



Mechanical Technology, Incorporated

A New York Corporation

Listed on the OTC Markets quotation system on the OTC Pink – Current Information tier

Current Trading Symbol: MKTY

CUSIP Number: 583538202

Annual Report - Amended

**For the Years Ended
December 31, 2018 and 2017**

Including Consolidated Financial Statements and Notes and Disclosures Prescribed by OTC Pink Market

Originally Filed on February 26, 2019

Amended Filed on February 27, 2019

1) Name of the issuer and its predecessors (if any)

Mechanical Technology, Incorporated (the "Company")

2) Address of the issuer's principal executive offices

Company Headquarters

Address 1: 325 Washington Avenue Extension

Address 2: Albany, NY 12205

Phone: 518.218.2550

Email: contact@mechtech.com

Website(s): <https://www.mechtech.com/>

IR Contact

Address 1: 325 Washington Avenue Extension

Address 2: Albany, NY 12205

Phone: 518.218.2550

Email: contact@mechtech.com

Website(s): <https://www.mechtech.com/>

3) Security Information

Trading Symbol: MKTY

Exact title and class of securities outstanding: Common Stock

CUSIP: 583538202

Par or Stated Value: \$0.01

Total shares authorized: 75,000,000 as of: 12/31/18

Total shares outstanding: 9,437,177 as of: 12/31/18

Additional class of securities (if necessary):

Trading Symbol: N/A

Exact title and class of securities outstanding: N/A

CUSIP: N/A

Par or Stated Value: N/A

Total shares authorized: N/A as of: N/A

Total shares outstanding: N/A as of: N/A

Transfer Agent

Name: American Stock Transfer & Trust Company, LLC

Address 1: 6201 15th Avenue

Address 2: Brooklyn, NY 11219

Phone: 800.937.5449

Is the Transfer Agent registered under the Exchange Act?* Yes: X No: ☐

*To be included in the OTC Pink Current Information tier, the transfer agent must be registered under the Exchange Act.

List any restrictions on the transfer of security:

NONE

Describe any trading suspension orders issued by the SEC in the past 12 months.

NONE

List any stock split, stock dividend, recapitalization, merger, acquisition, spin-off, or reorganization either currently anticipated or that occurred within the past 12 months:

NONE

4) Issuance History

The list below includes any events, in chronological order, that resulted in changes in total shares outstanding by the issuer in the past two fiscal years and any interim period. The list includes all offerings of equity securities, including debt convertible into equity securities, whether private or public, and all shares or any other securities or options to acquire such securities issued for services, describing (1) the securities, (2) the persons or entities to whom such securities were issued and (3) the services provided by such persons or entities.

Issuances to Employees and Directors:

From January 1, 2017 through December 31, 2018, the Company awarded to certain of its employees and directors options to purchase an aggregate of 160,000 shares of Common Stock at an exercise price of \$0.90 per share. Such options were awarded to these employees and directors for services provided to the Company.

From January 1, 2017 through December 31, 2018, certain of the employees and directors of the Company exercised options to purchase an aggregate of 426,534 shares of Common Stock at exercise prices ranging from \$0.29 to \$1.40 per share. Such options were awarded to these employees and directors for services provided to the Company and pursuant to registration statements filed with the Securities and Exchange Commission. See table.

Number of Shares outstanding as of January 1, 2017	Opening Balance: Common: <u>10,026,136</u> Preferred: <u>0</u>		*Right-click the rows below and select "Insert" to add rows as needed.						
Date of Transaction	Transaction type (e.g. new issuance, cancellation, shares returned to treasury)	Number of Shares Issued (or cancelled)	Class of Securities	Value of shares issued (\$/per share) at issuance	Were the shares issued at a discount to market price at the time of issuance? (Yes/No)	Individual/ Entity Shares were issued to (entities must have individual with voting / investment control disclosed).	Reason for share issuance (e.g. for cash or debt conversion) OR Nature of Services Provided (if applicable)	Restricted or Unrestricted as of this filing?	
<u>01/04/17</u>	<u>New issuance</u>	<u>1,250</u>	<u>Common Stock</u>	<u>\$0.59</u>	<u>No</u>	<u>Robert T Carpenter</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>01/04/17</u>	<u>New issuance</u>	<u>2,500</u>	<u>Common Stock</u>	<u>\$0.29</u>	<u>No</u>	<u>Robert T Carpenter</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>01/04/17</u>	<u>New issuance</u>	<u>1,500</u>	<u>Common Stock</u>	<u>\$0.75</u>	<u>No</u>	<u>Robert T Carpenter</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>01/04/17</u>	<u>New issuance</u>	<u>2,000</u>	<u>Common Stock</u>	<u>\$0.85</u>	<u>No</u>	<u>Robert T Carpenter</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>01/04/17</u>	<u>New issuance</u>	<u>2,000</u>	<u>Common Stock</u>	<u>\$0.78</u>	<u>No</u>	<u>Robert T Carpenter</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>02/10/17</u>	<u>New issuance</u>	<u>500</u>	<u>Common Stock</u>	<u>\$1.40</u>	<u>No</u>	<u>Frederick W Hallenbeck</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>03/06/17</u>	<u>New issuance</u>	<u>10,000</u>	<u>Common Stock</u>	<u>\$0.29</u>	<u>No</u>	<u>Daniel Kim</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>03/20/17</u>	<u>New issuance</u>	<u>10,000</u>	<u>Common Stock</u>	<u>\$0.75</u>	<u>No</u>	<u>Daniel Kim</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>03/22/17</u>	<u>New issuance</u>	<u>1,250</u>	<u>Common Stock</u>	<u>\$0.59</u>	<u>No</u>	<u>David A Smith</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>03/22/17</u>	<u>New issuance</u>	<u>925</u>	<u>Common Stock</u>	<u>\$0.29</u>	<u>No</u>	<u>David A Smith</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>03/23/17</u>	<u>New issuance</u>	<u>1,575</u>	<u>Common Stock</u>	<u>\$0.29</u>	<u>No</u>	<u>David A Smith</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>03/23/17</u>	<u>New issuance</u>	<u>1,625</u>	<u>Common Stock</u>	<u>\$0.75</u>	<u>No</u>	<u>David A Smith</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>03/29/17</u>	<u>New issuance</u>	<u>2,340</u>	<u>Common Stock</u>	<u>\$0.75</u>	<u>No</u>	<u>Daniel Kim</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>03/30/17</u>	<u>New issuance</u>	<u>2,600</u>	<u>Common Stock</u>	<u>\$0.75</u>	<u>No</u>	<u>Daniel Kim</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>04/04/17</u>	<u>New issuance</u>	<u>12,537</u>	<u>Common Stock</u>	<u>\$0.85</u>	<u>No</u>	<u>Daniel Kim</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>04/05/17</u>	<u>New issuance</u>	<u>15,060</u>	<u>Common Stock</u>	<u>\$0.75</u>	<u>No</u>	<u>Daniel Kim</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>04/05/17</u>	<u>New issuance</u>	<u>27,463</u>	<u>Common Stock</u>	<u>\$0.85</u>	<u>No</u>	<u>Daniel Kim</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>04/05/17</u>	<u>New issuance</u>	<u>35,000</u>	<u>Common Stock</u>	<u>\$0.78</u>	<u>No</u>	<u>Daniel Kim</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>06/21/17</u>	<u>New issuance</u>	<u>5,000</u>	<u>Common Stock</u>	<u>\$0.78</u>	<u>No</u>	<u>Matthew T Denoncour</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>08/29/17</u>	<u>New issuance</u>	<u>1,250</u>	<u>Common Stock</u>	<u>\$0.29</u>	<u>No</u>	<u>Heidi Co</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>10/09/17</u>	<u>New issuance</u>	<u>1,500</u>	<u>Common Stock</u>	<u>\$0.75</u>	<u>No</u>	<u>Heidi Co</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>10/09/17</u>	<u>New issuance</u>	<u>1,000</u>	<u>Common Stock</u>	<u>\$0.78</u>	<u>No</u>	<u>Heidi Co</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	

Number of Shares outstanding as of January 1, 2017	<u>Opening Balance:</u> Common: <u>10,026,136</u> Preferred: <u>0</u>		*Right-click the rows below and select "Insert" to add rows as needed.						
Date of Transaction	Transaction type (e.g. new issuance, cancellation, shares returned to treasury)	Number of Shares Issued (or cancelled)	Class of Securities	Value of shares issued (\$/per share) at issuance	Were the shares issued at a discount to market price at the time of issuance? (Yes/No)	Individual/ Entity Shares were issued to (entities must have individual with voting / investment control disclosed).	Reason for share issuance (e.g. for cash or debt conversion) OR Nature of Services Provided (if applicable)	Restricted or Unrestricted as of this filing?	
<u>11/01/17</u>	<u>New issuance</u>	<u>4,089</u>	<u>Common Stock</u>	<u>\$0.59</u>	<u>No</u>	<u>Edward D O'Connor</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>11/01/17</u>	<u>New issuance</u>	<u>12,500</u>	<u>Common Stock</u>	<u>\$0.29</u>	<u>No</u>	<u>Edward D O'Connor</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>11/01/17</u>	<u>New issuance</u>	<u>9,375</u>	<u>Common Stock</u>	<u>\$0.52</u>	<u>No</u>	<u>Edward D O'Connor</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>11/01/17</u>	<u>New issuance</u>	<u>10,000</u>	<u>Common Stock</u>	<u>\$0.78</u>	<u>No</u>	<u>Edward D O'Connor</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>12/15/17</u>	<u>New issuance</u>	<u>25,000</u>	<u>Common Stock</u>	<u>\$0.29</u>	<u>No</u>	<u>Kevin G Lynch</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>12/15/17</u>	<u>New issuance</u>	<u>100,000</u>	<u>Common Stock</u>	<u>\$0.46</u>	<u>No</u>	<u>Kevin G Lynch</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>12/15/17</u>	<u>New issuance</u>	<u>53,000</u>	<u>Common Stock</u>	<u>\$0.78</u>	<u>No</u>	<u>Kevin G Lynch</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>01/05/18</u>	<u>New issuance</u>	<u>5,695</u>	<u>Common Stock</u>	<u>\$0.29</u>	<u>No</u>	<u>Walter L. Robb</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>04/10/18</u>	<u>New issuance</u>	<u>12,500</u>	<u>Common Stock</u>	<u>\$0.29</u>	<u>No</u>	<u>Thomas J. Marusak</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>10/08/18</u>	<u>New issuance</u>	<u>5,000</u>	<u>Common Stock</u>	<u>\$0.29</u>	<u>No</u>	<u>John N. Hamilton</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>12/13/18</u>	<u>New issuance</u>	<u>15,000</u>	<u>Common Stock</u>	<u>\$0.59</u>	<u>No</u>	<u>Thomas J. Marusak</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>12/13/18</u>	<u>New issuance</u>	<u>12,500</u>	<u>Common Stock</u>	<u>\$0.52</u>	<u>No</u>	<u>Thomas J. Marusak</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
<u>12/13/18</u>	<u>New issuance</u>	<u>23,000</u>	<u>Common Stock</u>	<u>\$0.78</u>	<u>No</u>	<u>Thomas J. Marusak</u>	<u>Option Exercise</u>	<u>Unrestricted</u>	
Shares Outstanding on <u>December 31, 2018</u>	<u>Ending Balance:</u> Common: <u>10,452,670</u> Preferred: <u>0</u>								

5) Financial Statements

The information called for by this Item 5 is included following the "Index to Consolidated Financial Statements" contained in this quarterly report.

6) Describe the Issuer's Business, Products and Services

A. Description of the Business Operations

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; 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.

B. Date and State (or Jurisdiction) of Incorporation

October 3, 1961, New York

C. Primary and Secondary SIC Codes

3829

D. Fiscal Year End Date

December 31

E. Principal Products or Services and Their Markets

We offer precision measurement products in the following categories:

Non-Contact Measurement

Non-contact displacement sensing can be accomplished by a variety of sensors such as capacitance, laser triangulation and fiber optic sensors. These sensors are used to measure such things as semiconductor surface profiles, brake rotor run out, parts stack up heights for smart phones – all these down to micrometer resolution! Since non-contact sensing doesn't touch the part, there is no part loading and no marks or dents are left on the target being measured.

Products: Capacitance Sensors; 1D, 2D, 3D Laser Systems and Fiber Optic Sensors

Turbine Engine / Rotating Machine Measurement and Balancing

Our balancing and vibration analysis systems serve the engine propulsion and the power generation industry segments throughout the world. Our portable and test cell balancing systems are used by major aircraft engine and turbine manufacturers, US and foreign militaries and by Maintenance, Repair and Overhaul (MRO) organizations to efficiently reduce turbine vibration on a variety of military and civilian airplane engine types.

Our systems first identify vibration magnitude, then further assist the user with an intuitive step-by-step balancing solution – solving balancing equations with powerful algorithms to provide the best engine vibration/balancing solutions. The result is a dramatic reduction in engine vibration; subsequently minimizing fuel burn and maximizing service intervals. As engine designs continue to evolve, we also offer an advanced tachometer signal conditioner which detects and conditions critical amplitude and timing changes on speed signals from raw analog inputs (N1, N2, N3) and also from engine FADEC systems.

Products: Vibration and Balancing Systems; Engine Signal Conditioning; and Charge Amplifiers

Diagnostic Equipment

Our portable signal generator is ideal for testing the integrity of sensor signal conditioning electronics. Encased in a rugged shell, this battery operated function generator can be used in the field to simulate sensor signals. It simulates eddy current, accelerometer, strain gauge and other types of pulse, sinusoidal, triangle, or digital pulse trains. The sweep function tests the frequency response of the subsequent signal conditioning devices.

Its highly accurate DC output can be used to calibrate electronic amplifiers' gain settings such as strain gauge amplifiers. Its portability and features are popular for use among railroad signal servicing, power plant, test labs and many other laboratory uses. Since our portable signal generator is handheld and battery operated, it's even been used to simulate low level medical EEG and EKG signals for calibration of signal conditioning equipment since it can be isolated from power ground.

Products: Portable Precision Signal Generator

Semiconductor / Solar Metrology Systems

We offer manual and semi-automated metrology systems for the solar and semiconductor industries. These capacitance based systems, built around the Company's proprietary push/pull technology, provide non-contact measurement of thickness, TTV, and bow/warp. Applications include the fabrication of solar/photovoltaic, semiconducting, and semi-insulating wafers.

Products: Manual Semiconductor Metrology System; Semi-automated Metrology System; Photovoltaic/Solar Metrology System

OEM / Custom Solutions

For OEMs with more tailored precision displacement needs, we offer rapid-deployment custom measurement solutions. The building block of our custom systems is the Accumeasure platform of amplifiers which can be custom-made to match specific performance needs. This platform provides exceptional value and offers sub-nanometer resolution, extremely high stability, and fast response time, making it ideal for many different applications including micro-positioning, thermal correction, focusing and closed-loop applications.

Our 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. 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. 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.

See our website at <https://www.mtiinstruments.com/products/> for more information regarding our business, products, and services.

7) Describe the Issuer's Facilities

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.

We lease two copier/printers. The current lease agreement expires in June 2020.

We lease a storage facility on a month-to-month basis from an independent third party.

8) **Officers, Directors, and Control Persons**

A. **Names of Officers, Directors, and Control Persons**

As of the date of this report, below are the names of each of the Company's executive officers, directors, general partners and control persons of more than five percent (5%) of any class of our equity securities.

Executive Officers and Directors:

Frederick Jones – Chief Executive Officer and Chief Financial Officer
David C. Michaels – Chairman of the Board
Edward R. Hirshfield – Director
Matthew E. Lipman – Director
Thomas J. Marusak – Director
William P. Phelan – Director
Michael Toporek – Director

Control Persons:

As the owner of approximately 39.7% of the outstanding shares of Common Stock of the Company, Brookstone XXIV may be deemed to be a Control Person of the Company. As the Managing Member of Brookstone XXIV, BP XXIV Flow, LLC ("Brookstone Flow") may be deemed to beneficially own the shares of Common Stock owned directly by Brookstone XXIV. As the Managing Member of Brookstone Flow, BP XXIV Meter, LLC ("Brookstone Meter") may be deemed to beneficially own the shares of Common Stock owned directly by Brookstone XXIV. As the Managing Member of Brookstone Meter, Brookstone Partners I.A.C. may be deemed to beneficially own the shares of Common Stock owned directly by Brookstone XXIV. Accordingly, each of Brookstone Flow, Brookstone Meter and Brookstone Partners I.A.C. may also be deemed to be a Control Person of the Company. Each of Brookstone Flow, Brookstone Meter and Brookstone Partners I.A.C. disclaims beneficial ownership of the shares of Common Stock owned directly by Brookstone XXIV except to the extent of his or its pecuniary interest therein.

Michael Toporek is the President and Chief Executive Officer of each of Brookstone XXIV, Brookstone Flow and Brookstone Meter and Brookstone Partners I.A.C. Matthew E. Lipman is the Vice President of each of Brookstone XXIV, Brookstone Flow and Brookstone Meter. Matthew E. Lipman is the Secretary of Brookstone Partners I.A.C.

B. **Legal/Disciplinary History**

None of the foregoing persons have, in the last five years, been the subject of:

1. A conviction in a criminal proceeding or named as a defendant in a pending criminal proceeding (excluding traffic violations and other minor offenses);
2. The entry of an order, judgment, or decree, not subsequently reversed, suspended or vacated, by a court of competent jurisdiction that permanently or temporarily enjoined, barred, suspended or otherwise limited such person's involvement in any type of business, securities, commodities, or banking activities;
3. A finding or judgment by a court of competent jurisdiction (in a civil action), the Securities and Exchange Commission, the Commodity Futures Trading Commission, or a state securities regulator of a violation of federal or state securities or commodities law, which finding or judgment has not been reversed, suspended, or vacated; or
3. The entry of an order by a self-regulatory organization that permanently or temporarily barred, suspended or otherwise limited such person's involvement in any type of business or securities activities.

C. Beneficial Shareholders

Below is a list of the names, addresses and shareholdings or the percentage of shares owned by all persons or entities beneficially owning more than ten percent (10%) of any class of the issuer's equity securities.

Brookstone XXIV owns directly approximately 39.7% of the outstanding shares of Common Stock of the Company. As the Managing Member of Brookstone XXIV, Brookstone Flow may be deemed to beneficially own the shares of Common Stock owned directly by Brookstone XXIV. As the Managing Member of Brookstone Flow, Brookstone Meter may be deemed to beneficially own the shares of Common Stock owned directly by Brookstone XXIV. As the Managing Member of Brookstone Meter, Brookstone Partners I.A.C. may be deemed to beneficially own the shares of Common Stock owned directly by Brookstone XXIV. Each of Brookstone Flow, Brookstone Meter and Brookstone Partners I.A.C. disclaims beneficial ownership of the shares of Common Stock owned directly by Brookstone XXIV except to the extent of his or its pecuniary interest therein. The address of each of Brookstone XXIV, Brookstone Flow, Brookstone Meter and Brookstone Partners I.A.C. is 122 East 42nd Street, Suite 4305, New York, New York 10168. The resident agent of Brookstone XXIV is United States Corporation Agents, Inc., 300 Delaware Avenue, Suite 210-A, Wilmington, Delaware 19801.

Michael Toporek is the President and Chief Executive Officer of each of Brookstone XXIV, Brookstone Flow and Brookstone Meter and Brookstone Partners I.A.C. Matthew E. Lipman is the Vice President of each of Brookstone XXIV, Brookstone Flow and Brookstone Meter. Matthew E. Lipman is the Secretary of Brookstone Partners I.A.C.

9) Third Party Providers

Below is a list of names, addresses, telephone numbers, and email address of each of the following outside providers that advise our company on matters relating to operations, business development and disclosure:

Legal Counsel

Name: Penny Somer-Greif
Firm: Baker, Donelson, Caldwell & Berkowitz, PC
Address 1: 100 Light Street
Address 2: Baltimore, MD 21202
Phone: 410.862.1141
Email: psomergreif@bakerdonelson.com

Name: Brian P. Murphy
Firm: Couch White LLP
Address 1: 540 Broadway, 7th Floor
Address 2: Albany, NY 12207
Phone: 518.426.4600
Email: bmurphy@couchwhite.com

Name: Jeffrey S. Spindler
Firm: Olshan Frome Wolosky LLP
Address 1: 1325 Avenue of the Americas
Address 2: New York, NY 10019
Phone: 212.451.2300
Email: jspindler@olshanlaw.com

Name: Daniel M. Sleasman
Firm: Law Offices of Daniel M. Sleasman
Address 1: One Crumitie Road
Address 2: Albany, NY 12211
Phone: 518.433.0518
Email: dmslaw12@gmail.com

Accountant or Auditor

Name: Frank Ferrucci
Firm: Wojeski & Company CPAs, P.C.
Address 1: 75 Troy Road
Address 2: East Greenbush, NY 12061
Phone: 518.694.8007
Email: fferrucci@wojeskico.com

Investor Relations Consultant

Name: N/A

Firm: _____

Address 1: _____

Address 2: _____

Phone: _____

Email: _____

Other Advisor: Any other advisor(s) that assisted, advised, prepared or provided information with respect to this disclosure statement.

Name: N/A

Firm: _____

Address 1: _____

Address 2: _____

Phone: _____

Email: _____

10) Issuer Certification

I, Frederick Jones, certify that:

1. I have reviewed this Annual Report disclosure statement of Mechanical Technology, Incorporated;
2. Based on my knowledge, this disclosure statement does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this disclosure statement; and
3. Based on my knowledge, the financial statements, and other financial information included or incorporated by reference in this disclosure statement, fairly present in all material respects the financial condition, results of operations and cash flows of the issuer as of, and for, the periods presented in this disclosure statement.

February 27, 2019

/s/ Frederick Jones
CEO and CFO

MECHANICAL TECHNOLOGY, INCORPORATED AND SUBSIDIARIES
CONSOLIDATED FINANCIAL STATEMENTS
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INDEPENDENT AUDITOR'S REPORT

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

We have audited the accompanying consolidated financial statements of Mechanical Technology, Incorporated and Subsidiaries (the "Company"), which comprise the consolidated balance sheet as of December 31, 2018 and the related consolidated statements of operations, changes in stockholders' equity, and cash flows for the year then ended, and the related notes to the consolidated financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those assessments, the auditor considers internal control relevant to the Company's preparation and fair presentation of the consolidated financial statements in order to design 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. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Mechanical Technology, Incorporated and Subsidiaries as of December 31, 2018, and the results of their operations and their cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Prior Period Financial Statements

The consolidated financial statements of Mechanical Technology, Incorporated and Subsidiaries as of December 31, 2017, were audited by other auditors whose report dated March 29, 2018, expressed an unmodified opinion on those statements. The other auditor's report was issued in accordance with the audit and reporting standards established by the Public Company Accounting Oversight Board (United States).

/s/ Wojeski & Company CPAs, P.C.

East Greenbush, New York
February 22, 2019

Mechanical Technology, Incorporated and Subsidiaries
Consolidated Balance Sheets
As of December 31, 2018 and December 31, 2017

(Dollars in thousands, except per share)

	<u>December 31,</u> <u>2018</u>	<u>December 31,</u> <u>2017</u>
Assets		
Current Assets:		
Cash	\$ 5,771	\$ 3,828
Accounts receivable – less allowances of \$2 in both 2018 and 2017	871	1,406
Inventories	863	694
Prepaid expenses and other current assets	<u>57</u>	<u>90</u>
Total Current Assets	7,562	6,018
Deferred income taxes, net	395	—
Property, plant and equipment, net	<u>181</u>	<u>184</u>
Total Assets	\$ <u>8,138</u>	\$ <u>6,202</u>
Liabilities and Stockholders' Equity		
Current Liabilities:		
Accounts payable	\$ 201	\$ 325
Accrued liabilities	<u>991</u>	<u>913</u>
Total Current Liabilities	1,192	1,238
Commitments and Contingencies (Note 12)		
Stockholders' Equity:		
Common stock, par value \$0.01 per share, authorized 75,000,000; 10,452,670 issued in 2018 and 10,378,975 issued in 2017	105	104
Additional paid-in capital	139,067	139,022
Accumulated deficit	(118,462)	(120,398)
Common stock in treasury, at cost, 1,015,493 shares in both 2018 and 2017	<u>(13,764)</u>	<u>(13,764)</u>
Total Stockholders' Equity	6,946	4,964
Total Liabilities and Stockholders' Equity	\$ <u>8,138</u>	\$ <u>6,202</u>

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

Mechanical Technology, Incorporated and Subsidiaries
Consolidated Statements of Operations
For the Years Ended December 31, 2018 and 2017

(Dollars in thousands, except per share)

	Years Ended	
	December 31,	
	<u>2018</u>	<u>2017</u>
Product revenue	\$ 8,062	\$ 7,061
Operating costs and expenses:		
Cost of product revenue	2,327	2,234
Research and product development expenses	1,236	1,149
Selling, general and administrative expenses	<u>2,976</u>	<u>3,090</u>
Operating income	1,523	588
Other income (expense), net	<u>21</u>	<u>—</u>
Income before income taxes	1,544	588
Income tax benefit (expense)	<u>392</u>	<u>(6)</u>
Net income	<u>\$ 1,936</u>	<u>\$ 582</u>
Income per share (Basic)	\$.21	\$.06
Income per share (Diluted)	\$.20	\$.06
Weighted average shares outstanding (Basic)	9,382,017	9,129,178
Weighted average shares outstanding (Diluted)	9,449,852	9,332,676

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, 2018 and 2017

(Dollars in thousands,
except per share)

	<u>Common Stock</u>				<u>Treasury Stock</u>		Total Stockholders' Equity (Deficit)
	Shares	Amount	Additional Paid- in Capital	Accumulated Deficit	Shares	Amount	
January 1, 2017	10,026,136	\$ 100	\$ 138,794	\$ (120,980)	1,015,493	\$ (13,764)	\$ 4,150
Net income	-	-	-	582	-	-	582
Stock based compensation	-	-	41	-	-	-	41
Costs of stock purchase	-	-	(25)	-	-	-	(25)
Issuance of shares – option exercises	352,839	4	212	-	-	-	216
December 31, 2017	<u>10,378,975</u>	<u>\$ 104</u>	<u>\$ 139,022</u>	<u>\$ (120,398)</u>	<u>1,015,493</u>	<u>\$ (13,764)</u>	<u>\$ 4,964</u>
Net income	-	-	-	1,936	-	-	1,936
Stock based compensation	-	-	6	-	-	-	6
Issuance of shares – option exercises	73,695	1	39	-	-	-	40
December 31, 2018	<u>10,452,670</u>	<u>\$ 105</u>	<u>\$ 139,067</u>	<u>\$ (118,462)</u>	<u>1,015,493</u>	<u>\$ (13,764)</u>	<u>\$ 6,946</u>

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

Mechanical Technology, Incorporated and Subsidiaries
Consolidated Statements of Cash Flows
For the Years Ended December 31, 2018 and 2017

(Dollars in thousands)

	Year Ended December 31,	
	2018	2017
Operating Activities		
Net income	\$ 1,936	\$ 582
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation	96	81
Provision for bad debts	—	2
Deferred income taxes	(395)	—
Stock based compensation	6	41
Provision (recovery) for excess and obsolete inventories	(82)	(31)
Loss on disposal of equipment	—	2
Changes in operating assets and liabilities:		
Accounts receivable	535	(527)
Inventories	(87)	13
Prepaid expenses and other current assets	33	(8)
Accounts payable	(124)	201
Accrued liabilities	78	7
Net cash provided by operating activities	<u>1,996</u>	<u>363</u>
Investing Activities		
Purchases of equipment	<u>(93)</u>	<u>(107)</u>
Net cash used in investing activities	<u>(93)</u>	<u>(107)</u>
Financing Activities		
Costs of stock purchase	—	(25)
Proceeds from stock option exercises	<u>40</u>	<u>216</u>
Net cash provided by financing activities	<u>40</u>	<u>191</u>
Increase in cash	1,943	447
Cash – beginning of period	<u>3,828</u>	<u>3,381</u>
Cash – end of period	\$ <u><u>5,771</u></u>	\$ <u><u>3,828</u></u>

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

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), a 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 balancing systems, and wafer inspection tools. Our products consist of electronic gauging instruments for position, displacement and vibration application within the industrial manufacturing markets, as well as in the research, design and process development markets; 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

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 a consolidated accumulated deficit of approximately \$118.5 million as of December 31, 2018. As of December 31, 2018, the Company had working capital of approximately \$6.4 million, no debt, no outstanding commitments for capital expenditures, and approximately \$5.8 million of cash available to fund our operations.

Based on the Company's projected cash requirements for operations and capital expenditures, its current available cash of approximately \$5.8 million and its projected 2019 cash flow pursuant to management's plans, management believes it will have adequate resources to fund operations and capital expenditures for the year ending December 31, 2019 and through the end of the first quarter of 2020. If cash generated from operations is insufficient to satisfy the Company's operational working capital and capital expenditure requirements, the Company may be required to obtain credit facilities, if available, to fund these initiatives. The Company has no other formal commitments for funding future needs of the organization at this time and any additional financing during 2019, if required, may not be available to us on acceptable terms or at all.

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.

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, 2018 and 2017. The estimated fair values have been determined through information obtained from market sources, where available.

Inventories

Inventories are valued at the lower of cost (first-in, first-out) or net realizable value. The Company periodically reviews inventory quantities on hand and records a provision for excess, slow moving and obsolete inventory based primarily on our estimated forecast of product demand, as well as based on historical usage. The Company also provides estimated inventory allowances for inventory whose carrying value is in excess of net realizable value. 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 the Company makes 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, the Company would increase our reserve in the period in which we made such a determination and record a charge to cost of product revenue.

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

The Company is subject to income taxes in the U.S. (federal and state). As part of the process of preparing our consolidated financial statements, the Company calculates income taxes for each of the jurisdictions in which the Company operates. 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, loss carryforwards and tax credit carryforwards, for which income tax benefits are expected to be realized in future years. The Company periodically evaluates deferred tax assets, net operating loss carryforwards and tax credit carryforwards to determine their recoverability based primarily on the Company's ability to generate future taxable income. 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 that includes the enactment date.

Significant management judgment is required in determining the Company's provision for income taxes, deferred tax assets and liabilities, and any valuation allowance recorded against the Company's net deferred tax assets. The Company considers all available evidence, both positive and negative, such as historical levels of income and future forecasts of taxable income amongst other items in determining the Company's valuation allowance. In addition, the Company's assessment requires the Company 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.

The Company accounts for taxes in accordance with the asset and liability method of accounting for income taxes. Under this method, the Company 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 the Company's reassessment of its tax positions for these standards did not have a material impact on its results of operations, financial condition, or liquidity.

The Company is currently subject to audit in various jurisdictions, and these jurisdictions may assess additional income tax liabilities against us. Developments in an audit, litigation, or in applicable laws, regulations, administrative practices, principles, and interpretations could have a material effect on the Company's operating results or cash flows in the period or periods in which such developments occur, as well as for prior and in subsequent periods.

Tax laws, regulations, and administrative practices in various jurisdictions may be subject to significant change, with or without notice, due to economic, political, and other conditions, and significant judgment is required in evaluating and estimating the Company's provision and accruals for these taxes. There are many transactions that occur during the ordinary course of business for which the ultimate tax determination is uncertain. The Company's effective tax rates could be affected by numerous factors, such as intercompany transactions, earnings being lower than anticipated in jurisdictions where the

Company has lower statutory rates and higher than anticipated in jurisdictions where the Company has higher statutory rates, the applicability of special tax regimes, losses incurred in jurisdictions for which the Company is not able to realize the related tax benefit, changes in foreign currency exchange rates, entry into new businesses and geographies, changes to its existing businesses and operations, acquisitions and investments and how they are financed, changes in the Company's stock price, changes in its deferred tax assets and liabilities and their valuation, and changes in the relevant tax, accounting, and other laws, regulations, administrative practices, principles, and interpretations. In addition, a number of countries are actively pursuing changes to their tax laws applicable to corporate multinationals, such as the recently enacted U.S. tax reform legislation commonly referred to as the U.S. Tax Cuts and Jobs Act of 2017 (the "2017 Tax Act"). Finally, foreign governments may enact tax laws in response to the 2017 Tax Act that could result in further changes to global taxation and materially affect our financial position and results of operations.

The 2017 Tax Act significantly changes how the U.S. taxes corporations. The 2017 Tax Act requires complex computations to be performed that were not previously required under U.S. tax law, significant judgments to be made in interpretation of the provisions of the 2017 Tax Act and significant estimates in calculations, and the preparation and analysis of information not previously relevant or regularly produced. The U.S. Treasury Department, the Internal Revenue Service, and other standard-setting bodies could interpret or issue guidance on how provisions of the 2017 Tax Act will be applied or otherwise administered that is different from our interpretation. As the Company interprets any such additional guidance, the Company may make adjustments to the provisional amounts recorded. Those adjustments may materially impact the Company's provision for income taxes in the period in which the adjustments are made.

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, Accounts Receivable and Allowance for Doubtful Accounts

Product revenue consists of revenue recognized from MTI Instruments' product lines. Revenue is recognized upon transfer of control of promised products or services to customers in an amount that reflects the consideration we expect to receive in exchange for those products or services. We enter into contracts that can include various combinations of products and services, which are generally capable of being distinct and accounted for as separate performance obligations. Revenue is recognized net of allowances for returns and any taxes collected from customers, which are subsequently remitted to governmental authorities.

If the product requires that we provide installation, all revenue related to the product is deferred and recognized upon the completion of the installation. If the product requires specific customer acceptance criteria, such as on-site customer acceptance and/or acceptance after install, then 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. The Company may also record unearned revenues, which include payments for other offerings for which we have been paid in advance. The resulting revenue would be earned when we transfer control of the product or service. As of December 31, 2018 and December 31, 2017, the Company had no deferred or unearned revenue.

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.

Our contracts with customers often include promises to transfer multiple products and services to a customer. Determining whether products and services are considered distinct performance obligations that should be accounted for separately versus together may require significant judgment. We determine the standalone selling price (SSP) for each distinct performance obligation. Since we sell our products and services separately, the SSP is directly observable.

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. Our allowance for doubtful accounts was \$2 thousand at December 31, 2018 and December 31, 2017.

Payment terms and conditions vary by contract type, although terms generally include a requirement of payment within 30 days. In instances where the timing of revenue recognition differs from the timing of invoicing, we have determined our contracts generally do not include a significant financing component. The primary purpose of our invoicing terms is to provide customers with simplified and predictable ways of purchasing our products and services, not to receive financing from our customers.

We recognize an asset for the incremental costs of obtaining a contract with a customer, if we expect the benefit of those costs to be longer than one year. As of December 31, 2018 and December 31, 2017, we have recorded no capitalized costs to obtain a contract.

We apply a practical expedient to expense costs as incurred for costs to obtain a contract when the amortization period would have been one year or less. These costs include our internal sales force compensation programs as we have determined annual compensation is commensurate with annual sales activities.

Cost of Product Revenue

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

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 \$24 thousand and \$14 thousand at December 31, 2018 and 2017, respectively. Warranty expense was \$33 thousand and \$13 thousand for 2018 and 2017, 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, 2018, 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 and the amount of compensation cost, if any, for future service that the Company has not yet recognized are assumed to be used to repurchase shares in the current period.

Share-Based Payments

The Company grants 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 and the Company accounts for stock based awards exchanged for employee service in accordance with the appropriate share-based payment accounting guidance. 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 on the grant date using a Black Scholes valuation model. The Company uses 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. 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. All income tax effects of awards, including excess tax benefits, recognized on stock-based compensation expense are reflected in the Consolidated Statements of Operations as a component of the provision for income taxes on a prospective basis.

The determination of the fair value of share-based payment awards on the date of grant using an option-pricing model is affected by the Company's stock price as well as assumptions regarding a number of complex and subjective variables. These variables include the Company's 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 the Company employs different assumptions for the accounting methodology during future periods, the compensation expense that the Company records may differ significantly from what the Company recorded in the current period. Therefore, the Company believes 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 the Company's share-based payments have characteristics significantly different from those of freely traded options, and because changes in the subjective input assumptions can materially affect the Company's estimates of fair values, in the Company's 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 the Company's 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 the Company's 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 may be significant to the Company's 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 using the Black-Scholes model, the Company uses the historical volatility of its 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. The Company did not pay any dividends during the years ended December 31, 2018 and 2017, but the Company is required to assume a dividend yield as an input to the Black-Scholes model. As such, the Company uses a zero dividend rate. The expected option term is calculated based on our historical forfeitures and cancellation rates.

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 2018 and 2017, approximately 31.3% and 40.5%, 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 \$1.2 million and \$1.1 million, which was entirely related to MTI Instruments, for the years ended December 31, 2018 and 2017, respectively.

Advertising Costs

The Company expenses advertising costs as incurred. The Company incurred advertising costs of approximately \$33 and \$37 thousand, which was entirely related to MTI Instruments, for the years ended December 31, 2018 and 2017, respectively.

Other Comprehensive Income

The Company had no other comprehensive income (loss) items for the years ended December 31, 2018 and 2017.

Accounting Updates Not Yet Effective

Changes to U.S. GAAP are established by the Financial Accounting Standards Board (the FASB) in the form of accounting standard updates (ASUs) to the FASB's Accounting Standards Codification (ASC). The Company considered the applicability and impact of all ASUs. ASUs not mentioned below were assessed and determined to be either not applicable or are expected to have minimal impact on our consolidated financial position or results of operations.

In February 2016, the FASB issued ASU 2016-02 (Leases (Topic 842)) and its subsequent amendments to the initial guidance within ASU 2018-01, ASU 2018-10, ASU 2018-11 and ASU 2018-20, respectively (collectively, Topic 842). Topic 842 requires lessees to recognize a right-of-use asset and a lease liability on their balance sheet for virtually all of their leases (other than leases that meet the definition of a short-term lease). The lease liability will be equal to the present value of lease payments and the right-of-use asset will be based on the lease liability, subject to adjustment such as for initial direct costs. For income statement purposes, this standard retains a dual model similar to ASC 840, requiring leases to be classified as either operating or finance. For lessees, operating leases will result in straight-line expense (similar to current accounting by lessees for operating leases under ASC 840) while finance leases will result in a front-loaded expense pattern (similar to current accounting by lessees for capital leases under ASC 840). While this standard maintains similar accounting for lessors as under ASC 840, this standard reflects updates to, among other things, align with certain changes to the lessee model. Topic 842 includes a number of optional practical expedients that we may elect to apply. Expanded disclosures with additional qualitative and quantitative information will also be required. 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. We believe the adoption of this standard will have a significant impact on our consolidated balance sheets. However, we do not expect the adoption to change the recognition, measurement or presentation of lease expense within our consolidated statements of operations or the consolidated statements of cash flows. We currently expect that most of our operating lease commitments will be subject to the new standard and recognized as operating lease liabilities and right-of-use assets upon our adoption of the standard, which will increase our total assets and total liabilities that we report relative to such amounts prior to adoption. Information about our undiscounted future lease payments and the timing of those payments is in Note 12, Commitments and Contingencies.

Accounting Updates Recently Adopted by the Company

On January 1, 2018, we adopted ASU 2014-09 (Revenue from Contracts with Customers (Topic 606)) and its subsequent amendments to the initial guidance within ASU 2015-14, ASU 2016-08, ASU 2016-10, ASU 2016-12 and ASU 2016-20, respectively (collectively, Topic 606). Topic 606 is principles-based and provides a five-step model to determine when and how revenue is recognized. Revenue is recognized when a customer obtains control of promised goods or services in an amount that reflects the consideration the entity expects to receive in exchange for those goods or services. In addition, the standard requires disclosure of the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers. The Company adopted this standard on a retrospective basis with no cumulative effect recognized as of January 1, 2018. The adoption of this standard did not have a material impact on its consolidated financial statements.

On January 1, 2018, we adopted 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. The adoption of this standard did not have a material impact on its consolidated financial statements.

On January 1, 2018, we adopted ASU 2016-15 (Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments), which clarifies the treatment of several cash flow categories. In addition, ASU 2016-15 clarifies that when cash receipts and cash payments have aspects of more than one class of cash flows and cannot be separated, classification will depend on the predominant source or use. The Company adopted this standard on a retrospective transition method to each period presented. The adoption of this standard did not have a material impact on its consolidated financial statements.

On January 1, 2018, we adopted ASU 2017-09 (Compensation-Stock Compensation (Topic 718): Scope of Modification Accounting), which provides guidance about which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting in Topic 718. The Company adopted this standard on a prospective basis to any award modified on or after the adoption date. The adoption of this standard did not have a material impact on its consolidated financial statements.

There have been no other significant changes in our reported financial position or results of operations and cash flows as a result of our adoption of new accounting pronouncements or changes to our significant accounting policies that were disclosed in our Annual Report on Form 10-K for the fiscal year ended December 31, 2017.

3. Accounts Receivable

Accounts receivables consist of the following at:

(Dollars in thousands)

	<u>December 31, 2018</u>	<u>December 31, 2017</u>
U.S. and State Government	\$ 69	\$ 221
Commercial	804	1,187
Allowance for doubtful accounts	(2)	(2)
Total	<u>\$ 871</u>	<u>\$ 1,406</u>

4. Inventories

Inventories consist of the following at:

(Dollars in thousands)

	<u>December 31, 2018</u>	<u>December 31, 2017</u>
Finished goods	\$ 285	\$ 214
Work in process	241	174
Raw materials	337	306
Total	<u>\$ 863</u>	<u>\$ 694</u>

5. Property, Plant and Equipment

Property, plant and equipment consist of the following at:

(Dollars in thousands)

	<u>December 31, 2018</u>	<u>December 31, 2017</u>
Leasehold improvements	\$ 39	\$ 39
Computers and related software	1,025	971
Machinery and equipment	912	881
Office furniture and fixtures	34	34
	<u>2,010</u>	<u>1,925</u>
Less: Accumulated depreciation	<u>1,829</u>	<u>1,741</u>
	<u>\$ 181</u>	<u>\$ 184</u>

Depreciation expense was \$96 thousand and \$81 thousand for the years ended December 31, 2018 and 2017, respectively. Repairs and maintenance expense was \$21 thousand and \$13 thousand for the years ended December 31, 2018 and 2017, respectively.

6. Income Taxes

The 2017 Tax Act was signed into law on December 22, 2017 and significantly revised the U.S. corporate income tax regime by, among other things, lowering the statutory corporate tax rate from 35% to 21% and limiting the amount of net operating losses (NOLs) that can be utilized in a given tax year. The 2017 Tax Act also enhanced and extended through 2026 the option to claim accelerated depreciation deductions on qualified property. The Company completed its determination of the accounting implications of the 2017 Tax Act on its tax accruals and reasonably estimated the effects of the 2017 Tax Act and recorded provisional amounts in its financial statements as of December 31, 2017. The Company recorded a \$7.2 million adjustment with a corresponding full valuation allowance adjustment to our net deferred tax liabilities for the impact of the 2017 Tax Act. This amount was comprised of the remeasurement of federal net deferred tax liabilities resulting from the permanent reduction in the U.S. statutory corporate tax rate to 21% from 35%.

The Company adopted the provisions of accounting standard update (ASU) 2016-09 as of January 1, 2017, which required recognition through opening retained earnings of any pre-adoption date net operating loss (NOL) carryforwards from nonqualified stock options for excess tax benefits that were not previously recognized because the related tax deduction had not reduced taxes payable and other employee share-based payments, as well as recognition of all income tax effects from share-based payments arising on or after January 1, 2017 (our adoption date) in income tax expense. As a result, the Company recognized through opening retained earnings \$1.3 million of pre-adoption date NOL carryforwards with remaining carryforward periods of more than 10 years (the corresponding deferred tax asset is \$457 thousand). The Company recorded a full valuation allowance for this deferred tax asset.

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

(Dollars in thousands)	2018	2017
Federal	\$ —	\$ —
State	(3)	(6)
Deferred	395	—
Total	<u>\$ 392</u>	<u>\$ (6)</u>

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

(Dollars in thousands)	2018	2017
Deferred tax (expense) benefit	\$ (420)	\$ (380)
Net operating loss carry forward	(320)	(6,550)
Valuation allowance	1,135	6,930
	<u>\$ 395</u>	<u>\$ —</u>

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:

	2018	2017
Federal statutory tax rate	21 %	34 %
Change in valuation allowance	(74)	(1,179)
Change in tax rate	—	1,221
Expiration of stock option	2	4
Expiration of research and development credits	25	—
Prior year tax adjustments and other	—	(2)
Stock option windfall benefit	—	(78)
Other, net	—	1
Tax rate	<u>(26)%</u>	<u>1 %</u>

Pre-tax income was \$1.5 million and \$588 thousand for 2018 and 2017, respectively.

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:

(Dollars in thousands)	2018	2017
Deferred tax assets:		
Inventory valuation	\$ 49	\$ 61
Inventory capitalization	1	1
Vacation pay	18	18
Warranty and other sale obligations	5	3
Allowance for related party note receivable	63	60
Net operating loss	10,592	10,914
Property, plant and equipment	(18)	(17)
Stock options	106	126
Research and development tax credit	60	450
Alternative minimum tax credit	54	54
	10,930	11,670
Valuation allowance	(10,535)	(11,670)
Net deferred tax assets	\$ 395	\$ —

As of December 31, 2018, the Company has approximately \$450 thousand of research and development tax credit carry forwards, of which \$390 thousand would expire if not utilized in 2018, and approximately \$54 thousand of alternative minimum tax credit carry forwards, which have no expiration date.

Valuation Allowance:

The Company believes that the accounting estimate for the valuation of deferred tax assets is a critical accounting estimate, because judgment is required in assessing the likely future tax consequences of events that have been recognized in our financial statements or tax returns. The Company based the estimate of deferred tax assets and liabilities on current tax laws and rates and, in certain cases, business plans and other expectations about future outcomes. In the event that actual results differ from these estimates or the Company adjusts these estimates in future periods, the Company may need to adjust the recorded valuation allowance, which could materially impact our financial position and results of operations.

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.

As a result of our analyses in 2018, the Company released a portion of our valuation allowance against our deferred tax assets. The partial release of the valuation allowance caused an incremental tax benefit of \$395 thousand to be recognized in the fourth quarter of 2018. The release of a portion of the valuation allowance was based upon the Company's recent cumulative income history causing the Company to evaluate what portion of the Company's deferred tax assets it believes are more likely than not to be realized. The Company has determined that it will generate sufficient levels of pre-tax earnings in the future to realize the net deferred tax assets recorded on the balance sheet as of December 31, 2018. The Company has projected such pre-tax earnings utilizing a combination of historical and projected results, taking into consideration existing levels of permanent differences, non-deductible expense and the reversal of significant temporary differences.

The valuation allowance at December 31, 2018 and 2017 was \$10.9 million and \$11.7 million, respectively. Activity in the valuation allowance for deferred tax assets is as follows as of December 31:

(Dollars in thousands)	<u>2018</u>	<u>2017</u>
Valuation allowance, beginning of year	\$ 11,670	\$ 18,600
Change in federal tax rate	—	(7,170)
Allowance for related party note receivable	3	4
Inventory	(12)	(124)
Net operating (loss) income	(323)	2
Property, plant and equipment	—	(13)
Stock options	(20)	395
Research and development credit carryforward	(390)	—
Deductions resulting in income tax benefit	(395)	—
Other reserves and accruals	2	(24)
Valuation allowance, end of year	<u>\$ 10,535</u>	<u>\$ 11,670</u>

Net operating losses:

At December 31, 2018, the Company has unused Federal net operating loss carryforwards of approximately \$50.4 million. Of these, approximately \$725 thousand will expire in 2020, with the remainder expiring through 2035.

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, 2018 and 2017 was \$824 thousand and \$1.2 million, respectively. These unrecognized tax benefits relate to former subsidiaries of the Company and a prior investment in a partnership.

In future periods, if \$824 thousand 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 2018 and 2017.

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 2015, although carryforward attributes that were generated prior to 2015 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:

(Dollars in thousands)	<u>December 31, 2018</u>	<u>December 31, 2017</u>
Salaries, wages and related expenses	\$ 334	\$ 288
Liability to shareholders for previous acquisition	363	363
Legal and professional fees	53	111
Warranty and other sale obligations	24	14
Commissions	40	44
Other	177	93
Total	<u>\$ 991</u>	<u>\$ 913</u>

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, 2018 and 2017 there were 9,437,177 and 9,363,482 shares of common stock issued and outstanding, respectively.

Reservation of Shares

The Company had reserved common shares for future issuance as follows as of December 31, 2018:

Stock options outstanding	720,624
Common stock available for future equity awards or issuance of options	<u>24,681</u>
Number of common shares reserved	<u>745,305</u>

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, on a discretionary basis, currently in an amount equal to 100% of the first 3% and 50% of the next 2% of the employee's salary, subject to annual tax deduction limitations. Effective January 1, 2017, Company matching contributions are vested immediately. Company matching contributions were \$83 thousand for 2018 and 2017, 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 2018 or 2017.

10. Income (Loss) 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:

(Dollars in thousands, except shares)	<u>2018</u>	<u>2017</u>
<u>Numerator:</u>		
Net income (loss)	\$ 1,936	\$ 582
<u>Denominator:</u>		
Basic EPS:		
Common shares outstanding, beginning of period	9,363,482	9,010,643
Weighted average common shares issued during the period	<u>18,535</u>	<u>118,535</u>
Denominator for basic earnings per common shares —		
Weighted average common shares	<u>9,382,017</u>	<u>9,129,178</u>
Diluted EPS:		
Common shares outstanding, beginning of period	9,363,482	9,010,643
Common stock equivalents – options	67,835	203,498
Weighted average common shares issued during the period	<u>18,535</u>	<u>118,535</u>
Denominator for diluted earnings per common shares -		
Weighted average common shares	<u>9,449,582</u>	<u>9,332,676</u>

Not included in the computation of earnings per share, assuming dilution, for the year ended December 31, 2018, were options to purchase 430,749 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.

Not included in the computation of earnings per share, assuming dilution, for the year ended December 31, 2017, were options to purchase 271,589 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 2006 Equity Incentive Plan (2006 Plan), which was amended and restated effective June 30, 2011, September 16, 2009 and October 20, 2016, 2012 Equity Incentive Plan (the 2012 Plan), which was amended and restated as of October 20, 2016, 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 and non-employee members of the MTI Board of Directors generally vest at a rate of 25% on each of the first four anniversaries of the date of the award. 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 2006 Plan was adopted by the Company's Board of Directors on March 16, 2006 and approved by stockholders on May 18, 2006. The 2006 Plan was amended and restated by the Board of Directors effective September 16, 2009, June 30, 2011 and October 20, 2016. The September 16, 2009 amendment increased the initial aggregate number of 250,000 shares of common stock that may be awarded or issued to 600,000, the June 30, 2011 amendment increased the aggregate number of shares of common stock that may be awarded or issued under the 2006 Plan to 1,200,000, and the October 2016 amendment allowed for the award agreement or another agreement entered into between the Company and the award grantee to vary the method of exercise of options issued under the 2006 Plan and the provisions governing expiration of options or other awards under the 2006 Plan following termination of the award recipient. The number of shares that 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 was amended and restated by the Board of Directors effective October 20, 2016. The October 2016 amendment allowed for the award agreement or another agreement entered into between the Company and the award grantee to vary the method of exercise of options issued under the 2012 Plan and an agreement entered into between the Company and the award grantee to vary the provisions governing expiration of options or other awards under the 2012 Plan following termination of the award recipient. The 2012 Plan provides an initial aggregate number of 600,000 shares of common stock that may be awarded or issued. The number of shares that 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 our 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.

In connection with the sale of shares of common stock to Brookstone, the Company entered into an Option Exercise and Stock Transfer Restriction Agreement (collectively, the Option and Transfer Agreements) with its Chief Executive Officer, its Chief Financial Officer and each of its non-employee directors (collectively, the Insiders). The Option and Transfer Agreements amend the stock option grant agreements between the Company and each Insider with respect to an option granted under, and modify the terms of any option to purchase Common Stock held by each such Insider (collectively, Options) granted under, the Plans. The Option and Transfer Agreements restrict the aggregate amount of shares of Common Stock for which the Insiders may exercise Options during calendar years 2016, 2017, 2018 and 2019, and provide for a modified procedure for exercising Options in order to ensure the limit on the aggregate amount of Options that may be exercised in any such year is not exceeded. Such amendments and modifications also operate to, except with respect to the termination of Options in connection with an Insider's termination of employment or service in connection with misconduct as described in the Option and Transfer Agreements, (i) remove all references to an expiration of the exercisability of such Options within a special, delineated time period following the termination of service to or employment by the Company, and (ii) provide that all vested Options are exercisable by the Insider until default expiration under the applicable Plan (i.e., ten years from the date of grant). If an Option and Transfer Agreement is terminated, the limitations on Option exercises described above will terminate, but the exercisability of the Insider's vested Options until default expiration under the applicable Plan and stock option agreement (i.e., ten years from the date of grant) will survive indefinitely.

During 2018, the Company granted options to purchase 85,000 shares of 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 options is \$0.90 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 is \$0.74 per share and was estimated at the date of grant.

During 2018, the Company granted options to purchase 75,000 shares of 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 options is \$0.90 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 is \$0.74 per share and was estimated at the date of grant.

No options were granted during 2017.

Stock-based compensation expense for the years ended December 31, 2018 and 2017 was generated from stock option awards. Stock options are awards that 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, although 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:

	<u>2018</u>
Option term (years)	6.25
Volatility	102.79 %
Risk-free interest rate	2.77 %
Dividend yield	0 %
Weighted-average fair value per option granted	\$ 0.74

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

	<u>2018</u>
Option term (years)	6.25
Volatility	102.79 %
Risk-free interest rate	2.77 %
Dividend yield	0 %
Weighted-average fair value per option granted	\$ 0.74

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:

	<u>2018</u>	<u>2017</u>
(Dollars in thousands, except eps)		
Cost of product revenue	\$ —	\$ —
Research and product development	1	2
Selling, general and administrative	5	39
Share-based compensation expense	<u>\$ 6</u>	<u>\$ 41</u>
Impact on basic EPS	<u>\$ 0.00</u>	<u>\$ 0.00</u>
Impact on diluted EPS	<u>\$ 0.00</u>	<u>\$ 0.00</u>

Total unrecognized compensation costs related to non-vested awards as of December 31, 2018 and December 31, 2017 is \$93 thousand and \$4 thousand, respectively, and is expected to be recognized over a weighted-average remaining vesting period of approximately 3.94 years and 0.48 years, respectively.

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

	<u>2018</u>	<u>2017</u>
Shares under option, beginning	766,339	1,142,339
Granted	160,000	—
Exercised	(73,695)	(352,839)
Forfeited	—	(10,000)
Expired/canceled	<u>(132,020)</u>	<u>(13,161)</u>
Shares under option, ending	<u>720,624</u>	<u>766,339</u>
Options exercisable	<u>559,624</u>	<u>748,839</u>
Remaining shares available for granting of options	<u>24,681</u>	<u>68,661</u>

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

	<u>2018</u>	<u>2017</u>
Shares under option, beginning	\$ 0.82	\$ 0.76
Granted	\$ 0.90	—
Exercised	\$ 0.54	\$ 0.61
Forfeited	—	\$ 0.75
Expired/canceled	\$ 0.90	\$ 1.08
Shares under option, ending	\$ 0.86	\$ 0.82
Options exercisable, ending	\$ 0.84	\$ 0.82

The following table summarizes information for options outstanding and exercisable for the Plans as of December 31, 2018:

Exercise Price Range	Outstanding Options			Options Exercisable	
	Number	Weighted Remaining Contractual Life	Weighted Average Exercise Price	Number	Weighted Average Exercise Price
\$0.29 - \$1.15	628,070	6.31	\$ 0.80	467,070	\$ 0.77
\$1.16 - \$1.40	92,554	5.31	\$ 1.23	92,554	\$ 1.23
	<u>720,624</u>	6.18	\$ 0.86	<u>559,624</u>	\$ 0.84

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 \$55 thousand for the Company's outstanding options and \$55 thousand for the exercisable options as of December 31, 2018. The amounts are based on the Company's closing stock price of \$.81 as of December 31, 2018.

There were no unvested restricted stock grants for the year ended December 31, 2018 and 2017.

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

	2018 Options	2018 Weighted Average Exercise Price
Non-vested options balance, beginning January 1	17,500	\$1.05
Non-vested options granted	160,000	\$0.90
Vested options	(16,500)	\$1.07
Non-vested options forfeited	—	—
Non-vested options balance, ending December 31	<u>161,000</u>	\$0.90

12. Commitments and Contingencies

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.

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, 2018 are: \$5 thousand in 2019 and \$3 thousand in 2020. As of December 31, 2018 and December 31, 2017, rent expense under all leases was \$226 thousand and \$225 thousand, respectively.

Warranties

Product warranty liabilities are included in "Accrued liabilities" in the Condensed Consolidated Balance Sheets. Below is a reconciliation of changes in product warranty liabilities:

(Dollars in thousands)

	Twelve Months Ended December 31,	
	2018	2017
Balance, January 1	\$ 14	\$ 14
Accruals for warranties issued	33	18
Accruals for pre-existing warranties	—	(5)
Settlements made (in cash or in kind)	(23)	(13)
Balance, end of period	<u>\$ 24</u>	<u>\$ 14</u>

Employment Agreement

On May 5, 2017, the Company entered into an employment agreement with one employee. The agreement provides for an initial term ending December 31, 2018, and, unless either party provides written notice that the agreement will not be renewed, is renewed for an additional year on December 31, 2018 and each subsequent December 31; such non-renewal may be for any or for no stated reason. The agreement provides for certain payments upon termination of employment under certain circumstances. As of December 31, 2018, the Company's potential minimum obligation to this employee was approximately \$206 thousand.

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.

13. Related Party Transactions

MeOH Power, Inc.

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, 2018 and December 31, 2017, based on MeOH Power, Inc.'s net position and expected cash flows. As of December 31, 2018, the Company retained its ownership of approximately 47.5% of MeOH Power, Inc.'s outstanding common stock, or 75,049,937 shares. The number of shares of MeOH Power, Inc.'s common stock authorized for issuance is 240,000,000 as of December 31, 2018.

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. The Company recorded a full allowance against the Note. As of December 31, 2018 and December 31, 2017, \$298 thousand and \$285 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.

Legal Services

During the years ended December 31, 2018 and December 31, 2017, the Company incurred \$10 thousand and \$10 thousand, respectively, to Couch White, LLP for legal services associated with contract review. A partner at Couch White, LLP is an immediate family member of one of our Directors.

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)	<u>2018</u>	<u>2017</u>
Product revenue:		
United States	\$ 5,540	\$ 4,200
Association of South East Asian Nations (ASEAN)	2,015	1,710
Europe, the Middle East and Africa (EMEA)	384	1,024
North America	120	123
South America	3	4
Total product revenue	<u>\$ 8,062</u>	<u>\$ 7,061</u>

Revenues are attributed to regions based on the location of customers. In 2018 and 2017, approximately 31.3% and 40.5%, respectively, of our product revenues was from customers outside of the United States.

Long-lived assets of \$181 thousand and \$184 thousand at December 31, 2018 and 2017, respectively consist of property, plant and equipment all located within the United States.

At MTI Instruments, the largest commercial customer in 2018 was a manufacturer of semiconductor equipment in Asia, which accounted for 11.1% of total product revenue. At MTI Instruments, the largest commercial customer in 2017 was a manufacturer of semiconductor equipment in Asia, which accounted for 10.0% of total product revenue. The U.S. Air Force continues to be the largest government customer, accounting for 28.0% and 20.1% of total product revenue in 2018 and 2017, respectively.

The Company operates in one segment and therefore segment information is not presented.

15. Subsequent Events

In accordance with U.S. GAAP, the Company has evaluated subsequent events for disclosure between the consolidated balance sheet date of December 31, 2018 and February 22, 2019, the date the financial statements were available to be issued.