying notes are an integral part of the consolidated financial statements.

**MECHANICAL TECHNOLOGY, INCORPORATED AND SUBSIDIARIES****CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY****For the Years Ended December 31, 2015 and 2014**

	Common Stock				Treasury Stock		Total Stockholders' Equity (Deficit)
	Shares	Amount	Additional Paid- in Capital	Accumulated Deficit	Shares	Amount	
<b>January 1, 2014</b>	6,261,975	\$ 63	\$ 135,612	\$ (118,529)	1,005,092	\$(13,754)	\$ 3,392
Net income	-	-	-	740	-	-	740
Stock based compensation	-	-	85	-	-	-	85
Issuance of shares – option exercises	2,000	-	1	-	-	-	1
<b>December 31, 2014</b>	6,263,975	\$ 63	\$ 135,698	\$ (117,789)	1,005,092	\$(13,754)	\$ 4,218
Net loss	-	-	-	(2,832)	-	-	(2,832 )
Stock based compensation	-	-	141	-	-	-	141
<b>December 31, 2015</b>	6,263,975	\$ 63	\$ 135,839	\$ (120,621)	1,005,092	\$(13,754)	\$ 1,527

The accompanying notes are an integral part of the consolidated financial statements.







**MECHANICAL TECHNOLOGY, INCORPORATED AND SUBSIDIARIES****CONSOLIDATED STATEMENTS OF CASH FLOWS****For the Years Ended December 31, 2015 and 2014**

(Dollars in thousands)	<b>Year Ended December 31, 2015</b>	<b>Year Ended December 31, 2014</b>
<b>Operating Activities</b>		
Net (loss) income	\$ (2,832)	\$ 740
Adjustments to reconcile net (loss) income to net cash (used) provided by operating activities:		
Depreciation	80	83
Provision for bad debts	56	—
Deferred income taxes	1,335	165
Stock based compensation	141	85
Provision for excess and obsolete inventories	83	16
Provision for notes receivable – related party	—	(122)
Changes in operating assets and liabilities:		
Accounts receivable	209	(372)
Inventories	(316)	(47)
Prepaid expenses and other current assets	20	19
Accounts payable	(64)	67
Accrued liabilities	(138)	52
Net cash (used) provided by operating activities	(1,426)	686
<b>Investing Activities</b>		
Purchases of equipment	(55)	(77)
Principle payments from notes receivable – related party	20	102
Net cash (used in) provided by investing activities	(35)	25
<b>Financing Activities</b>		
Proceeds from stock option exercises	—	1
Net cash provided by financing activities	—	1
(Decrease) increase in cash	(1,461)	712
Cash - beginning of period	1,923	1,211
Cash - end of period	\$ 462	\$ 1,923

The accompanying notes are an integral part of the consolidated financial statements.

**MECHANICAL TECHNOLOGY, INCORPORATED AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**1. Nature of Operations**

*Description of Business*

Mechanical Technology, Incorporated (MTI or the Company), a New York corporation, was incorporated in 1961. The Company's core business is conducted through MTI Instruments, Inc. (MTI Instruments), its wholly-owned subsidiary.

MTI Instruments was incorporated in New York on March 8, 2000 and is a supplier of precision linear displacement solutions, vibration measurement and system balancing systems, and wafer inspection tools, consisting of electronic gauging instruments for position, displacement and vibration application within the industrial manufacturing/production markets, as well as the research, design and process development market; tensile stage systems for materials testing at academic and industrial research settings; and engine vibration analysis systems for both military and commercial aircraft. These tools, systems and solutions are developed for markets and applications that require the precise measurements and control of products, processes, and the development and implementation of automated manufacturing, assembly, and consistent operation of complex machinery.

*Liquidity; Going Concern*

The Company has historically incurred significant losses primarily due to its past efforts to fund direct methanol fuel cell product development and commercialization programs, and had an accumulated deficit of approximately \$120.6 million and working capital of approximately \$1.4 million at December 31, 2015. As of December 31, 2015, we had no debt and no outstanding commitments for capital expenditures.

Based on the Company's projected cash requirements for operations and capital expenditures, its current available cash of approximately \$462 thousand and our projected 2016 cash flow pursuant to management's current plan, management believes it will have adequate resources to fund operations and capital expenditures for at least the next twelve months. If cash generated from operations is insufficient to satisfy the Company's working capital and capital expenditure requirements, the Company may be required to sell additional equity or obtain additional credit facilities. The Company has no other formal commitments for funding future needs of the organization at this time and any

additional financing during 2016, if required, may not be available to us on acceptable terms or at all.

The Company's financial statements have been prepared assuming the Company will continue as a going concern, which assumes the realization of assets and the satisfaction of liabilities in the normal course of business. The consolidated financial statements do not include any adjustments that might be necessary should the Company be unable to continue as a going concern. If the going concern basis were not appropriate for these financial statements, adjustments would be necessary in the carrying value of assets and liabilities, the reported expenses and the balance sheet classifications used.

The Company's history of operating cash flow deficits, its current cash position and lack of access to capital may raise doubt about its ability to continue as a going concern and its continued existence could be dependent upon several factors, including its ability to raise revenue levels and control costs to generate positive cash flows, to sell additional shares of the Company's common stock to fund operations and to obtain additional credit facilities. Selling additional shares of the Company's common stock and obtaining additional credit facilities may be more difficult as a result of limited access to equity markets and the tightening of credit markets. The financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amount of or classification of liabilities that might be necessary as a result of this uncertainty.

The Company believes that the current lack of liquidity and "going concern" opinion resulted primarily from delays in entering into a new agreement with the U.S. Air Force (as discussed in Item 7: "Management's Discussion and Analysis of Financial Condition and Results of Operations") and in a product order it is expecting but has not yet been placed, as well as the Company's cancellation of its existing lines of credit on March 24, 2016, as further discussed in Item 7: "Management's Discussion and Analysis of Financial Condition and Results of Operations" and elsewhere in this Annual Report. While the Company believes that it will enter into a new agreement with the U.S. Air Force during the second quarter of 2016 and that the new order it is expecting will also be received, there can be no assurance that these events will happen; if one or both of these do not occur or the Company's business strategy is not successful in addressing its current financial issues, substantial doubt exists about the Company's ability to continue as a going concern.

## **2. Accounting Policies**

### ***Principles of Consolidation***

The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiary, MTI Instruments. All intercompany balances and transactions are eliminated in consolidation.

The Company records its investment in MeOH Power, Inc. using the equity method of accounting. The fair value of the Company's interest in MeOH Power, Inc. has been determined to be \$0 as of December 31, 2015 and December

31, 2014, based on MeOH Power, Inc.'s net position and expected cash flows. As of December 31, 2015, the Company retained its equity ownership of approximately 47.5% of MeOH Power, Inc.'s outstanding common stock, or 75,049,937 shares, and 55.5% of the common stock and warrants issued, which includes 31,904,136 warrants outstanding.

### *Use of Estimates*

The consolidated financial statements of the Company have been prepared in accordance with United States of America Generally Accepted Accounting Principles (U.S. GAAP), which require management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

### *Fair Value of Financial Instruments*

The Company's financial instruments consist of cash, accounts receivable and accounts payable. The estimated fair values of these financial instruments approximate their carrying values at December 31, 2015 and 2014. The estimated fair values have been determined through information obtained from market sources, where available.

### *Accounts Receivable and Allowance for Doubtful Accounts*

Trade accounts receivable are stated at the invoiced amount billed to customers and do not bear interest. An allowance for doubtful accounts, if necessary, represents the Company's best estimate of the amount of probable credit losses in its existing accounts receivable. The Company determines the allowance based on historical write-off experience and current exposures identified. The Company reviews its allowance for doubtful accounts monthly. Past due balances over 90 days and over a specified amount are reviewed individually for collectability. All other balances are reviewed on a pooled basis by type of receivable. Account balances are charged off against the allowance when the Company believes it is probable the receivable will not be recovered. The Company does not have any off-balance-sheet credit exposure related to its customers.

### ***Inventories***

Inventories are valued at the lower of cost (first-in, first-out) or market. The Company provides estimated inventory allowances for excess, slow moving and obsolete inventory as well as inventory whose carrying value is in excess of net realizable value.

### ***Property, Plant, and Equipment***

Property, plant and equipment are stated at cost and depreciated using the straight-line method over their estimated useful lives as follows:

Leasehold improvements	Lesser of the life of the lease or the useful life of the improvement
Computers and related software	3 to 5 years
Machinery and equipment	3 to 10 years
Office furniture, equipment and fixtures	2 to 10 years

Significant additions or improvements extending assets' useful lives are capitalized; normal maintenance and repair costs are expensed as incurred. The costs of fully depreciated assets remaining in use are included in the respective asset and accumulated depreciation accounts. When items are sold or retired, related gains or losses are included in net (loss) income.

### ***Income Taxes***

Deferred tax assets and liabilities are recognized for temporary differences between financial statement and income tax bases of assets and liabilities, loss carryforwards, and tax credit carryforwards, for which income tax benefits are expected to be realized in future years. A valuation allowance has been established to reduce deferred tax assets, if it is more likely than not that all, or some portion, of such deferred tax assets will not be realized. The effect on deferred taxes of a change in tax rates is recognized in the period which includes the enactment date.

The Company accounts for uncertain tax positions in accordance with accounting standards that address income taxes. The Company must recognize in its financial statements the impact of a tax position, if that position is more likely than not to be sustained on an audit, based on the technical merits of the position.

### ***Equity Method Investments***



The Company's consolidated net income (loss) will include our proportionate share, if any, of the net income or loss of our equity method investee. When the Company records its proportionate share of net income, it increases equity income (loss), net in our consolidated statements of operations and our carrying value in that investment. Conversely, when the Company records its proportionate share of a net loss, it decreases equity income (loss), net in our consolidated statements of operations and our carrying value in that investment. The Company's proportionate share of the net income or loss of our equity method investee includes significant operating and non-operating items recorded by our equity method investee. These items can have a significant impact on the amount of equity income (loss), net in our consolidated statements of operations and our carrying value in that investment. The carrying value of our equity method investment is also impacted by our proportionate share of items impacting the equity investee's accumulated other comprehensive income, if any. When the Company's carrying value in an equity method investee company has been reduced to zero, no further losses are recorded in the Company's financial statements unless the Company guaranteed obligations of the investee company or has committed additional funding. When the investee company subsequently reports income, the Company will not record its share of such income until it equals the amount of its share of losses not previously recognized.

### ***Fair Value Measurement***

The estimated fair value of certain financial instruments, including cash and short-term debt approximates their carrying value due to their short maturities and varying interest rates. "Fair value" is the price that would be received to sell an asset or transfer a liability in an orderly transaction between market participants at the measurement date. The Company utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs. Based on the observability of the inputs used in the valuation methods, the Company is required to provide the following information according to the fair value accounting standards. These standards established a fair value hierarchy as specified that ranks the quality and reliability of the information used to determine fair values. Financial assets and liabilities are classified and disclosed in one of the following three categories:

- Level 1:** Quoted market prices in active markets for identical assets or liabilities, which includes listed equities.
- Level 2:** Observable market based inputs or unobservable inputs that are corroborated by market data. These items are typically priced using models or other valuation techniques. These models are primarily financial industry-standard models that consider various assumptions, including the time value of money, yield curves, volatility factors, as well as other relevant economic measures.
- Level 3:** These use unobservable inputs that are not corroborated by market data. These values are generally estimated based upon methodologies utilizing significant inputs that are generally less observable from objective sources.

### ***Revenue Recognition***

The Company applies the accounting guidance for revenue recognition in the evaluation of its contracts to determine when to properly recognize revenue. The following outlines the various types of revenue and the determination of the recognition of income for each category:

#### ***Product Revenue***

Product revenue is recognized when there is persuasive evidence of an arrangement, the collection of a fixed fee is probable or determinable, and delivery of the product to the customer or distributor has occurred, at which time title generally is passed to the customer or distributor. All of these generally occur upon shipment of the product. If the product requires installation to be performed by the Company, all revenue related to the product is deferred and recognized upon the completion of the installation. If the product requires specific customer acceptance, revenue is deferred until customer acceptance occurs or the acceptance provisions lapse, unless the Company can objectively and reliably demonstrate that the criteria specified in the acceptance provisions is satisfied.

MTI Instruments currently has distributor agreements in place for the international sale of general instrument and semiconductor products in certain global regions. Such agreements grant a distributor the right of first refusal to act as

distributor for such products in the distributor's territory. In return, the distributor agrees to not market other products which are considered by MTI Instruments to be in direct competition with MTI Instruments' products. The distributor is allowed to purchase MTI Instruments' equipment at a price which is discounted off the published domestic/international list prices. Such list prices can be adjusted by MTI Instruments during the term of the distributor agreement. Generally, payment terms with the distributor are standard net 30 days; however, on occasion, extended payment terms have been granted. Title and risk of loss of the product passes to the distributor upon delivery to the independent carrier (standard "free-on-board" factory), and the distributor is responsible for any required training and/or service with the end-user. The sale (and subsequent payment) between MTI Instruments and the distributor is not contingent upon the successful resale of the product by the distributor. Distributor sales are covered by MTI Instruments' standard one-year warranty and there are no special return policies for distributors.

Some of MTI Instruments' direct sales, particularly sales of semi-automatic semiconductor metrology equipment, or rack-mounted vibration systems, involve on-site customer acceptance and/or installation. In those instances, revenue recognition does not take place at time of shipment. Instead, MTI Instruments recognizes the sale after the unit is installed and/or an on-site acceptance is given by the customer. Agreed-upon acceptance terms and conditions, if any, are negotiated at the time of purchase.

#### ***Cost of Product Revenue***

Cost of product revenue includes material, labor, overhead and shipping and handling costs.

#### ***Deferred Revenue***

Deferred revenue consists of billings to customers in advance of services performed, completed installation or customer acceptance. As of December 31, 2015 and 2014, the Company had no deferred revenue.

#### ***Warranty***

The Company accrues a warranty liability at the time product revenue is recorded based on historical experience. The liability is reviewed during the year and is adjusted, if appropriate, to reflect new product offerings or changes in experience. Actual warranty claims are tracked by product line. Warranty liability was \$16 thousand and \$18 thousand at December 31, 2015 and 2014, respectively. Warranty expense was \$13 thousand and \$9 thousand for 2015 and 2014, respectively.



### ***Long-Lived Assets***

The Company accounts for impairment or disposal of long-lived assets in accordance with accounting standards that address the financial accounting and reporting for the impairment or disposal of long-lived assets, specify how impairment will be measured, and how impaired assets will be classified in the consolidated financial statements. On a quarterly basis, the Company analyzes the status of its long-lived assets at each subsidiary for potential impairment. As of December 31, 2015, the Company does not believe that any of its long-lived assets have suffered any type of impairment that would require an adjustment to that asset's recorded value.

### ***Cash and Cash Equivalents***

Cash and cash equivalents consist of cash and highly liquid short-term investments with original maturities of less than three months.

### ***Net Income (Loss) per Share***

The Company computes basic income (loss) per common share by dividing net income (loss) by the weighted average number of common shares outstanding during the reporting period. Diluted income (loss) per share reflects the potential dilution, if any, computed by dividing income (loss) by the combination of dilutive common share equivalents, comprised of shares issuable under outstanding investment rights, warrants and the Company's share-based compensation plans, and the weighted average number of common shares outstanding during the reporting period. Dilutive common share equivalents include the dilutive effect of in-the-money stock options, which are calculated based on the average share price for each period using the treasury stock method. Under the treasury stock method, the exercise price of a stock option, the amount of compensation cost, if any, for future service that the Company has not yet recognized, and the amount of windfall tax benefits that would be recorded in additional paid-in capital, if any, when the stock option is exercised are assumed to be used to repurchase shares in the current period.

### ***Share-Based Payments***

The Company accounts for stock based awards exchanged for employee service in accordance with the share-based payment accounting guidance. The Company has five share-based employee compensation plans, all of which are described more fully in Note 11, Stock Based Compensation.

Stock-based compensation represents the cost related to stock-based awards granted to employees and directors. The Company measures stock-based compensation cost at grant date based on the estimated fair value of the award, and recognizes the cost as expense on a straight-line basis in accordance with the vesting of the options (net of estimated forfeitures) over the option's requisite service period. The Company estimates the fair value of stock-based awards using a Black Scholes valuation model. Stock-based compensation expense is recorded in the lines titled "Cost of product revenue," "Selling, general and administrative expenses" and "Research and product development expenses" in the Consolidated Statements of Operations based on the employees' respective functions.

The Company records deferred tax assets for awards that potentially can result in deductions on the Company's income tax returns based on the amount of compensation cost that would be recognized upon issuance of the award and the Company's statutory tax rate. Differences between the deferred tax assets recognized for financial reporting purposes and the actual tax deduction reported on the Company's income tax return are recorded in Additional Paid-In Capital (if the tax deduction exceeds the deferred tax asset) or in the Consolidated Statement of Operations (if the deferred tax asset exceeds the tax deduction and no historical pool of windfall tax benefits exists). Since the adoption of the revised accounting standard on share-based payments, no tax benefits have been recognized related to share-based compensation since the Company has established a full valuation allowance to offset all potential tax benefits associated with these deferred tax assets.

### ***Concentration of Credit Risk***

Financial instruments that subject the Company to concentrations of credit risk principally consist of cash equivalents and trade accounts receivable. The Company's trade accounts receivable are primarily from sales to commercial customers, the U.S. government and state agencies. The Company does not require collateral and has not historically experienced significant credit losses related to receivables from individual customers or groups of customers in any particular industry or geographic area. In 2015 and 2014, approximately 34.6% and 35.6%, respectively, of our product revenues was from customers outside of the United States.

The Company has cash deposits in excess of federally insured limits, but does not believe them to be at risk.

### ***Research and Development Costs***

The Company expenses research and development costs as incurred. The Company incurred research and development costs of approximately \$1.5 million and \$1.3 million, which was entirely related to MTI Instruments, for

the years ended December 31, 2015 and 2014, respectively.

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### ***Advertising Costs***

The Company expenses advertising costs as incurred. The Company incurred advertising costs of approximately \$127 and \$121 thousand, which was entirely related to MTI Instruments, for the years ended December 31, 2015 and 2014, respectively.

### ***Other Comprehensive Income***

The Company had no other comprehensive income (loss) items for the years ended December 31, 2015 and 2014.

### ***Effect of Recent Accounting Pronouncements***

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update 2014-09 (Revenue from Contracts with Customers) to clarify the principles for recognizing revenue and to develop a common revenue standard for GAAP and International Financial Reporting Standards. The standard is principles-based and provides a five-step model to determine when and how revenue is recognized. The core principle is that a company should recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the company expects to be entitled in exchange for those goods or services. This standard, as amended, will be effective for the Company for annual and interim reporting periods beginning after December 15, 2017. This standard may be applied retrospectively to each prior period presented or retrospectively with the cumulative effect recognized as of the date of initial application. Early adoption is permitted, but no earlier than calendar 2017. This standard could impact the timing and amounts of revenue recognized. The Company is currently evaluating the impact of this standard on its consolidated financial statements.

In August 2014, the FASB issued ASU 2014-15 (Presentation of Financial Statements – Going Concern) which requires management to evaluate whether there is substantial doubt about an entity's ability to continue as a going concern and provide related footnote disclosures. This standard will be effective for the Company for annual and interim reporting periods beginning on or after December 15, 2016. Early adoption is permitted for financial statements that have not been previously issued. This standard allows for either a full retrospective or modified retrospective transition method. The Company is currently evaluating the impact of this standard on its consolidated



financial statements.

In February 2015, the FASB issued ASU 2015-02 (Consolidation (Topic 810): Amendments to the Consolidation Analysis) that changes the analysis that a reporting entity must perform to determine whether it should consolidate certain types of legal entities. This standard will be effective for the Company beginning in the first quarter of 2017, and early adoption is permitted. The Company is currently evaluating the impact of this standard on its consolidated financial statements.

In July 2015, the FASB issued ASU 2015-11 (Inventory (Topic 330): Simplifying the Measurement of Inventory) which applies to inventory that is measured using first-in, first-out (FIFO) or average cost. Under the updated guidance, an entity should measure inventory that is within scope at the lower of cost and net realizable value, which is the estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation. Subsequent measurement is unchanged for inventory that is measured using last-in, last-out (LIFO). This standard will be effective for the Company for annual and interim periods beginning after December 15, 2016, and should be applied prospectively with early adoption permitted at the beginning of an interim or annual reporting period. The Company is currently evaluating the impact of this standard on its consolidated financial statements.

In November 2015, the FASB issued ASU 2015-17 (Income Taxes (Topic 740): Balance Sheet Classification of Deferred Taxes) as part of its ongoing simplification initiative, with the objective of reducing complexity in accounting standards. The amendments in this standard require entities that present a classified balance sheet to classify all deferred tax liabilities and assets as a noncurrent amount. This guidance does not change the offsetting requirements for deferred tax liabilities and assets, which results in the presentation of one amount on the balance sheet. Additionally, the amendments in this standard align the deferred income tax presentation with the requirements in International Accounting Standards (IAS) 1 (Presentation of Financial Statements.) This standard will be effective for the Company for annual and interim reporting periods beginning on or after December 15, 2016. The Company is currently evaluating the impact of this standard on its consolidated financial statements.

In January 2016, the FASB issued ASU 2016-01 (Financial Instruments-Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Liabilities) the main objective of which is to enhance the reporting model for financial instruments to provide users of financial statements with more decision-useful information and address certain aspects of recognition, measurement, presentation, and disclosure of financial instruments. This standard will be effective for the Company for annual and interim reporting periods beginning on or after December 15, 2017, and early adoption is permitted. The Company is currently evaluating the impact of this standard on its consolidated financial statements.



In February 2016, the FASB issued ASU 2016-02 (Leases (Topic 842)) the main objective requires lessees to put most leases on their balance sheet but recognize expenses on their income statement in a manner similar to current accounting requirements. This standard will be effective for the Company for annual and interim reporting periods beginning on or after December 15, 2018, and early adoption is permitted. The Company is currently evaluating the impact of this standard on its consolidated financial statements.

### 3. Accounts Receivable

Accounts receivables consist of the following at December 31:

<b>(dollars in thousands)</b>	<b>2015</b>	<b>2014</b>
U.S. and State Government	\$ 15	\$ 3
Commercial	972	1,193
Allowance for doubtful accounts	(56 )	—
Total	\$ 931	\$ 1,196

### 4. Inventories

Inventories consist of the following at December 31:

<b>(dollars in thousands)</b>	<b>2015</b>	<b>2014</b>
Finished goods	\$ 412	\$ 314
Work in process	240	161
Raw materials	354	298
Total	\$ 1,006	\$ 773

### 5. Property, Plant and Equipment

Property, plant and equipment consist of the following at December 31:

<b>(dollars in thousands)</b>	<b>2015</b>	<b>2014</b>
Leasehold improvements	\$ 39	\$ 39
Computers and related software	1,052	1,035
Machinery and equipment	853	817
Office furniture and fixtures	61	61
	2,005	1,952
Less: Accumulated depreciation	1,890	1,812
	\$ 115	\$ 140

Depreciation expense was \$80 thousand and \$83 thousand for 2015 and 2014, respectively. Repairs and maintenance expense was \$13 thousand and \$22 thousand for 2015 and 2014, respectively.

## 6. Income Taxes

Income tax (expense) benefit for each of the years ended December 31 consists of the following:

<b>(dollars in thousands)</b>	<b>2015</b>	<b>2014</b>
Federal	\$ (20)	\$ (2)
State	(5)	207
Deferred	(1,335)	(165)
Total	\$ (1,360)	\$ 40

The significant components of deferred income tax (expense) benefit from operations for each of the years ended December 31 consists of the following:

<b>(dollars in thousands)</b>	<b>2015</b>	<b>2014</b>
Deferred tax benefit (expense)	\$ 50	\$ (46)
Net operating loss carry forward	370	(234)
Valuation allowance	(1,755)	115
	\$ (1,335)	\$ (165)

The Company's effective income tax rate from operations differed from the Federal statutory rate for each of the years ended December 31 as follows:

	<b>2015</b>	<b>2014</b>
Federal statutory tax rate	(34)%	34%
Change in valuation allowance	119	(16)
State research and development credits	—	(30)
Expiration of stock option	1	5
Prior year tax adjustments and other	5	—
Other, net	1	1
Tax Rate	92%	(6) %

Pre-tax (loss) income was \$(1.5) million and \$700 thousand for 2015 and 2014, respectively.

The Company decided to re-establish a full valuation allowance at December 31, 2015 for its deferred tax asset. This decision was based upon actual results differing from estimates used as a basis for the previous partial valuation of the deferred tax asset. Although the Company expects to generate levels of pre-tax earnings in the future, it believes that it is appropriate to have a full valuation allowance on its deferred tax asset at this time. As a result, the Company incurred a one-time, \$1.3 million, non-cash expense in 2015 to eliminate the partial valuation allowance which was established in 2011. We will continue to evaluate the ability to realize our deferred tax assets and related valuation allowance on a quarterly basis.

The Company was entitled to a research tax credit for qualifying amounts paid or incurred on or before December 31, 2011, for which the Company made the appropriate filings in 2013. Given the uncertain nature of the tax benefit, the Company did not take a tax position with regards to these credits. During 2014, the Company determined that realization of this asset was more likely than not and recognized a tax benefit of \$210 thousand for qualifying amounts incurred in 2009.

***Deferred Tax Assets:***

Deferred tax assets are determined based on the temporary differences between the financial statement and tax bases of assets and liabilities as measured by the enacted tax rates. Temporary differences, net operating loss carryforwards and tax credit carryforwards that give rise to deferred tax assets and liabilities are summarized as follows as of December 31:

<b>(dollars in thousands)</b>	<b>2015</b>	<b>2014</b>
Current deferred tax assets:		
Inventory valuation	\$ 99	\$ 69
Inventory capitalization		4
Vacation pay	29	32
Warranty and other sale obligations	5	6
Allowance for accounts receivable	19	
Allowance for related party note receivable	92	88
Other reserves and accruals	26	66
	270	265
Valuation allowance - current	(270)	(245)
Net current deferred tax assets	\$	\$ 20

<b>(dollars in thousands)</b>	<b>2015</b>	<b>2014</b>
Noncurrent deferred tax assets:		
Net operating loss	\$ 17,583	\$ 17,216
Property, plant and equipment	3	(2)
Stock options	120	77
Research and development tax credit	450	450
Alternative minimum tax credit	54	54
	18,210	17,795
Valuation allowance – noncurrent	(18,210)	(16,480)
Non-current net deferred tax assets	\$	\$ 1,315

As of December 31, 2015, the Company has approximately \$450 thousand of research and development tax credit carry forwards, which begin to expire in 2018, and approximately \$54 thousand of alternative minimum tax credit carry forwards, which have no expiration date.

***Valuation Allowance:***

The Company provides for recognition of deferred tax assets if the realization of such assets is more likely than not to occur in accordance with accounting standards that address income taxes. Significant management judgment is required in determining the period in which the reversal of a valuation allowance should occur. The Company has considered all available evidence, both positive and negative, such as historical levels of income and future forecasts of taxable income amongst other items, in determining its valuation allowance. In addition, the Company's assessment requires us to schedule future taxable income in accordance with accounting standards that address income taxes to assess the appropriateness of a valuation allowance which further requires the exercise of significant management judgment.

Although it expects to generate levels of pre-tax earnings in the future, the Company has decided at this time to re-establish a full valuation allowance at December 31, 2015 for its deferred tax asset. This decision was based upon actual results differing from estimates used as a basis for the previous partial valuation of the deferred tax asset. We will continue to evaluate the ability to realize our deferred tax assets and related valuation allowance on a quarterly basis.

The valuation allowance at December 31, 2015 and 2014 was \$18.5 million and \$16.7 million, respectively. Activity in the valuation allowance for deferred tax assets is as follows as of December 31:

<b>(dollars in thousands)</b>	<b>2015</b>	<b>2014</b>
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Valuation allowance, beginning of year	\$	16,725	\$	16,840
Increase resulting in income tax expense		1,335		—
Allowance for accounts receivable		19		—
Allowance for related party note receivable		3		(42)
Inventory		25		5
Net operating income (loss)		373		(72)
Property, plant and equipment		6		(2)
Stock options		43		(6)
Other reserves and accruals		(49)	)	2
Valuation allowance, end of year	\$	18,480	\$	16,725

*Net operating losses:*

At December 31, 2015, the Company has unused Federal net operating loss carryforwards of approximately \$52.3 million. Of these, \$1.1 million will expire in 2020, with the remainder expiring through 2035. Of the Company's carryforwards, \$1.3 million represents windfall tax benefits from stock option transactions, the tax effect of which are not included in the Company's net deferred tax assets.

The Company's and/or its subsidiaries' ability to utilize their net operating loss carryforwards may be significantly limited by Section 382 of the IRC of 1986, as amended, if the Company or any of its subsidiaries undergoes an "ownership change" as a result of changes in the ownership of the Company's or its subsidiaries' outstanding stock pursuant to the exercise of the warrants or otherwise.



***Unrecognized tax benefits:***

The unrecognized tax benefits in accordance with accounting standards that address income taxes at December 31, 2015 and 2014 was \$1.2 million. These unrecognized tax benefits relate to former subsidiaries of the Company and a prior investment in a partnership.

In future periods, if \$1.2 million of these unrecognized benefits become supportable, the Company may not recognize a change in its effective tax rate as long as it remains in a partial valuation allowance position. Additionally, the Company does not have uncertain tax positions that it expects will increase or decrease within twelve months of this reporting date. The Company recognizes interest and penalties related to uncertain tax positions as a component of tax expense. The Company did not recognize any interest or penalties in 2015 and 2014.

The Company files income tax returns, including returns for its subsidiaries, with federal and state jurisdictions. The Company is no longer subject to IRS or NYS examinations for its federal and state returns for any periods prior to 2009, although carryforward attributes that were generated prior to 2009 may still be adjusted upon examination by the IRS if they either have been or will be used in a future period.

**7. Accrued Liabilities**

Accrued liabilities consist of the following at December 31:

<b>(dollars in thousands)</b>	<b>2015</b>	<b>2014</b>
Salaries, wages and related expenses	\$ 237	\$ 349
Liability to shareholders for previous acquisition	363	363
Legal and professional fees	86	96
Warranty and other sale obligations	16	18
Commissions	36	37
Other	169	182
	\$ 907	\$ 1,045

**8. Stockholders' Equity****Common Stock**

The Company has one class of common stock, par value \$.01. Each share of the Company's common stock is entitled to one vote on all matters submitted to stockholders. As of December 31, 2015 and 2014 there were 5,258,883 shares of common stock issued and outstanding.

**Reservation of Shares**

The Company has reserved common shares for future issuance as follows as of December 31, 2015:

Stock options outstanding	926,565
Common stock available for future equity awards or issuance of options	280,436
Number of common shares reserved	1,207,001

**9. Retirement Plan**

The Company maintains a voluntary savings and retirement plan under IRC Section 401(k) covering substantially all employees. Employees must complete six months of service and have attained the age of twenty-one prior to becoming eligible for participation in the plan. The Company plan allows eligible employees to contribute a percentage of their compensation on a pre-tax basis and the Company matches employee contributions dollar for dollar up to a discretionary amount, currently 4%, of the employee's salary, subject to annual tax deduction limitations. Company matching contributions vest at a rate of 25% annually for each year of service completed. Company matching contributions were \$119 thousand and \$83 thousand for 2015 and 2014, respectively. The Company may also make additional discretionary contributions in amounts as determined by management and the Board of Directors. There were no additional discretionary contributions by the Company for the years 2015 or 2014.

**10. (Loss) Income per Share**

The following table sets forth the reconciliation of the numerators and denominators of the basic and diluted per share computations for continuing operations for the years ended December 31:

<b>(dollars in thousands, except shares)</b>	<b>2015</b>	<b>2014</b>
<b><u>Numerator:</u></b>		
Net (loss) income	\$ (2,832)	\$ 740
<b><u>Denominator:</u></b>		
<b>Basic EPS:</b>		
Common shares outstanding, beginning of period	5,258,883	5,256,883
Weighted average common shares issued during the period	—	477
Denominator for basic earnings per common shares — Weighted average common shares	5,258,883	5,257,360
<b>Diluted EPS:</b>		
Common shares outstanding, beginning of period	5,258,883	5,256,883
Common stock equivalents – options	—	206,643
Weighted average common shares issued during the period	—	477
Denominator for diluted earnings per common shares - Weighted average common shares	5,258,883	5,464,003

Not included in the computation of earnings per share-assuming dilution for the year ended December 31, 2015 were options to purchase 926,565 shares of the Company's common stock. These potentially dilutive items were excluded because the Company incurred a loss during the periods and their inclusion would be anti-dilutive.

Not included in the computation of earnings per share-assuming dilution for the year ended December 31, 2014 were options to purchase 383,158 shares of the Company's common stock. These potentially dilutive items were excluded even though the average market price of the common stock exceeded the exercise prices for a portion of the options because the calculation of incremental shares resulted in an anti-dilutive effect.

## 11. Stock Based Compensation

Stock-based incentive awards are provided to employees and directors under the terms of the Company's 1996 Stock Incentive Plan (1996 Plan), 1999 Employee Stock Incentive Plan (1999 Plan), 2006 Equity Incentive Plan (2006 Plan), which was amended and restated effective June 30, 2011 and September 16, 2009, 2012 Equity Incentive Plan (the 2012 Plan) and 2014 Equity Incentive Plan (the 2014 Plan), (collectively, the Plans). Awards under the Plans have generally included at-the-money options and restricted stock grants.

Stock options are awards which allow holders to purchase shares of the Company's common stock at a fixed price. Stock options issued to employees generally vest 50% immediately, and then quarterly over the next three years. Options issued to non-employee members of the MTI Board of Directors generally vest upon grant. Certain options granted may be fully or partially exercisable immediately, may vest on other than a four year schedule or vest upon attainment of specific performance criteria. Restricted stock awards generally vest one year after the date of grant; however, certain awards may vest immediately or vest upon attainment of specific performance criteria. Option exercise prices are generally equivalent to the closing market price of the Company's common stock on the date of grant. Unexercised options generally terminate either seven or ten years after date of grant.

The 1996 Plan was approved by stockholders during December 1996 and expired during October 2006. The 1996 Plan provided an initial aggregate number of 500,000 shares of common stock to be awarded or issued. The number of shares available to be awarded under the 1996 Plan and awards outstanding were adjusted for stock splits and rights offerings. The total number of shares which may be awarded under the 1996 Plan was 468,352 during 2005. Under the 1996 Plan, the Board of Directors was authorized to issue stock options, stock appreciation rights, restricted stock, and other stock-based incentives to officers, employees and others.

The 1999 Plan was adopted by the Company's Board of Directors, approved by stockholders on March 18, 1999 and expired during 2009. The 1999 Plan provided an initial aggregate number of 1,000,000 shares of common stock to be awarded or issued. The number of shares to be awarded under the 1999 Plan and awards outstanding were adjusted for stock splits, and during 2005, 2006, and 2007, the total number of shares which could be awarded under the 1999 Plan was 562,500 shares. Under the 1999 Plan, the Board of Directors was authorized to issue stock-based awards to officers, employees and others.

The 2006 Plan was adopted by the Company's Board of Directors on March 16, 2006 and approved by stockholders on May 18, 2006. The plan was amended and restated by the Board of Directors effective September 16, 2009 and June 30, 2011. The September 16, 2009 Amended and Restated 2006 Equity Incentive Plan increased the initial aggregate number of 250,000 shares of common stock which may be awarded or issued to 600,000, and the June 30, 2011 Amended and Restated 2006 Equity Incentive Plan increased the aggregate number of shares of common stock which may be awarded or issued to 1,200,000. The number of shares which may be awarded under the 2006 Plan and awards outstanding has been adjusted for stock splits and other similar events. Under the 2006 Plan, the Board of Directors is authorized to issue stock options, stock appreciation rights, restricted stock, and other stock-based incentives to officers, employees and others. In connection with seeking stockholder approval of the 2012 Plan, the Company agreed not to make further awards under the 2006 Plan.

The 2012 Plan was adopted by the Company's Board of Directors on April 14, 2012 and approved by its stockholders on June 14, 2012. The 2012 Plan provides an initial aggregate number of 600,000 shares of common stock which may be awarded or issued. The number of shares which may be awarded under the 2012 Plan and awards outstanding may be subject to adjustment on account of any recapitalization, reclassification, stock split, reverse stock split and other dilutive changes in Common Stock. Under the 2012 Plan, the Board of Directors is authorized to issue stock options (incentive and nonqualified), stock appreciation rights, restricted stock, restricted stock units and other stock-based awards to employees, officers, directors, consultants and advisors of the Company and its subsidiaries. Incentive stock options may only be granted to employees of the Company and its subsidiaries.

The 2014 Plan was adopted by the Company's Board of Directors on March 12, 2014 and approved by its stockholders on June 11, 2014. The 2014 Plan provides an initial aggregate number of 500,000 shares of common stock that may be awarded or issued. The number of shares that may be awarded under the 2014 Plan and awards outstanding may be subject to adjustment on account of any stock dividend, spin-off, stock split, reverse stock split, split-up, recapitalization, reclassification, reorganization, combination or exchange of shares, merger, consolidation, liquidation, business combination, exchange of shares or the like. Under the 2014 Plan, the Board appointed administrator of the 2014 Plan is authorized to issue stock options (incentive and nonqualified), stock appreciation rights, restricted stock, restricted stock units, phantom stock, performance awards and other stock-based awards to employees, officers and directors of, and other individuals providing bona fide services to or for, the Company or any affiliate of the Company. Incentive stock options may only be granted to employees of the Company and its subsidiaries.

During 2015, the Company granted 140,000 options to purchase the Company's common stock from the 2014 Plan, which generally vest 25% on each of the first four anniversaries of the date of the award. The exercise price of these grants was \$1.20 per share and was based on the closing market price of the Company's common stock on the date of grant. Using a Black-Scholes Option Pricing Model, the weighted average fair value of these options was \$1.14 per share and was estimated at the date of grant.

During 2014, the Company granted 140,000 options to purchase the Company's common stock from the 2012 Plan, which generally vest 25% on each of the first four anniversaries of the date of the award. The exercise price of these grants was \$1.08 per share and was based on the closing market price of the Company's common stock on the date of grant. Using a Black-Scholes Option Pricing Model, the weighted average fair value of these options was \$1.07 per share and was estimated at the date of grant.

During 2014, the Company granted 102,000 options to purchase the Company's common stock from the 2014 Plan, which generally vest 25% on each of the first four anniversaries of the date of the award. The exercise price of these grants was \$0.85 per share and was based on the closing market price of the Company's common stock on the date of grant. Using a Black-Scholes Option Pricing Model, the weighted average fair value of these options was \$0.84 per share and was estimated at the date of grant.

Stock-based compensation expense for the years ended December 31, 2015 and 2014 was generated from stock option awards. Stock options are awards which allow holders to purchase shares of the Company's common stock at a fixed price. Under the 2014 and 2012 Plans, stock options issued to employees generally vest 25% over four years. Options issued to non-employee members of the MTI Board of Directors generally vest 25% over four years. Certain options granted may be fully or partially exercisable immediately, may vest on other than a four year schedule or vest upon attainment of specific performance criteria. Restricted stock awards generally vest one year after the date of grant; however, certain awards may vest immediately or vest upon attainment of specific performance criteria. Option exercise prices are generally equivalent to the closing market value price of the Company's common stock on the date of grant. Unexercised options generally terminate ten years after date of grant.

The Company estimates the fair value of stock options using a Black-Scholes valuation model. Key inputs and assumptions used to estimate the fair value of stock options include the grant price of the award, the expected option term, volatility of the Company's stock, an appropriate risk-free rate, and the Company's dividend yield. Estimates of fair value are not intended to predict actual future events or the value ultimately realized by employees who receive equity awards, and subsequent events are not indicative of the reasonableness of the original estimates of fair value made by the Company. The Company's estimate of an expected option term was calculated in accordance with the simplified method for calculating the expected term assumption.

The following table presents the weighted-average assumptions used for options granted under the 2014 Plan:

	<b>2015</b>	<b>2014</b>
Option term (years)	4.25	6.25
Volatility	191.97%	193.96%
Risk-free interest rate	1.57%	1.91%
Dividend yield	0%	0%
Weighted-average fair value per option granted	\$ 1.14	\$ 0.84

The following table presents the weighted-average assumptions used for options granted under the 2012 Plan:

	<b>2014</b>
Option term (years)	6.29
Volatility	202.37%
Risk-free interest rate	1.59%
Dividend yield	0%
Weighted-average fair value per option granted	\$ 1.07

Share-based compensation expense recognized in the Consolidated Statements of Operations is based on awards ultimately expected to vest, therefore, awards are reduced for estimated forfeitures. The revised accounting standard requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

Total share-based compensation expense, related to all of the Company's share-based awards, recognized for the years ended December 31, was comprised as follows:

	<b>2015</b>	<b>2014</b>
<b>(dollars in thousands, except eps)</b>		
Cost of product revenue	\$ 2	\$ 2
Research and product development	9	6

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Selling, general and administrative	130	77
Share-based compensation expense	\$ 141	\$ 85
Impact on basic and diluted EPS	\$ 0.03	\$ 0.016

Total unrecognized compensation costs related to non-vested awards as of December 31, 2015 and December 31, 2014 is \$307 thousand and \$295 thousand, respectively, and is expected to be recognized over a weighted-average remaining vesting period of approximately 2.56 years and 2.71 years, respectively.

Presented below is a summary of the Company's stock option plans' activity for the years ended December 31:

	<b>2015</b>	<b>2014</b>
Shares under option, beginning	802,908	585,382
Granted	140,000	242,000
Exercised	—	(2,000)
Forfeited	(11,061)	(5,750)
Expired/canceled	(5,282)	(16,724)
Shares under option, ending	926,565	802,908
Options exercisable	456,400	291,455
Remaining shares available for granting of options	280,436	406,500



The weighted average exercise price for the Plans is as follows for each of the years ended December 31:

	<b>2015</b>	<b>2014</b>
Shares under option, beginning	\$ 0.72	\$ 0.99
Granted	\$ 1.20	\$ 0.98
Exercised	\$	\$ 0.46
Forfeited	\$ 0.72	\$ 0.47
Expired/canceled	\$ 4.54	\$ 14.05
Shares under option, ending	\$ 0.77	\$ 0.72
Options exercisable, ending	\$ 0.63	\$ 0.68

The following table summarizes information for options outstanding and exercisable for the Plans as of December 31, 2015:

<b>Exercise</b>	<b>Outstanding Options</b>			<b>Options Exercisable</b>		
	<b>Number</b>	<b>Weighted Average Remaining Contractual Life</b>	<b>Weighted Average Exercise Price</b>	<b>Number</b>	<b>Weighted Average Exercise Price</b>	
<b>Price Range</b>						
\$0.00 - \$1.15	766,564	7.26	\$ 0.66	436,399		\$ 0.56
\$1.16 - \$3.60	159,000	8.54	\$ 1.22	19,000		\$ 1.40
\$14.25 - \$22.64	1,001	0.70	\$ 16.14	1,001		\$ 16.14
	926,565	7.48	\$ 0.77	456,400		\$ 0.63

The aggregate intrinsic value (i.e. the difference between the closing stock price and the price to be paid by the option holder to exercise the option) is \$237 thousand for the Company's outstanding options and \$171 thousand for the exercisable options as of December 31, 2015. The amounts are based on the Company's closing stock price of \$0.94 as of December 31, 2015.

There were no unvested restricted stock grants for the year ended December 31, 2015 and 2014.

Non-vested options activity is as follows for the year ended December 31:

	<b>2015</b>	<b>2015 Weighted Average Exercise Price</b>
	<b>Options</b>	
Non-vested options balance, beginning January 1	511,453	\$0.74
Non-vested options granted	140,000	\$1.20
Vested options	(170,227)	\$0.67
Non-vested options forfeited	(11,061)	\$0.72
Non-vested options balance, ending December 31	470,165	\$0.91

## 12. Commitments and Contingencies

### Contingencies:

#### *Legal*

We are subject to legal proceedings, claims and liabilities which arise in the ordinary course of business. When applicable, we accrue for losses associated with legal claims when such losses are probable and can be reasonably estimated. These accruals are adjusted as additional information becomes available or circumstances change. Legal fees are charged to expense as they are incurred.

### Commitments:

#### *Leases*

The Company and its subsidiary lease certain manufacturing, laboratory and office facilities. The lease provides for the Company to pay its allocated share of insurance, taxes, maintenance and other costs of the leased property. Under the agreement, MTI Instruments has an option to terminate the lease as of December 1, 2016. If MTI Instruments terminates the lease prior to November 2019, MTI Instruments is required to reimburse the landlord for all unamortized costs that the landlord incurred for renovations to the leased space in conjunction with the lease renewal.

Future minimum rental payments required under non-cancelable operating leases (with initial or remaining lease terms in excess of one year) as of December 31, 2015 are (dollars in thousands): \$225 in 2016, \$227 in 2017, \$221 in 2018

and \$207 in 2019. Rent expense under all leases was \$231 thousand and \$280 thousand for 2015 and 2014, respectively.

### ***Employment Agreement***

The Company has an employment agreement with one employee that provides certain payments upon termination of employment under certain circumstances, as defined in the agreement. As of December 31, 2015, the Company's potential minimum obligation to this employee was approximately \$66 thousand.

## **13. Related Party Transactions**

### ***MeOH Power, Inc.***

As of December 31, 2015, the Company owned an aggregate of approximately 47.5% of MeOH Power, Inc.'s outstanding common stock, or 75,049,937 shares, and 55.5% of the common stock and warrants issued, which includes 31,904,136 warrants outstanding. The number of shares of MeOH Power, Inc.'s common stock authorized for issuance is 240,000,000 as of December 31, 2015.

On December 18, 2013, MeOH Power, Inc. and the Company executed a Senior Demand Promissory Note (the Note) in the amount of \$380 thousand to secure the intercompany amounts due to the Company from MeOH Power, Inc. upon the deconsolidation of MeOH Power, Inc. Interest accrues on the Note at the Prime Rate in effect on the first business day of the month, as published in the Wall Street Journal. At the Company's option, all or part of the principal and interest due on this Note may be converted to shares of common stock of MeOH Power, Inc. at a rate of \$0.07 per share. Interest began accruing on January 1, 2014. At December 31, 2013, the Company recorded a full allowance against the Note. In 2014, \$115 thousand was received from MeOH Power, Inc. in principle and interest and an additional \$20 thousand was released from the allowance in advance of a January 2015 payment from MeOH Power, Inc. As of December 31, 2015 and December 31, 2014, \$266 thousand and \$278 thousand, respectively, of principal and interest are available to convert into shares of common stock of MeOH Power, Inc. Any adjustments to the allowance are recorded as miscellaneous expense during the period incurred.

## **14. Geographic and Segment Information**

The Company sells its products on a worldwide basis with its principal markets listed in the table below where information on product revenue is summarized by geographic area for the Company as a whole for each of the years ended December 31:

(dollars in thousands)	2015	2014
<b>Product revenue:</b>		
United States	\$ 4,139	\$ 5,653
ASEAN	1,421	2,529
EMEA	650	496
North America	106	76
South America	14	27
 Total product revenue	 \$ 6,330	 \$ 8,781

Revenues are attributed to regions based on the location of customers. In 2015 and 2014, approximately 34.6% and 35.6%, respectively, of our product revenues was from customers outside of the United States.

Long-lived assets of \$115 thousand and \$140 thousand at December 31, 2015 and 2014, respectively consist of property, plant and equipment all located within the United States.

At MTI Instruments, the largest commercial customer in 2015 was an Asian distributor of our general instrumentation products, who accounted for 6.8% of total product revenue in 2015. The largest commercial customer in 2014 was an Asian customer, who accounted for 8.3% of total product revenue in 2014. The U.S. Air Force continues to be the largest government customer, accounting for 4.4% of total product revenue in 2015 and 27.9% of total product revenue in 2014.

As of January 1, 2014, the Company operates in one segment and therefore segment information is not presented.

## 15. Debt

On June 16, 2015, the Company entered into a Loan Agreement (the Loan) with Bank of America, N.A. (the Bank) to replace its previous line of credit with the Bank. The Loan contains three different line of credit facilities for use in future capital requirements and strategic initiatives. All the credit facilities under the Loan are available until July 31, 2016 and may be renewed subject to all the terms and conditions as set forth in the Loan. Except as otherwise stated in the Loan, all interest and fees, if any, will be computed on the basis of a 360-day year and the actual number of days elapsed. The Loan is secured by equipment and fixtures, inventory and receivables owned by the Company and guaranteed by MTI Instruments. The Loan requires the Company to provide specified financial information within 120 days of its fiscal year end and maintain on a consolidated basis a Debt Service Coverage Ratio of at least 1.25 to 1.0 on an annual basis. The Company is also subject to other restrictions as set forth in the Loan.

The Company may borrow under the Facility No. 1 Commitment revolving line of credit from time to time up to \$1 million for working capital needs. This facility is similar to the line of credit that was entered into in May 2014. The Facility No. 1 Commitment is payable no later than the expiration date of the Loan and interest is payable on the last day of each month beginning on June 30, 2015 and until payment has been made in full. The interest rate on funds borrowed under the Facility No. 1 Commitment is equal to the LIBOR Daily Floating Rate plus 2.50%.

The Company may borrow under the Facility No. 2 Commitment non-revolving line of credit from time to time up to \$1 million for stock repurchases. Any amount borrowed under the Facility No. 2 Commitment permanently reduces the amount remaining available to borrow under this line of credit. Any principal borrowed under the Facility No. 2 Commitment is payable in equal installments beginning on August 31, 2016, and on the same day of each month thereafter, and ending on July 31, 2021 (the Repayment Period) and may be prepaid in full or in part at any time. The interest rate on funds borrowed under the Facility No. 2 Commitment is equal to the LIBOR Rate (Adjusted Periodically) plus 2.50% and will be adjusted on the first day of the month of every month (the Adjustment Date) and remain fixed until the next Adjustment Date. This facility provides for payment of any accrued interest on June 30, 2015, and then on the last day of each month thereafter until payment in full of any principal outstanding under this facility. Each prepayment of an amount bearing interest must be accompanied by the amount of accrued interest on the amount prepaid and a prepayment fee. During the Repayment Period, the Company has a one-time option to convert the interest rate on the loan from the rate specified above to a fixed rate, provided no event of default exists.

The Company may borrow under the Facility No. 3 Commitment non-revolving line of credit from time to time up to \$500 thousand for capital equipment needs. Any amount borrowed under the Facility No. 3 Commitment permanently reduces the amount remaining available to borrow under this line of credit. Any principal borrowed under the Facility No. 3 Commitment is payable in equal installments beginning on August 31, 2016, and on the same day of each month thereafter, and ending on July 31, 2021 (the Repayment Period) and may be prepaid in full or in part at any

time. The interest rate on funds borrowed under the Facility No. 3 Commitment is equal to the LIBOR Rate (Adjusted Periodically) plus 2.50% and will be adjusted on the first day of the month of every month (the Adjustment Date) and remain fixed until the next Adjustment Date. This facility provides for payment of any accrued interest on June 30, 2015, and then on the last day of each month thereafter until payment in full of any principal outstanding under this facility. Each prepayment of an amount bearing interest must be accompanied by the amount of accrued interest on the amount prepaid and a prepayment fee. During the Repayment Period, the Company has a one-time option to convert the interest rate on the loan from the rate specified above to a fixed rate, provided no event of default exists.

As of December 31, 2015, there were no amounts outstanding under these credit facilities.

## **16. Subsequent Event**

During the first quarter of 2016, we entered into discussions with the Bank to strengthen the lines of credit and re-align their terms to be more consistent with our current business plan. During such discussions, the Bank informed the Company that based on its results for 2015 it was not in compliance with certain financial covenants of the Loan. Since an agreement on new covenants could not be reached, the Company decided that the lines of credit could not be utilized and therefore were terminated by the Company on March 24, 2016. There were no amounts outstanding under the credit facilities at the time of cancellation.