



Mechanical Technology, Incorporated

2020 Annual Report

Ticker Symbol:

MKTY

Dear Fellow Stockholders and Employees:

I first wanted to thank you, our stockholders, for the confidence you have in us to be responsible stewards of your capital.

As you know, 2020 was the best year the Company had in nearly a decade. More importantly than a one-year result, we set the groundwork for continued rapid growth for the Company.

I will outline for you some of our guiding principles, then highlight some of our achievements for the year.

There are three key themes we focus on as we grow the Company.

1) **Alignment and transparency** – Members of our board of directors directly or indirectly control approximately 40% of the Company's equity. That alone aligns their interest with those of stockholders generally as we grow the Company. But, in addition to such alignment, I would like to bring a new paradigm of increased transparency to the Company. That includes posting on our website frequent stockholder communications and substantive updates. Our intention is to communicate with stockholders regularly on our goals and the Company's progress in meeting those goals.

2) **High-velocity execution** – In all aspects of our business we are increasing the urgency and velocity of our execution. That means an increased frequency of new product introductions, fast and efficient facility buildout and equipment deployment, and rapid response to customer requirements.

3) **Focus on returns on invested capital** – As significant stockholders, management's goal is to earn strong returns on investors' capital. You will see clear communications from us on our expectations and results in this regard.

In the EcoChain business, during 2020 we set up a new cryptocurrency mining facility and scaled it up with strong success; we anticipate that by June or so of this year, the net income generated from this facility since it commenced operations will equal all the capital we invested to get the facility up and running, an under 12-month payback.

Last year we also set the groundwork to achieve our target goal for EcoChain for 2021 – over 50 megawatts of electricity in operation by the end of 2021.

In our Instruments business, we had a number of positive developments as highlighted below:

1) **In our portable balancing systems (PBS) business:** We received and filled a landmark order (based on volume) from the U.S. Air Force, which we believe represented a strong vote of confidence in our technology. In addition, we accelerated product innovation and expanded our engagement with test cell and international maintenance, repair, and overhaul (MRO) service organizations.

2) **In our Instruments business:** We saw increased order flow from General Electric on our products used in their 6-megawatt turbine for offshore wind projects in Europe. In addition, our Asia partners, which continue to recover from the pandemic, ramped up their orders for our capacitance products in the fourth quarter of 2020.

3) **From an emerging markets perspective:** We have seen a growing interest in our capacitance technology to support the rapidly-growing electric vehicle battery market. These activities started in 2020 and have continued into 2021. At present, we are engaged in a number of early qualification projects with several system integrators to support this effort.

Most importantly I would like to thank all the people who have worked tirelessly for the success of our Company, many working late and on weekends this past year to make this happen. I would also like to thank the professionals that have helped us get here - our accountants, lawyers, and technology partners. Our success will continue to be a team effort. This year is going to be an exciting, landmark year for the Company. I cannot wait to write next year's letter.

Thank you for your support and confidence.

Sincerely,



Michael Toporek
Chief Executive Officer
Mechanical Technology, Incorporated

Any of the statements in this letter, other than those that are historical facts, may be forward-looking statements within the meaning of federal securities laws. Such forward-looking statements include references to our plans and goals, in particular with respect to "continued rapid growth" and when net income from EcoChain's initial cryptocurrency mining facility will equal the amount we invested in this facility. All forward-looking statements are made as of the date of mailing of our annual report on Form 10-K for the year ended December 31, 2020, and we disclaim any duty to update such statements except to the extent required by applicable securities laws. It is important to note that our actual results could differ materially from those projected in forward-looking statements. Factors that could cause the anticipated results not to occur include: that the uncertainty of the global economy, including as a result of developments with respect to the COVID-19 pandemic, particularly in Asia and the United States, may affect demand for our products and/or accelerated purchases of our products by our customers due to changes in their business needs; the failure of the Company to locate viable strategic activities including potential acquisitions that are beneficial to the Company; our inability to build and maintain relationships with our customers; the risks and uncertainties inherent in the cryptocurrency mining industry, including the costs of operation, the future price of cryptocurrencies and fluctuations in such prices, government and quasi-government regulation of cryptocurrencies and their use, restrictions on or regulation of access to and operation of blockchain networks or similar systems, and the availability and popularity of other forms or methods of buying and selling goods and services, including government-backed cryptocurrencies; and the other risk factors discussed from time to time in the Company's filings with the U.S. Securities and Exchange Commission including, but not limited to, our accompanying our annual report on Form 10-K for the year ended December 31, 2020.

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-K**

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

For the fiscal year ended December 31, 2020

OR

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

For the transition period from _____ to _____

Commission File Number: 000-06890

mti

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

Nevada
State or other jurisdiction
of incorporation or organization

14-1462255
(I.R.S. Employer
Identification No.)

325 Washington Avenue Extension, Albany, New York 12205
(Address of principal executive offices)(Zip Code)

(518) 218-2550

(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock (\$0.001 par value)	MKTY	The Nasdaq Stock Market LLC

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

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

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (Section 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates as of June 30, 2020 (based on the last sale price of \$0.70 per share for such stock reported on the over-the-counter market for that date) was \$3,756,086.

As of March 26, 2021, the Registrant had 9,821,857 shares of common stock outstanding.

Documents incorporated by reference: Portions of the registrant's Proxy Statement for its 2021 Annual Meeting of Shareholders are incorporated by reference into Part III of this Form 10-K.

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PART I

Item 1: Business

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

Overview and Recent Developments

Mechanical Technology, Incorporated was incorporated in New York in 1961 as a developer and manufacturer of energy-efficient rotating machinery and instrumentation. Mechanical Technology, Incorporated became a Nevada corporation on March 29, 2021. Headquartered in Albany, New York, the Company has a rich history of technological experience in providing technical advances to support American industry and defense agencies, and in developing related proprietary products, including gas-lubricated bearings, sensors, compressors, steam turbines, high-efficiency engines, and fuel cells for industrial equipment and hand-held devices. During the last four years we have undertaken a process to streamline our product offerings in order to re-focus on our core business and key product lines and limit the amount of customer-specific customization of our products, which has resulted in the Company returning to profitability. We remain, however, as we have throughout the Company’s history, highly dependent on the financial expertise of our workforce given the highly-technical nature of our products and businesses.

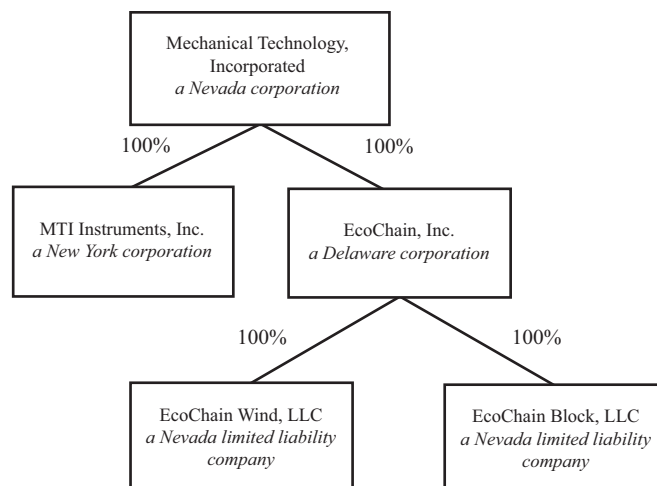
Today, the Company’s core businesses are conducted through its wholly-owned subsidiaries MTI Instruments and EcoChain.

MTI Instruments, incorporated in New York in 2000, is engaged in the design, manufacture, and sale of vibration measurement and system balancing solutions, precision linear displacement sensors, instruments and system solutions, and wafer inspection tools, serving markets that require 1) engine balancing and vibration analysis systems for both military and commercial aircraft, 2) the precise measurements and control of products and processes in automated manufacturing, assembly, and consistent operation of complex machinery, and 3) metrology tools for semiconductor and solar wafer characterization. We continue to work on ways to increase our sales reach, including expanded worldwide sales coverage and enhanced internet marketing, with respect to this business.

EcoChain, a Delaware corporation incorporated in January 2020, is engaged in cryptocurrency mining powered by renewable energy. Related to this new core business, we made a strategic investment, and hold an equity position, in Soluna Technologies, Ltd. (“Soluna”), a Canadian company that develops vertically-integrated, utility-scale computing facilities focused on cryptocurrency mining and cutting-edge blockchain applications, as further discussed below.

Our website is <http://www.mechtech.com>. Information contained on our website does not constitute part of and is not incorporated into this Annual Report.

The current corporate organizational structure of MTI appears below.



The Company had previously been subject to the reporting requirements of the Securities Exchange Act of 1934 (“Exchange Act”) and filed reports and other documents with the Securities and Exchange Commission (the “SEC”) thereunder, but had ceased doing so in 2018. The Company filed with the SEC a Form 10 Registration Statement to re-register its common stock under Section 12 of the Exchange Act initially in March 2020, which was withdrawn and then re-filed in September 2020 and that became effective in November 2020, making the Company once again subject to the Exchange Act’s reporting requirements.

In addition, on March 23, 2020, our common stock commenced trading on the Nasdaq Stock Market LLC (“Nasdaq”).

On March 29, 2021, the Company re-incorporated from New York to Nevada (the “Redomestication”). To effect the Redomestication, the Company organized a wholly-owned subsidiary in Nevada named Mechanical Technology, Incorporated (“MKTY-NV”) and the Company merged with and into MKTY-NV with MKTY-NV as the surviving entity, succeeding to and assuming all rights and obligations of the Company in accordance with Nevada law. Upon consummation of the Redomestication, the Company’s state of incorporation as a practical matter changed from New York to Nevada, and each outstanding share of Company common stock was converted into one share of MKTY-NV common stock. We believe that reincorporation in Nevada will give us a greater measure of flexibility and simplicity in corporate governance than is available under New York law and will increase the marketability of our securities. The Nevada Revised Statutes are generally recognized as one of the most comprehensive and progressive state corporate statutes. We believe that by reincorporating the Company in Nevada, it will be better suited to take advantage of business opportunities as they arise and to provide for its ever-changing business needs. We believe that the Company’s growth can be conducted to better advantage if the Company is able to operate under Nevada law.

In addition, on March 10, 2021, the Company filed with the SEC a Registration Statement on Form S-1 with respect to its anticipated sale of up to \$11.5 million worth of its common stock in a firm underwritten offering. We intend to use the net proceeds of the offering primarily for the acquisition, development, and growth of two additional cryptocurrency mining facilities, including cryptocurrency miners, other computer processing equipment, data storage, electrical infrastructure, software and real property (i.e. land and buildings), but we also may use a portion of the proceeds to acquire other entities or businesses in the future that complement our businesses or are otherwise consistent with our business plan. We may also use a portion of the net proceeds to pay for the costs associated with our Nasdaq listing application, which was approved on March 18, 2021.

In connection with our Nasdaq listing application, our Board of Directors approved (subject to shareholder approval, which was obtained at the special meeting of shareholders held on March 25, 2021) a grant of discretionary authority permitting the Board, at any time prior to the Company’s 2022 annual meeting of shareholders, to effect a reverse split of the Company’s outstanding shares of common stock (either before or after the Redomestication) at a specific whole number ratio within a range from 1-for-2 to 1-for-10. Subject to shareholder approval, we intend for the Board to effect such reverse stock split only if and to the extent necessary to remain in compliance with Nasdaq’s continued listing requirements.

In February 2021 we added two new independent directors to our Board of Directors, William Hazelip and Alykhan Madhavji, who bring to the Board expertise that will support EcoChain’s cryptocurrency mining business. Mr. Hazelip is an accomplished leader in the energy industry, with deep experience in utility project development, financing, regulation, and operations. Mr. Madhavji is the Managing Partner at Blockchain Founders Fund, an early-stage investment fund specialized in investing in blockchain and emerging technology projects and venture-builder of top-tier start-ups headquartered in Beijing, China. To support EcoChain’s cryptocurrency mining business, the Company intends to bolster the Board’s expertise in areas vital to this business, including power generation and transmission business, as well as project finance, as it continues to grow EcoChain. Messrs. Hazelip and Madhavji have a wealth of knowledge and experience in these important areas.

Test and Measurement Instrumentation Segment

MTI Instruments, Inc.

MTI Instruments engages in the design, manufacture, sale, marketing, and support of metrology, or measurement, products that provide analytical data to help customers monitor and analyze processes in areas including research and development, manufacturing, process control, quality control, and troubleshooting of third-party equipment. In research and development, our products can help customers collect empirical data that they can use to develop new

products or processes. In manufacturing, our sensors can help engineers understand whether or not a process is under control. In the quality control area, our products can help determine if parts in a manufacturing line pass or fail an applicable quality test. With respect to troubleshooting, our products can provide diagnostic, and potential solution, information.

Because of the large number of applications and uses for our products, MTI Instruments’ product mix varies from a single sensor to a large multi-channel system that contains many different sensors and software, we can provide our customers a complete solution. In addition, MTI Instruments sells components to original equipment manufacturers (“OEMs”) who, in turn, incorporate our components into their own products.

MTI Instruments’ operations are headquartered in Albany, New York.

Instrumentation Products

MTI Instruments manufactures a line of products capable of diagnosing vibration and balancing problems of an aircraft engine and generating a visual map of where metal weights should be placed for the customer to balance the engine, also known as “trim balancing.” MTI Instruments also specializes in non-contact, highly-accurate metrology products. The measurements are carried from a distance while the sensor is tracking the object’s movement. These types of measurement sensors are commonly referred to in the industry as non-contact, linear displacement measurement sensors. Additionally, MTI Instruments manufactures a portable signal generator as well as quality control tools for the semiconductor industry.

Balancing Systems: MTI Instruments manufactures computer-based portable balancing systems (“PBS”) products that automatically collect and record aircraft engine vibration data, identify vibration or balance trouble in an engine, and calculate a solution to the problem on-wing, which means that customers do not have to disassemble the engine off the plane to perform this test and correct for the problem, resulting in a significant reduction of downtime. Major aircraft engine manufacturers and the U.S. Air Force, other military and commercial airlines, and gas turbine manufacturers use these products. MTI instruments also manufactures a product with similar characteristics for test cells. Test cells are dedicated engine facilities outfitted with instruments to test aircraft engines when taken off aircrafts.

Listed below are selected MTI Instruments’ Balancing Systems product offerings and technologies:

Product	Description
PBS-4100+ Portable Balancing System	Provides easy-to-follow solutions for engine vibration and trim balancing
PBS-4100R+ Test Cell Vibration Analysis and Trim Balance System	Advanced trim balancing and diagnostics for engine test cells
TSC-4800A Tachometer Signal Conditioner	Signal conditioner detects and conditions signals for monitoring, measuring, and indicating engine speeds

Precision Instruments Products: MTI Instruments’ precision instruments products are designed to address the needs of process engineers, researchers, designers, product developers, and others who need to measure and monitor what they are working on with precisions down to a nanometer or 1 billionth of a meter – essential to some industries like the semiconductor market, which uses such precision in the manufacturing of products including computer chips and smartphones. These products are also used in general industrial manufacturing applications including measuring dimensions, monitoring thickness, and the vibration of products.

Listed below are selected MTI Instruments’ precision instruments product offerings and technologies:

Product Line	Description
Accumeasure™ Series	High precision capacitive boards and systems offering great stability
Microtrak™ Series	Single spot laser sensor line equipped with the latest complementary metal oxide semiconductor sensor technology with high sensitivity
Fotonic Sensor® Series	Fiber-optic-based vibration sensor systems with high frequency response

Diagnostic Equipment: MTI Instruments offers a portable signal generator - its 1510 Calibrator. A signal, or function, generator is a product that delivers an electronic signal simulating other pieces of equipment or sensors to help the user easily isolate potential problems when testing and calibrating electronic equipment. While the product was originally designed to help customers calibrate PBS products in the field, MTI Instruments now markets this product worldwide to different markets.

Semiconductor and Solar Metrology Systems: MTI Instruments manufactures a family of products that can assist in early defect detection in the manufacturing process of semiconductor products. Some of these semiconductor products include microchips, which are the basis for building the sophisticated electronic devices in common use today, including computers and smartphones. MTI Instruments' semiconductor products help our manufacturer customers identify irregularities in the components of their products earlier in their manufacturing process. For example, for microchip manufacturers, our products allow for the detection of defects at the wafer (the surface, usually made of the chemical element silicon, from which microchips are built) stage of the manufacturing process. This allows our customers to discard defective components before they result in the manufacture of defective products, saving them time and money.

Listed below are MTI Instruments' semiconductor and solar metrology systems product offerings and technologies:

<u>Product</u>	<u>Description</u>
Proforma 300iSA	Semi-automated, non-contact full wafer surface scanning system for thickness, total thickness variation, bow, warp, site and global flatness
Proforma 300i	Manual, non-contact measurement of wafer thickness, total thickness variation, and bow
PV 1000	In process tool for measuring thickness and bow of solar wafers

Marketing, Sales and Distribution

MTI Instruments markets its products and services using selected and specific channels of distribution. In the Americas, MTI Instruments uses a combination of direct sales and representatives. Overseas, particularly in Europe and Asia, MTI Instruments uses distributors and agents specific to our targeted end markets and has our sales staff frequently (at least once per quarter) visit distributors and customers in these territories to increase our exposure and sales, although during the current COVID-19 pandemic these visits are taking place virtually, either through videoconferences or via webinars. For our balancing systems, MTI Instruments primarily sells directly to end users.

MTI Instruments supplements sales efforts with marketing activities across different media including search engines, targeted newsletters, and purchased customer lists, and participates in trade shows related to our business in hopes to increase lead generation, resulting in new customer sales. The Company also maintains strong working relationships with our existing key customers to continually promote new product sales.

In addition, the Company works with existing OEMs and seeks to work with new OEMs to incorporate our products into their own products or retrofit existing components with our products. In most cases, these OEMs are looking for a semi-custom sensor using our products and technologies as the base for development. While the sales cycle of a new MTI Instruments' product at an OEM can be long, so is the potential for recurring revenue once an OEM adopts our product.

Product Development

MTI Instruments conducts research and development efforts to support its existing products and develop new ones according to its sales and marketing plans. Management believes that our success in our current business depends to a large extent upon innovation, technological expertise, and new product development, and in some cases, seeking a technological advantage in the market. In addition, as noted above MTI Instruments seeks to work with OEMs to develop semi-custom product solutions. Below are our most recent product development efforts, all of which are part of our Accumeasure™ Series product line:

- In the first quarter of 2020, MTI Instruments launched our D200 HD, a high-definition product targeting customers looking for a linear displacement sensor capable of achieving a resolution in picometers. Resolution is the minimum detectable change in the position of the object being studied. For reference, one

inch can be divided into 25.4 billion picometers. This product can detect small distance changes as low as 20 picometers. This product feature is particularly relevant to companies working in nano-science and nano-technology applications including the semiconductor, medical instrumentation, and electronics industries.

- In 2019, we launched the Digital Accumeasure D Series, Gen 3– the third generation of this product platform with improvements in linearity down to 0.01%, while improving resolution. Linearity is a large component of how an instrument performs and how accurate it is. This product is targeted to customers looking for a linear displacement sensor with both high accuracy and high resolution. This product appeals to companies working on tracking positioning or movement including two-directional moving platform manufacturers, lens positioning developers, and, in general, the semiconductor industry.
- In 2016, MTI Instruments introduced a paper-thin capacitance probe that is non-magnetic, a feature that allows the probe to conform to and be bonded in a thin gap and provides accurate measurement within surrounding magnetic fields. This paper-thin probe, together with the Accumeasure D, is designed to be used to measure and monitor gaps in high power generators, wind turbines, and other auxiliary equipment. That year, we also enhanced the PBS-4100+ to accommodate the latest generation of fuel-efficient aircraft engines.

Product Manufacturing & Operations

While many companies in the sensor, instrument, and systems markets have manufacturing operations overseas, MTI Instruments (and its predecessors) is and has always been a U.S.-based manufacturing company. Products are conceived, developed, tested, and shipped out from our headquarters in Albany, New York.

Our management believes that there are inherent advantages in maintaining our operations in the United States, including reducing the risk of inadvertent technology transfer, the ability to control manufacturing quality, and a much more effective customer management and satisfaction process. We have long-term vendor relationships and believe that most raw materials that we use in our products are readily available from a variety of vendors. These advantages were particularly acute during the last 12 months as we experienced minimal supply chain interruptions or other negative effects on our manufacturing processes as a result of the coronavirus pandemic.

We employ a flexible approach to manufacturing. While cross-training our employees in operations in different functional areas, management also implemented and has kept up-to-date lean principles on the manufacturing floor to increase capacity and productivity when experiencing high sales volumes.

In April 2020, the Company was re-certified ISO 9001:2015 compliant. The certification was authorized by TÜV Rheinland®, an independent testing agency. To initially obtain this certification, which we did in 2017, we underwent a rigorous five-step process including preparation, documentation, implementation, internal audit, and final certification. We believe that operational changes we implemented in accordance with ISO 9001:2015 confirms our commitment to an effective management system and continuous improvement, a practice that management believes is important for continuous growth.

Competition

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

In the axial turbo machinery market, MTI Instruments' PBS product line competes with products from companies including ACES Systems and Meggitt Sensing Systems (Vibrometer) in the diagnostics of engine vibration and trim balancing.

In the precision automated manufacturing market, MTI Instruments faces competition from companies including Omron Corporation, Turck Inc., Pepperl+Fuchs Inc., Keyence Corporation, Micro-Epsilon Messtechnik GmbH & Co. KG, Schmitt Industries Inc., Capacitec, Inc., Microsense LLC, and Motion Tech Automation Inc.

In the R&D and semiconductor markets, we compete with companies involved in wafer inspection including KLA Corporation, Micro-Epsilon Messtechnik GmbH & Co. KG, and E+H Metrology GmbH. Competitors in precision linear displacement include Keyence Corporation, Micro-Epsilon Messtechnik GmbH & Co. KG, Schmitt Industries Inc., Capacitec, Inc., Microsense LLC, and Motion Tech Automation Inc.

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

Raw Materials

Our products are made from a wide variety of raw materials and certain subassemblies that are generally available from multiple sources. While we seek to have several sources of supply for our raw materials and subassemblies, however, we do obtain certain materials from a single source or a limited group of suppliers or from suppliers in a single country. While we believe that we have established strong vendor relationships to mitigate the risks associated with single-source suppliers and have not experienced disruptions in our supply chain to date, disruptions in supply remain a possibility and could result in delays, increased costs, or reduced operating profits or cash flows.

Dependence on Certain Customers

All of our product revenues (which constituted 93.8% of our total revenues) during 2020, and all of our revenues during 2019, 2018, and 2017, were earned through MTI Instruments. While we also have strong relationships with companies in the electronics, aircraft, aerospace, automotive, and semiconductor industries, MTI Instruments' largest customer is the U.S. Air Force. The U.S. Air Force accounted for 42.9%, 20.8%, 28.0%, and 20.1%, respectively, of our total product revenues during 2020, 2019, 2018, and 2017, respectively. While we depend on a relatively small number of commercial customers for the majority of the balance of our product revenues, sales to the largest commercial customer during each of the last three fiscal years accounted for between 9.1% and 11.1% of total product revenue and our largest commercial customer in each of the last three years was a different company than in each of the other three years. While we continue to endeavor to maintain and further expand our customer base, we expect that sales to a limited number of customers will continue to account for a high percentage of our revenues for the foreseeable future, and as a result the loss of or significant reduction in sales to our current customer base could have a material adverse effect on our business, revenues, ability to remain profitable, and financial condition.

Intellectual Property and Proprietary Rights

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

Royalty Agreement; Sale of Business

Pursuant to an Asset Purchase Agreement by and between MTI Instruments and 5 Twenty-Two Systems, LLC, dated as of May 10, 2019, we sold all assets related to our former tensile stage product line to 5 Twenty-Two Systems for an aggregate purchase price comprised of \$28 thousand plus \$9 thousand for certain inventory, plus future royalty payments and 5 Twenty-Two Systems' assumption of certain liabilities. Pursuant to the Asset Purchase Agreement, 5 Twenty-Two Systems' is required to pay MTI Instruments, through May 10, 2022, a royalty equal to 3% of 5 Twenty-Two Systems' gross sales from its sale of products, equipment, or other assets containing, incorporating, or making use of the assets purchased from MTI Instruments pursuant to the Asset Purchase Agreement. We have received some royalty payments under this agreement but to date such amounts have been immaterial.

Cryptocurrency Segment

EcoChain, Inc.

EcoChain engages in cryptocurrency mining, a process by which transactions between cryptocurrency users are verified and added to the blockchain public ledger. Cryptocurrency mining also introduces new cryptocurrency coins into the existing circulating supply, facilitating a peer-to-peer decentralized network without the need for a third-party central authority.

In connection with this business line, EcoChain has established a facility located in East Wenatchee, Washington to mine cryptocurrencies and integrate with the blockchain network. Pursuant to the January 2020 Operating and Management Agreement between EcoChain and Soluna, Soluna assisted us in developing, and is now operating, the

cryptocurrency mining facility. The Operating and Management Agreement requires, among other things, that Soluna provide developmental and operational services, as directed by EcoChain, with respect to the cryptocurrency mining facility in exchange for EcoChain's payment to Soluna of a one-time management fee of \$65,000 and profit-based success payments in the event EcoChain achieves explicit profitability thresholds. Pursuant to the Operating and Management Agreement, during the developmental phase of the cryptocurrency mining facility, which ended on March 14, 2020, Soluna gathered and analyzed information with respect to EcoChain's cryptocurrency mining efforts and produced budgets, financial models, and technical and operational plans, including a detailed business plan, that it delivered to EcoChain in March 2020, (the "Deliverables"), all of which was designed to assist with the efficient implementation of a cryptocurrency mine. The agreement provided that, following EcoChain's acceptance of the Deliverables, which occurred on March 23, 2020, Soluna, on behalf of EcoChain, would commence operations of the cryptocurrency mine in a manner that will allow EcoChain to mine and sell cryptocurrency. In that regard, on May 21, 2020, EcoChain acquired the intellectual property of Giga Watt, Inc. ("GigaWatt") and certain other property and rights of GigaWatt associated with GigaWatt's operation of a crypto-mining operation. The acquired assets form the cornerstone of EcoChain's new cryptocurrency mining operation.

The mining facility has electrical capacity of between 1.5 megawatts and 3 megawatts depending on whether the Company decides to upgrade certain electrical infrastructure within the facility. The Company has upgraded its electrical capacity at the facility to 2.2 megawatts and will continue to assess the economics of further investing in facility upgrades to reach 3 megawatts. The Company intends to continue to rigorously evaluate increasing its investment in the Blockchain and dense computing sector.

The Operating and Management Agreement with Soluna provides EcoChain with the management expertise in the cryptocurrency industry that is necessary to operate the mining facility. Soluna handles the operational management of the mine including making decisions regarding miner purchases (as further described below), including the make and model thereof, and management of execution of daily activities. Several members of the Soluna management team have deep experience in the cryptocurrency industry, including leveraging energy-efficient power and cutting-edge technology advancements. EcoChain has engaged a third-party service provider to handle the day-to-day operational tasks of the mine, including remedial and preventative maintenance, mine operations and general upkeep of the facility. The team handling these matters, which works on-site at the mining facility, has 10 years' experience in the daily management of the mining facility as this same team handled these matters for the facility when it was being operated by GigaWatt and by its bankruptcy trustee prior to EcoChain's purchase of the mine. The Company handles the general and administrative functions of the mine through its corporate office, but otherwise there are no synergies between this business and MTI Instruments' metrology business. EcoChain has no employees.

Cryptocurrency Mining Operations

EcoChain's cryptocurrency mining operation, operated by Soluna as provided for in the Operating and Management Agreement, commenced operations and immediately began mining several cryptocurrencies, including BitCoin, Ethereum, and LiteCoin, upon consummation of the GigaWatt transaction on May 21, 2020, using the mining equipment we acquired in that transaction. The mine, which is powered by renewable energy, is housed in approximately 19,000 square feet of leased space in four separate buildings. Since commencing its mining operations, EcoChain has acquired additional equipment and initiated improvements to the acquired facilities to increase the mine's capacity. To maximize space utilization at the facility and cut down on our operating costs associated with the facility, EcoChain has entered into a co-location agreement to share both unused space and facility costs with Navier Incorporated. EcoChain sells on a daily basis all cryptocurrencies mined for U.S. dollars, as it is not in the business of accumulating cryptocurrency on its balance sheet for speculative gains.

On January 14, 2021, EcoChain established a subsidiary, EcoChain Wind, LLC, a Nevada limited liability company, for the purpose of acquiring real property in the Southeastern United States for purposes of building cryptocurrency mining operations at an energy-efficient cryptocurrency mining facility. EcoChain signed an agreement, dated January 21, 2021, relating to the acquisition of this property, and closed the acquisition on March 4, 2021.

On February 22, 2021, EcoChain Wind entered into an Industrial Power Contract with a power-providing cooperative pursuant to which the cooperative will provide electric power and energy to this new mining facility. This agreement, and the electric power and energy to be provided to EcoChain pursuant thereto, will commence upon the completion of the facility, which is expected to occur in the third or fourth quarter of 2021, for an initial term of five years, with successive automatic five-year renewals unless EcoChain provides notice that it does not wish to renew the agreement. The agreement provides that EcoChain will pay the cooperative for the electric power and energy it

provides the new mining facility in accordance with the applicable monthly rates, charges, and provisions agreed to from time to time between the cooperative and the Tennessee Valley Authority (“TVA”), which is subject to modification or adjustment, from time to time, as agreed to between the power provider and the TVA.

On March 24, 2021, EcoChain established a subsidiary, EcoChain Block, LLC, a Nevada limited liability company, for the purpose of acquiring or leasing additional assets in the Southeastern United States.

Cryptocurrency Assets

Cryptocurrency assets, known as miners, consist of hardware and software that perform the computations needed to mine cryptocurrencies, as discussed under “Cryptocurrency Revenue” below, and as such are the source of the associated revenues generated by a cryptocurrency mine, including EcoChain’s. EcoChain has approximately 900 miners in service, mostly Bitmains, that generate Bitcoin. For a number of reasons, including the fact that EcoChain purchases miners in the secondary market from a number of different sellers, and that the price fluctuates because of demand and supply fluctuations as well as fluctuations in the price of the specific cryptocurrency that can be mined by the miner purchased, which drives the cost of the miners, the cost of purchasing these assets fluctuates regularly. As a result, EcoChain uses dollar cost averaging to flatten the overall cost of purchasing the miners so that it can consistently purchase miners regardless of the cost on the date of purchase. This allows EcoChain to replace the miners more consistently with newer models, which is important because, as miners age, their speed degrades, usually resulting in decreased computations over the same period and, as a result, fewer mined cryptocurrencies. In addition, miners are subject to ongoing technical obsolescence.

Cryptocurrency Revenue

EcoChain recognizes revenue when the related cryptocurrencies are converted to U.S. dollars through its account with Coinbase, a cryptocurrency exchange (i.e. a platform that facilitates the exchange of cryptocurrencies for other assets, such as conventional money or other digital currencies). EcoChain chooses to exchange cryptocurrency to U.S. dollars through the Coinbase account daily. The primary cryptocurrencies that EcoChain mines are Bitcoin and, to a lesser degree, Ethereum and Litecoin. The type of cryptocurrency mined is based specifically on the installed miner, as each miner can mine only one type of cryptocurrency. The miners perform complex computations at a speed referred to as the “hash rate.” EcoChain participates in mining pools where our miners’ computations and those of other miners owned by other persons and entities are combined to place blocks on the blockchain, which generates the relevant cryptocurrency (in other words, it is at this point that more of the relevant cryptocurrency is created, which is memorized in the blockchain by being represented by new “blocks”). The mining pool operator uses software to track contributions made by all the miners and allocates the newly-minted cryptocurrency to the miners based on their pro rata contributions. EcoChain monitors its inputs into these pools and the resulting distribution of the resulting cryptocurrency, which allows the Soluna management team to ensure that EcoChain is being allocated the amounts of cryptocurrency it is entitled to based on the number of computations it contributes to the pools and the hash rate thereof. The cryptocurrencies allocated to EcoChain are automatically issued to its Coinbase account, which Coinbase exchanges for U.S. dollars based on standard exchange rates.

Crypto Currency Mining Market Overview

According to Global Coin Research,¹ Bitcoin miners achieved an aggregate of more than \$6 billion in revenues through July 2019 on an annualized basis. According to Glassnode, Bitcoin miner revenue hit a new all-time high of \$52.3 million per day during the week of March 11, 2021.² The Company believes that cryptocurrency mining has seen a growing demand due to, among other things, the continuous adoption of cryptocurrency worldwide. For example, in October 2020 PayPal announced that its customers can now buy, sell, and hold Bitcoin in their PayPal accounts.³ Crypto.com estimates that there are approximately 106 million cryptocurrency users globally as of January 2021.⁴ According the registration statement it recently filed with the SEC to become a public company, Cryptocurrency exchange Coinbase alone has approximately 43 million users as of December 31, 2020, whereas only eight years ago, on December 31, 2012, it had an estimated just 13,000 users. These increases are being fueled by, among other things, the growing adoption of cryptocurrency by a number of industries including, among others, online gaming, online gambling, remittances, and digital commerce.⁵ Research estimates that from 2018 through 2028, the compound annual growth rate (return on investment over a period of time) of the market capitalization for the crypto asset market will be 36%.⁶ Further, according to Gartner, IDC, and Forrester, the total addressable market (total estimate of value based on available population of users) is estimated to grow from \$63 billion in 2020 to \$86 billion in 2028.⁷ Based on the estimated growth in the total addressable market, the Company expects continued demand downstream to the mining level of cryptocurrencies.

Mining Ecosystem and Competitive Landscape

There are number of methods that individuals and organizations use to engage in cryptocurrency mining, and mining operations run the gamut from individuals using one or more systems to run mining operations to industrial-scale mining farms with thousands of systems. The Company believes that the high demand for cryptocurrency is fueling innovation in all aspects of the mining hardware and the mining process. This includes the creation of mining pools, discussed above, that permitted the initial mining operators, which were generally small or individually-owned operations, to pool their resources to compete with larger entities that entered the mining market as cryptocurrencies gained wider use and acceptance and, as a result, mining them became more profitable. The mining business is global and is not dominated by any particular individual or organization. EcoChain considers Marathon Patent Group, Riot Blockchain, Inc. CleanSpark, Inc., HIVE Blockchain Technologies, Ltd., and Hut 8 Mining Corp. to be among its closest competitors.

Equity investment - Soluna

Simultaneously with entering into the January 2020 Operating and Management Agreement with Soluna, the Company, pursuant to a purchase agreement it entered into with Soluna, made a strategic investment in Soluna by purchasing 158,730 Class A Preferred Shares of Soluna for an aggregate purchase price of \$500,000. After acceptance of the Deliverables, as required by the terms of the purchase agreement, the Company purchased an additional 79,365 Class A Preferred Shares of Soluna for an aggregate purchase price of \$250,000. The Company also has the right, but not the obligation, to purchase additional equity securities of Soluna and its subsidiaries (including additional Class A Preferred Shares of Soluna) if Soluna secures certain levels or types of project financing with respect to its own wind power generation facilities. The Company has additionally entered into a Side Letter Agreement, dated January 13, 2020, with Soluna Technologies Investment I, LLC, a Delaware limited liability company that owns, on a fully diluted basis, 61.5% of Soluna and is controlled by a Brookstone Partners-affiliated director of the Company.

¹ Global Coin Research Team, *Crypto Mining 101 – Overview & Landscape of the Mining Industry*, May 5, 2020, available at <https://globalcoinresearch.com/2020/05/05/crypto-mining-101/>.

² Glassnode, *The Week On-chain (Week 11, 2021)*, March 15, 2021, available at <https://insights.glassnode.com/the-week-on-chain-week-11-2021-2/>. See also Mathew Di Salvo, *Bitcoin Miner Revenue Hits All-Time High of \$52.3 Million in One Day*, March 16, 2021, available at <https://decrypt.co/61630/bitcoin-miner-revenue-all-time-high>.

³ *PayPal Launches New Service Enabling Users to Buy, Hold and Sell Cryptocurrency*, Oct 21, 2020, available at <https://newsroom.paypal-corp.com/2020-10-21-PayPal-Launches-New-Service-Enabling-Users-to-Buy-Hold-and-Sell-Cryptocurrency>.

⁴ Harry Robertson, *The estimated number of global crypto users has passed 100 million - and boomers are now getting drawn to bitcoin too, reports find*, February 25, 2021, available at <https://markets.businessinsider.com/currencies/news/crypto-users-pass-100-million-boomers-gen-x-bitcoin-btc-ethereum-2021-2-1030122720#:~:text=Around%20106%20million%20people%20are,drawn%20to%20tokens%20like%20bitcoin.>

⁵ Statis Group, *Cryptoasset Market Coverage Initiation: Valuation*, August 30, 2018, available at https://research.bloomberg.com/pub/res/d37g1Q1hEbkiRCu_ruMdMsb0A.

⁶ *Id.*

⁷ *Id.*

The Side Letter Agreement provides for the transfer to the Company of additional Class A Preferred Shares of Soluna in the event Soluna issues additional equity below agreed-upon valuation thresholds.

Several of Soluna's equity holders are affiliated with Brookstone Partners, the investment firm that holds an equity interest in the Company through Brookstone Partners Acquisition XXIV, LLC. One of our Brookstone-affiliated directors serves as a director and as Secretary and Treasurer of Soluna, and the other Brookstone-affiliated director has an ownership interest in Soluna. In light of these relationships, the various transactions by and between the Company and EcoChain, on the one hand, and Soluna, on the other hand, were negotiated on behalf of the Company and EcoChain via an independent investment committee of our Board of Directors and separate legal representation. The transactions were subsequently unanimously approved by both the independent investment committee and the full Board.

Existing or Probable Governmental Regulations

Cryptocurrency Segment

While the United States and a number of other countries are considering how to regulate cryptocurrencies, very little action has been taken in that regard to date. While we expect that regulation, particularly in the United States, governing the cryptocurrency arena will be adopted at some point, there is no certainty at this time when such regulations may be adopted, what form such regulation will take, or the parts of the cryptocurrency sector that such regulations will impact. As a result, we cannot at this time determine or even estimate what the impact of such regulations may be on EcoChain's operations and financial condition and, as a result, the Company's financial condition and results of operations.

Human Capital Resources

At March 26, 2021, we had 33 employees including 29 full-time employees. Of these employees 10 are engaged in product development, nine in manufacturing, and the remainder in sales and general and administrative functions. The manufacturing personnel include both individuals directly involved in the manufacturing of our products as well as warehouse and operations supervisory personnel. Certain positions within our organization require industry-specific technical knowledge. We have been successful in attracting and retaining qualified technical personnel for these positions. None of our employees are covered by any collective bargaining agreement.

Our human capital resources objectives include, as applicable, identifying, recruiting, retaining, engaging, incentivizing, and integrating our existing and additional employees. The Company supports its employees through a generous benefits package and has recently expanded human resource activities to include wellness activities. In response to the COVID-19 global pandemic, the Company has implemented procedures to support flexible working arrangements for its workforce based on business needs. In particular, all employees that can perform work remotely have been provided with a laptop and remote access, and the Company regularly holds meetings virtually.

Insurance

The Company maintains insurance policies with reputable insurers against such risks and in such amounts as management has determined to be prudent for our operations and that we believe are similar in scope and coverage in all material respects to insurance policies maintained by other similarly-situated businesses.

Item 1A: Risk Factors

Factors Affecting Future Results

This Annual Report on Form 10-K, including the discussion in this section, contains forward-looking statements that involve risks and uncertainties. Any statements herein that are not statements of historical fact may be forward-looking statements. When we use the words “anticipate,” “estimate,” “plans,” “projects,” “continuing,” “ongoing,” “expects,” “management believes,” “we believe,” “we intend,” “should,” “could,” “may,” “will,” and similar words or phrases, we are identifying forward-looking statements. Such forward-looking statements include, but are not limited to, statements regarding:

- statements with respect to management’s strategy and planned initiatives, including anticipated growth;
- management’s belief that it will have adequate resources to fund the Company’s operations and capital expenditures for the year ending December 31, 2021 and through at least the end of the first quarter of 2022;
- future capital expenditures and spending on research and development;
- expected funding of future cash expenditures;
- our expectations with respect to pending legal proceedings;
- statements regarding the expected operations of EcoChain and the impact on our business, operating results, and financial condition as a result thereof;
- our expectations regarding increases in certain selling, general and administrative expenses;
- the expected timing of the completion of EcoChain’s second cryptocurrency mining facility;
- statements regarding potential acquisitions;
- our expected use of proceeds from our anticipated common stock offering and the expected net proceeds therefrom;
- our expectations regarding the renewal of our contract with the U.S. Air Force that is set to expire on June 30, 2021;
- the expected impact of pending accounting updates; and
- the expected impact of our investments in Soluna.

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

- sales revenue growth may not be achieved or maintained;
- the dependence of our business on a small number of customers and potential loss of government contracts - particularly in light of potential cuts that may be imposed as a result of U.S. government budget appropriations;
- our lack of long-term purchase commitments from our customers and the ability of our customers to cancel, reduce, or delay orders for our products;
- our inability to build and maintain relationships with our customers;
- our inability to develop and utilize new products and technologies that address the needs of our customers;
- our inability to retain existing or obtain new credit facilities;
- the cyclical nature of the electronics and military industries;
- the uncertainty of the U.S. and global economy;
- the impact of future exchange rate fluctuations;
- failure of our strategic alliances to achieve their objectives or perform as contemplated and the risk of cancellation or early termination of such alliance by either party;

- the loss of services of one or more of our key employees or the inability to hire, train, and retain key personnel;
- risks related to protection and infringement of intellectual property;
- our occasional dependence on sole suppliers or a limited group of suppliers;
- our ability to generate income to realize the tax benefit of our historical net operating losses;
- risks related to the limitation of the use, for tax purposes, of our net historical operating losses in the event of certain ownership changes;
- EcoChain’s development efforts with respect to its current cryptocurrency mining facility may not lead to construction of additional operational cryptocurrency mines;
- even if EcoChain’s development of an operational cryptocurrency mine is successful, it still may not achieve profitability in our expected timeframe or at all depending on numerous uncertainties, including the costs of operation, the future price of cryptocurrencies and fluctuations in such prices, government and quasi-government regulation of cryptocurrencies and their use, restrictions on or regulation of access to and operation of blockchain networks or similar systems, and the availability and popularity of other forms or methods of buying and selling goods and services, including government-backed cryptocurrencies;
- general economic conditions;
- risks related to scaling the EcoChain cryptocurrency mine to larger-scale cryptocurrency mining operations;
- the general risk that the EcoChain business may not be successful;
- uncertainty regarding EcoChain’s ability to consistently monetize cryptocurrency;
- fluctuating valuations of cryptocurrency; and
- other risks discussed in this Annual Report on Form 10-K.

Except as may be required by applicable law, we do not undertake or intend to update or revise our forward-looking statements and we assume no obligation to update any forward-looking statements contained in this registration statement. Thus, assumptions should not be made that our silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements.

Risk Factors

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

Adverse changes in economic or other market conditions in the United States and globally may have serious implications for the growth and stability of our business and could otherwise adversely affect our business, results of operations, and financial condition.

Our business is affected by general economic conditions, both inside and outside the U.S. Adverse changes to and uncertainty in the global economy may lead to decreased demand for our products, revenue fluctuations, and increased price competition for our products, and may increase the risk of excess and obsolete inventories and higher overhead costs as a percentage of revenue. It could also result in a decline in business forecasts, which could adversely affect our sales in future periods. Additionally, the financial strength of our customers and suppliers and their ability to obtain and rely on credit financing may affect their ability to fulfill their obligations to us and have an adverse effect on our financial results.

Revenue growth and continued profitability of our business will continue to depend significantly on the overall demand for test and measurement instrumentations in key markets including research and development, automotive, semiconductor, cryptocurrencies and electronics. If the global economy and financial markets continue to be unstable (including as a result of the COVID-19 pandemic) or significantly decline, it may cause consumers, businesses, and

governments to defer purchases in response to tighter credit, decreased cash availability and declining consumer confidence. Accordingly, demand for our products could decrease and differ materially from their current expectations. Further, some of our customers may require substantial financing in order to fund their operations and make purchases from us. The inability of these customers to obtain sufficient credit to finance purchases of our products and meet their payment obligations to us or possible insolvencies of our customers could result in decreased customer demand, an impaired ability for us to collect on outstanding receivables, significant delays in receivable payments, and significant write-offs of accounts receivable, any or all of which could adversely impact our business and financial results.

The long-term effects of the coronavirus pandemic, or the impacts of any future pandemics or other health crises, are unknown and may adversely affect our business, results of operations, financial condition, liquidity and cash flow.

Our overall performance generally depends upon domestic and worldwide economic and political conditions. The global spread of COVID-19 has created volatility, uncertainty, and economic disruption. The pandemic has caused and may continue to cause a slowdown in worldwide economic activity, decreased demand for products and services, and disruptions to global supply chains and financial markets.

While the COVID-19 pandemic, and the changes to our operations necessitated by governmental and societal actions to contain it, including social distancing and the closing and/or limits on the business operations, required us to make certain changes to the way we conduct our business and operations during the last 12 months, we have been fortunate that, to date, the pandemic has had a limited impact on our supply chains, distribution systems, and ability to continue to conduct our business and operations. We cannot, however, predict the longer-term impacts of the pandemic, or future health emergencies, on our business, operations, revenues, results of operations, or financial condition. The ultimate extent of the impact of the current coronavirus pandemic, or any future epidemic, pandemic, or other outbreak, will depend on future developments, including how fast effective (or with respect to the current pandemic, additional) vaccines and treatments are developed, the length of time before such vaccines are sufficiently distributed (both in the United States and worldwide), new or continued government actions in response, including with respect to successive waves or variants of the virus (as well as the extent to which such variants are more contagious and/or lethal), the extent to which then-current vaccines and treatments are less effective against any such variants, and whether delays in such vaccinations allow vaccine-resistant variants to develop and spread, all of which will impact the current or any future pandemic's or similar outbreak's ultimate duration and severity as well as and how fast the economy recovers afterwards. Actions we took to mitigate the impact of the current pandemic may not be successful if the pandemic continues for a longer period than expected or in future pandemics or similar emergencies. For example, beginning in March 2020 we replaced our in-person sales meetings with meetings held by videoconference, telephone calls, webinars, and additional informational website content geared towards addressing our customers' questions and concerns for both domestic and overseas customers. Nevertheless, we believe that our inability to hold in-person meetings, while not significant, did have a negative impact on our product sales over the last 12 months, and our efforts to mitigate the effects of the pandemic restrictions on our sales model may not be a viable alternative to in-person meetings on a longer-term basis or during any future health or other emergency that engender similar restrictions.

Further, the long-term social and economic impact of the pandemic, or the acceleration of pre-existing trends as a result thereof, are still uncertain. It is also unknowable what impacts future pandemics or health emergencies may bring. In either case, any such developments could materially and adversely affect our customer base or the demand for our products, which would have a negative effect on our business, prospects, results of operations, and financial condition, all of which could have a negative effect on the market price of our common stock.

General Business Considerations

Our business depends on a small number of customers and the U.S. Air Force.

Historically, we have had a small number of customers representing a large percentage of our total revenue. Although we endeavor to maintain and further expand our customer base, we expect that sales to a limited number of customers will continue to account for a high percentage of our revenues in any given period for the foreseeable future, and the loss of even just a couple of customers, or a significant reduction in sales to our existing customer base, could have a material adverse effect on our business. In addition, our revenues are largely dependent upon the ability of our customers to continue to grow or need services or to develop and sell products that incorporate our services and

products. We also depend on purchases by the U.S. Air Force for a significant portion of our revenues and the loss of the U.S. Air Force as a customer or a delay or decline in funding of our existing or future contracts with them, particularly in light of the potential for declines in military spending that may accompany the new Presidential administration, could decrease our backlog or adversely affect our business and prospects, sales, cash flows, and our ability to fund our continued product development and growth.

We do not have long-term purchase commitments from our customers, and our customers are also able to cancel, reduce, or delay orders for our products.

We generally do not obtain firm, long-term purchase commitments from our customers and frequently do not have visibility as to their future demand for our products and services. Customers also may cancel, change, or delay design, production or aftermarket service quantities and schedules, or fail to meet their forecasts for a number of reasons beyond our control. Customer expectations can also change rapidly, requiring us to take on additional commitments or risks, and requiring that we provide rapid product turnaround and respond to short lead times. A variety of conditions, both specific to individual customers and generally affecting the demand for OEMs' products, may cause customers to cancel, reduce, or delay orders. Conversely, if our customers unexpectedly and significantly increase product orders, we may be required to rapidly increase production, which could strain our resources and reduce our margins. We typically plan production and inventory levels based on internal forecasts of customer demand, which can be highly unpredictable and can fluctuate substantially, leading to excess inventory write-downs and resulting negative impacts on gross margin and net income. Additionally, and as a result, our revenues may be volatile from period to period, and we may not achieve the anticipated revenues or may incur non-recoverable costs as a result of the work we did to address our customers' anticipated or changed requirements.

Our annual and quarterly operating results may experience significant fluctuations, which could adversely impact our operations, financial results, and stock price.

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

- the cyclical nature of the markets we serve;
- the timing and size of orders and of recognizing revenue therefrom;
- the volume of orders relative to our capacity;
- product introductions and market acceptance of new products or new generations of products;
- evolution in the life cycles of our customers' products;
- timing of expenses in anticipation of future orders;
- changes in product mix;
- availability of manufacturing and assembly services;
- changes in cost and availability of labor and components;
- the timing of delivery of products to customers;
- pricing and availability of competitive products;
- fluctuations in foreign currency exchange rates;
- introduction of new technologies into the markets we serve;
- pressures on reducing selling prices;
- our success in serving new markets; and
- changes in economic conditions.

The price of our common stock could decline substantially in the event that any of these risks result in our financial performance being below the expectations of analysts and investors, which are based on historical and predictive models that are not necessarily accurate representations of the future.

We may not be able to keep pace with technological innovations or develop new product solutions in a timely manner.

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

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

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

Our efforts to continue to develop new products and technologies may not result in commercial success, which could cause a decline in our revenue and otherwise harm our business.

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

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

The nature of our business will require us to make continuing investments to develop new products and technologies. Significant expenses relating to one or more new products or technologies that ultimately prove to be unsuccessful for any reason could have a material adverse effect on us. In addition, any investments or acquisitions made to enhance our products and technologies may prove to be unsuccessful. If our efforts are unsuccessful, our business could be harmed. Moreover, when we announce our development of new products, sales of current products may decrease as customers delay making purchases until such new products are available, which could adversely affect our business, revenues, and results of operations.

The cyclical nature of the industries of many of our existing and target customers may result in fluctuations in our operating results.

Demand for our products and services in our target markets is cyclical, and revenues from the sale of our products and services can vary significantly from one period to the next as a result. We may sell a significant amount of our products to one or a few customers for various short-term projects in one period and then have markedly decreased sales in following periods as these projects end or customers have the products they require for the foreseeable future.

The electronics and military industries have experienced significant economic downturns at various times. These downturns are characterized by diminished product demand, accelerated erosion of average selling prices, and

production overcapacity. We may seek to reduce our exposure to industry downturns by providing design and production services for leading companies in rapidly expanding industry segments. We may, however, experience substantial period-to-period fluctuations in future operating results because of general industry conditions or events occurring in the general economy.

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

Sales outside of the United States accounted for approximately 25.9% of our total revenue in 2020 and 35.3% of our total revenue in 2019. Our international business may be adversely affected by changing political and economic conditions in foreign countries. Having a worldwide distribution network for our products exposes us to various economic, political, and other risks that could adversely affect our operations and operating results, including:

- export restrictions and controls relating to technology;
- the burdens and costs of compliance with a variety of existing and new foreign regulatory requirements and laws, including the General Data Protection Regulation (GDPR) in the European Union and similar laws in other jurisdictions, and unexpected changes in such regulatory requirements;
- laws and business practices favoring local companies, including tariffs imposed by other countries on U.S. goods;
- timing to meet regulatory requirements;
- developments with respect to and any impact of tariffs and other trade barrier restrictions;
- longer payment cycles and greater difficulty in enforcing agreements and collecting receivables through foreign legal systems;
- potentially reduced protection for, and difficulties in enforcing, intellectual property rights; and
- political or economic instability in certain parts of the world.

These risks or any combination of them could increase our costs, lengthen our sales cycle, and require significant management attention and could otherwise negatively affect our business, operating results, financial condition, and results of operations.

In addition, we transact our business in U.S. dollars and bill and collect our sales in U.S. dollars. Approximately 25.9% and 35.3% of our revenue was from customers located outside of the United States in 2020 and 2019, respectively. It is possible that U.S. policy changes and uncertainty about policy could increase market volatility and currency exchange rate fluctuations. Market volatility and currency exchange rate fluctuations could impact our results of operations and financial condition related to transactions denominated in a foreign currency. A weakening of the dollar could cause our overseas vendors to require renegotiation of either the prices or currency we pay for their goods and services. Similarly, a strengthening of the dollar could cause our products to be more expensive for our international customers, which could impact price and margins and/or cause the demand for our products, and thus our revenue, to decline.

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

We rely on the ability to secure funding via our credit facility when accepting large orders from certain customers, and if we are not able to retain our existing credit facility or obtain new ones we may not be able to accept these large orders, and our business, revenues, and financial condition could suffer.

For some large customer orders, particularly if the customer requires unusually long payment terms, we may need to rely on funding from our credit facility to meet our ongoing funding needs because we may have to pay for the raw materials needed to manufacture the products for the customer before the customer pays us. While we had

historically not needed to do this, the possibility following the placement of a large order in 2020 was the reason we arranged for a credit facility last year. If we are unable to maintain the credit facility or arrange a replacement facility on satisfactory terms and conditions, we may not be able to accept these types of customer orders, which could have a material adverse effect on our business, prospects, revenues, and results of operations, as well as our ability to continue to fund our operations including our product development and customer growth activities. We may also need to obtain a new credit facility to fund our planned expansion of EcoChain's business. Our ability to maintain or replace our existing credit facility or obtain new or additional financing will depend on a variety of factors, many of which are beyond our control, and there can be no assurance that we will be able to do so in needed quantities, on terms favorable to us, or at all.

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

We rely on trade secrets to protect our proprietary technology and processes. Despite such protection, it is possible that a third party could copy or otherwise obtain and use our proprietary information without our authorization; further, trade secrets can be difficult to protect. Policing unauthorized use of our intellectual property and trade secrets is difficult, particularly in light of the global nature of the Internet and because the laws of other countries may afford us little or no effective protection of our intellectual property. Potentially expensive litigation may be necessary in the future to enforce our intellectual property rights, to protect our trade secrets, to determine the validity and scope of the proprietary rights of others, or to defend against claims of infringement or invalidity. Additionally, we enter into confidentiality and intellectual property assignment agreements with our employees, consultants, and other advisors. These agreements generally require that the other party keep confidential and not disclose to third parties confidential information developed by the party under such agreements or made known to the party by us during the course of the party's relationship with us. Our employees, consultants, and other advisors, however, may not honor these agreements, and enforcing a claim that a party illegally obtained and is using our trade secrets is difficult, expensive and time-consuming, and the outcome is unpredictable. Our failure to obtain and maintain trade secret protection could adversely affect our competitive position.

We rely on highly-skilled personnel and the continuing efforts of our Chief Executive Officer and, if we are unable to retain, motivate, or hire qualified personnel, our business may be severely disrupted.

Our performance largely depends on the talents, knowledge, skills, know-how, and efforts of highly-skilled individuals, including our Chief Executive Officer, Michael Toporek. His absence, were it to occur, would materially and adversely impact the continued development of our businesses. Our future success further depends on our continuing ability to identify, hire, develop, motivate, and retain highly-skilled personnel for all areas of our organization. The competition for qualified management and key personnel, especially engineers, is intense. Our continued ability to compete effectively depends on our ability to motivate and retain our existing, and attract and hire new, engineers and certain other key employees, particularly technical support personnel and capable sales and customer-support employees. If Mr. Toporek or other key personnel are unable or unwilling to continue in their present positions, we may not be able to replace them readily, if at all. In such case, our business may be severely disrupted, we may incur additional expenses to recruit and retain new officers or other key personnel, and our financial condition and results of operations could be materially adversely affected. We do not currently maintain key life insurance policies on Mr. Toporek or any key employees. In addition, if any of our key sales personnel joins a competitor or forms a competing company, we may lose customers.

We may not be successful in locating appropriate acquisition targets or in integrating any acquired companies into our businesses, which could materially and adversely affect our financial condition and operating results.

Part of our strategy to grow our businesses involves the acquisition of other entities or businesses in the future that complement our current products, enhance our market coverage or technical capabilities, or offer growth opportunities. We may not be able, however, to identify and successfully negotiate suitable acquisitions, obtain any financing necessary for such acquisitions on satisfactory terms, or otherwise complete any such acquisitions. Further, any acquisition may require a significant amount of management's time and financial resources to complete the acquisition and integrate the acquired business into our existing operations. Even with this investment of management time and financial resources, an acquisition may not produce the revenue, earnings, or business synergies anticipated. Acquisitions involve numerous other risks, including:

- potential inability to successfully integrate acquired operations and products or to realize cost savings or other anticipated benefits from integration;

- loss of key employees or customers of acquired companies;
- difficulty of assimilating geographically dispersed operations and personnel of the acquired companies;
- potential disruption of our business or the acquired business;
- unanticipated expenses;
- unanticipated difficulties in conforming business practices, policies, procedures, internal controls, and financial records of acquisitions with our own;
- impairment of relationships with employees, customers, vendors, distributors, or business partners of either an acquired business or our own;
- inability to accurately forecast the performance of recently-acquired businesses, resulting in unforeseen adverse effects on our operating results;
- potential liabilities, including liabilities resulting from known or unknown compliance or legal issues, associated with an acquired business; and
- adverse accounting impact to our results of operations.

Any such effects from acquisitions could be costly and place a significant strain on our management systems and resources.

We cannot offer any assurance that we will be able to identify, complete, or successfully integrate any suitable acquisitions. Even if successfully negotiated and closed, any acquisitions may not yield expected synergies, may not advance our business strategy as expected, may fall short of expected return-on-investment targets, or may not prove successful. Companies that we acquire may operate with different cost and margin structures, which could further cause fluctuations in our operating results and adversely affect our business, financial condition, and results of operations.

Brookstone’s ownership of 38.2% of the outstanding shares of our common stock gives it a controlling interest in the Company.

Brookstone Partners Acquisition, XXIV, LLC (“Brookstone”), owns approximately 38.2% of the Company’s outstanding shares of common stock and has designated two directors that sit on our eight-member Board. Accordingly, Brookstone has the ability to exert a significant degree of influence or actual control over our management and affairs and, as a practical matter, will continue to control corporate actions requiring shareholder approval, irrespective of how our other shareholders may vote, including the election of directors, amendments to our Certificate of Incorporation and Bylaws, and the approval of mergers and other significant corporate transactions, including a sale of substantially all of our assets, and Brookstone may vote its shares in a manner that is adverse to the interests of our minority shareholders. This concentration of voting control could deprive our investors of an opportunity to receive a premium for their shares of our common stock as part of a sale of the Company. Further, Brookstone’s control position might adversely affect the market price of our common stock to the extent investors perceive disadvantages in owning shares of a company with a controlling shareholder.

Brookstone and its director designees may acquire interests and positions that could present potential conflicts with our and our shareholders’ interests.

Brookstone and its director designees may make investments in companies and may, from time to time, acquire and hold interests in businesses that compete directly or indirectly with us. Brookstone and its director designees may also pursue, for their own accounts, acquisition opportunities that may be complementary to our business, and as a result, those acquisition opportunities might not be available to us. As part of our sale of 3,750,000 shares of our common stock to Brookstone in October 2016 and as required by Brookstone as a condition to purchasing the shares, our Board of Directors renounced, to the extent permitted by New York law, the Company’s expectancy with respect to being offered an opportunity to participate in any business opportunity that is discovered by or presented to a director designee (a “Business Opportunity”), whether in such director designee’s capacity as a director of the Company or otherwise. Accordingly, the interests of Brookstone and the designated directors with respect to a Business Opportunity may supersede ours, and Brookstone or its affiliates or the Brookstone-designated directors may be

involved with businesses that compete with us and may pursue opportunities for the sole benefit of Brookstone and its affiliates without our involvement, for which we have limited recourse. Such actions on the part of Brookstone or its director designees could have a material adverse effect on our business, financial condition, results of operations, and cash flows.

In addition, Michael Toporek, our CEO, serves as the Managing General Partner of Brookstone. As a result of the potential conflicts inherent in his serving in both roles, it is possible that Mr. Toporek could make decisions that benefit Brookstone at the expense of the Company.

Insiders continue to have substantial control over the Company.

As of March 26, 2021, the Company's directors and executive officers hold the right to vote approximately 43.5% of the Company's outstanding voting stock, including the 38.2% of the outstanding common stock owned or controlled by Brookstone, for which Michael Toporek, the Company's CEO, serves as Managing General Partner. The Company's directors and executive officers have the right to acquire an aggregate of an additional 181,250 shares of our common stock by exercising outstanding stock options granted to them under our equity compensation plans. As a result, Mr. Toporek acting alone, and/or many of the Company's officers and directors acting together, may have the ability to exert significant control over the Company's decisions and control the management and affairs of the Company, and also to determine the outcome of matters submitted to shareholders for approval, including the election or removal of a director and any merger, consolidation, or sale of all or substantially all of the Company's assets. Accordingly, this concentration of ownership may harm the market price of our common stock by:

- Delaying, deferring, or preventing a change in control of the Company;
- Impeding a merger, consolidation, takeover, or other business combination involving the Company; or
- Discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control of the Company.

Our Rights Plan may limit the rights of our shareholders and decrease the trading price of our common stock; our CEO's role as Managing General Partner of Brookstone could provide Brookstone with further control in the event our Rights Plan is instituted.

We have adopted a Section 382 Rights Agreement, dated October 6, 2016, as amended ("Rights Plan"), that is intended to preserve the Company's net operating loss carryforwards and to act as a deterrent to any person (together with all affiliates and associates of such person) acquiring beneficial ownership of 4.99% or more of outstanding shares of our common stock without the approval of our Board of Directors. The Rights Plan, however, contains provisions and terms that may delay, defer, or prevent a tender offer or change in control of the Company that a shareholder might consider to be in his, her, or its best interests, including attempts that might result in a premium being paid over the market price for our shares of common stock. The Company expects that such provisions and terms will operate to discourage extraordinary corporate transactions with respect to the Company, such as takeover bids, and will instead encourage any potential acquirer of the Company to first correspond with the Board. Additionally, since our Chief Executive Officer is also the Managing General Partner of Brookstone, Brookstone could exert additional control over the Company, even with its minority equity interest held in the Company, in the event the rights to purchase common stock provided for in the Rights Plan become exercisable.

We may incur losses and liabilities in the course of business that could prove costly to defend or resolve.

We may become subject to a variety of claims and lawsuits in the ordinary course of business, including personal injury or property claims. Additionally, we are, at times, involved in commercial disputes with third parties, such as customers, distributors, vendors, and others. Any such litigation involving an adverse result could have a material adverse effect on our business and our financial condition. There is a risk of litigation generally in conducting a commercial business. These risks often may be difficult to assess or quantify and their existence and magnitude often remain unknown for substantial periods of time. We may incur significant legal expenses in defending against litigation.

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

We may receive notices from third parties that the manufacture, use, or sale of any products we develop infringes upon one or more claims of their patents. Moreover, because patent applications can take many years to issue, there

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

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

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

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

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

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

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

MTI Instruments' business operations and financial performance are occasionally reliant on a single supplier or vendor or a limited group of suppliers and vendors.

We depend on a limited number of suppliers and vendors for product and services relating to our MTI Instruments business. Specifically, for the year ended December 31, 2020, Spinnaker Contract Manufacturing, Inc. (“Spinnaker”) supplied 15% of the PC boards used by almost all MTI Instrument products, and SYNEX Corporation (“SYNEX”) supplied 26% of the military computers used by MTI Instruments. In the event it becomes necessary to seek alternative suppliers and vendors, we may be unable to obtain satisfactory replacement supplies or services on economically attractive terms, on a timely basis, or at all, which could increase costs or cause disruptions in the manufacturing of our products or delivery of our services.

Changes in tariffs and other trade policies could increase the cost of our products sold to our international customers, which could negatively impact our sales and profitability.

Our international sales operations are subject to extensive laws, governmental regulations, and policies, including but not limited to tariffs and other trade policies, including those governing exports. Trade tensions between the United States and China, as well as those between the U.S. and Canada, Mexico, and other countries, have been escalating in recent years, and there have been significant changes to U.S. trade policies, legislation, treaties, and tariffs during this time. Trade tensions have led to a series of tariffs imposed by the U.S. on imports from China, as well as retaliatory tariffs imposed by China on imports from the U.S. Changes in export regulations could increase the cost of our products sold as exports to our international customers.

While the tariffs put in place in March 2018 did not have a material impact on our business or operating results, currently it is unclear how the recent change in Presidential administrations may impact these issues, if at all, or what actions the current administration may take in this regard. Any further changes in U.S. trade policies, tariffs, taxes, export restrictions, or other trade barriers may decrease our profit margins, reduce the competitiveness of our products in foreign markets, or inhibit our ability to sell products, any which could have a material adverse effect on our business, results of operations, and financial condition.

Risks Related to the EcoChain Business and Cryptocurrency

Security breaches could result in a loss of our cryptocurrencies.

Security breaches including computer hacking or computer malware have been a consistent concern in the cryptocurrency industry. This could involve hacking in which an unauthorized person obtains access to the systems or information and can cause harm by the transmission of virus or the corruption of data. These breaches may occur due to an action by an outside party, or by the error and negligence of an employee. We primarily rely on the Luxor mining pool and EcoChain’s cryptocurrencies are stored with exchanges such as Coinbase prior to selling them. If any breach were to occur of our security system, operations or third party platforms, the result could cause a loss of our cryptocurrencies, loss of confidential or proprietary information, force the Company to cease operations, or could cause damage to the reputation of the Company. If an actual or perceived attack were to occur, the market perception of the Company may be damaged, which could adversely affect potential and current investments in the Company and reduce demand for our Common Stock and cause a reduction in our share price.

EcoChain has a limited operating history and we may not recognize income from the EcoChain line of business in the future.

EcoChain, though a wholly-owned subsidiary of MTI, remains responsible for its own financing and operations and therefore is subject to all the risks inherent in a newly-established business venture. EcoChain began operations in January 2020 and has a limited operating history. It has not yet been able to confirm that its business model can or will be successful over the long-term. Our projections for its growth have been developed internally and may not prove to be accurate. As such, given its start-up status with an unproven business model, there is a substantial uncertainty regarding EcoChain’s ability to succeed.

Valuations of cryptocurrencies in U.S. dollars are extremely volatile, and if our mined cryptocurrencies are converted into dollars when such values are low, we may not recognize the income from the conversion of the mined cryptocurrencies that we were expecting.

The fluctuating values of cryptocurrencies represent significant uncertainties for the EcoChain business. The value in U.S. dollars of Bitcoin, Ether, and other cryptocurrencies have been, and continue to be, subject to dramatic fluctuations. A variety of factors, known and unknown, may affect price and valuation, including, but not limited to: (i) the supply of such cryptocurrencies; (ii) global blockchain asset demand, which can be influenced by the growth of retail merchants' and commercial businesses' acceptance of blockchain assets like cryptocurrencies as payment for goods and services, the security of online cryptocurrency exchanges and networks and digital wallets that hold blockchain assets, the perception that the use and holding of blockchain assets is safe and secure, and the regulatory restrictions on their use; (iii) investors' expectations with respect to the rate of inflation; (iv) changes in the software, software requirements, or hardware requirements underlying a blockchain network; (v) changes in the rights, obligations, incentives, or rewards for the various participants in a blockchain network; (vi) currency exchange rates; (vii) fiat currency withdrawal and deposit policies of cryptocurrency exchanges and networks and liquidity on such exchanges and networks; (viii) interruptions in service from or failures of major cryptocurrency exchanges and networks; (ix) investment and trading activities of large subscribers, including private and registered investment funds, that may directly or indirectly invest in blockchain assets; (x) monetary policies of governments, trade restrictions, and currency devaluations and revaluations; (xi) regulatory measures, if any, that affect the use of blockchain assets; (xii) the maintenance and development of the open-source software protocol of the cryptocurrency networks; (xiii) global or regional political, economic, or financial events and situations; and (xiv) expectations among blockchain participants that the value of blockchain assets will soon change. If our mined cryptocurrencies are converted into dollars when their values are low, we may not recognize the income from the conversion of the mined cryptocurrencies that we were expecting. Further, the extreme swings in value can make it difficult for us to develop reasonable financial plans and projections with respect to EcoChain's business.

EcoChain has an evolving business model that is subject to various uncertainties.

As cryptocurrency assets and blockchain technologies become more widely available, we expect the services and products associated with them to evolve. In order to stay current with the industry, our business model may need to evolve as well. From time to time, we may modify aspects of the EcoChain business relating to its models and strategies. We cannot offer any assurance that these or any other modifications will be successful or will not result in harm to EcoChain's business. We may not be able to manage growth effectively, which could damage EcoChain's reputation, limit its growth, and negatively affect our operating results. Further, we cannot provide any assurance that we will successfully identify all emerging trends and growth opportunities in this business sector, and we may lose out on certain opportunities as a result. Such circumstances could have a material adverse effect on EcoChain's business, prospects, operations, or financial condition.

If EcoChain fails to keep pace with technological innovations, it will be unable to continue operating its business.

The pace of development with respect to the computing power of miners has been extraordinary. Within the space of a few years, the small mining operations that were once common in the cryptocurrency mining industry have been replaced almost entirely by larger-scale operations that have the ability to scale and the resources to invest in the much more powerful mining equipment that is necessary to successfully operate in the industry today. We may not be able to compete successfully against present or future competitors, including the various high-profile and well-established operators that the industry has attracted, some of which have substantially greater liquidity and financial resources than we do. If we are not able to scale our operations and do not keep up with technological developments in the industry, we risk our miners becoming so far less powerful than our competitors' that they become obsolete. We do not have the resources to compete with the larger cryptocurrency mining operators at this time. With the limited resources we have available, we may experience great difficulties in expanding and improving our network of miners to remain competitive, and we may not be in a position to construct additional operational cryptocurrency mines.

Competition from existing and future competitors, particularly the many other North American companies that have access to more competitively-priced energy, could result in our inability to secure acquisitions and partnerships that we may need to expand EcoChain's business in the future. This competition from other entities with greater

resources, experience, and reputations may result in our failure to maintain or expand EcoChain's business, as we may never be able to successfully execute our business plan. If we are unable to expand and remain competitive, it could have a negative effect on our business, results of operations, and financial condition, which would have an adverse effect on the trading price of our common stock.

We may be unable to obtain additional funding to scale the EcoChain cryptocurrency business to a larger-scale cryptocurrency mining operations.

We are considering further increasing the processing power of our cryptocurrency mining operations as we seek to leverage our experience and expertise in this area of operations. To do so, however, we will need to raise additional financing, and these attempts may not be successful. Failure to generate adequate cash from our operations or find sources of funding would require us to scale back or curtail our operations or expansion efforts, including limiting our ability to expand the EcoChain cryptocurrency business to a larger-scale cryptocurrency mining operation, and would have an adverse impact on our business and financial condition.

Regulatory changes or actions may alter the nature of an investment in us or restrict the use of cryptocurrencies in a manner that adversely affects EcoChain's business, prospects, or operations.

As cryptocurrencies have grown in both popularity and market size, governments around the world have reacted differently to cryptocurrencies. Some governments have deemed them illegal, and others have allowed their use and trade without restriction, while in some jurisdictions, such as in the U.S., cryptocurrencies are subject to extensive, and in some cases overlapping, unclear, and evolving regulatory requirements. Governments may in the future curtail or outlaw the acquisition, use or redemption of cryptocurrencies. Ownership of, holding or trading in cryptocurrencies may then be considered illegal and subject to sanction. Even if EcoChain's development of an operational cryptocurrency mine is successful, government and quasi-government regulation of cryptocurrencies and their use, restrictions on or regulation of access to and operation of blockchain networks or similar systems, and the availability and popularity of other forms or methods of buying and selling goods and services, including government-backed cryptocurrencies, may result in EcoChain still not achieving profitability in our expected timeframe or at all. Ongoing and future regulatory actions may impact EcoChain's ability to continue to operate, which could affect our ability to continue as a going concern or to pursue our new strategy at all, which could have a material adverse effect on our business, prospects or operations.

Facebook's proposed development of a cryptocurrency, as well as the eventual likely development of government-backed digital currencies and the development of cryptocurrencies by other tech companies, may adversely affect the value of Bitcoin and other existing, or even future, cryptocurrencies.

In May 2019, Facebook announced its plans for a cryptocurrency then called Libra, now Diem, which has faced significant objections and concerns from governments, legislatures, and regulators. The massive social network and a number of other partners are estimating that the Diem digital coin and Facebook's corresponding digital wallet would be a way to make sending payments around the world as easy as it is to send a photo. Facebook's significant resources and ability to engage the world via social media may enable it to bring Diem to market rapidly and to deploy it across industries more rapidly and successfully than previous cryptocurrencies. Facebook's size and market share may cause its cryptocurrency to succeed to the detriment and potential exclusion of existing cryptocurrencies. Further, in the event that government-backed digital currencies, which regulators in several countries are already considering or even developing, are developed and widely adopted, it is likely to have a negative impact on the existing currencies including larger widespread adoption and potentially impacting the market share by non-government digital currency. Additional cryptocurrencies are introduced to the market frequently, and although some have gained popularity as some features have been different than Bitcoin, Bitcoin remains the market leader. As cryptocurrency adoption grows the likelihood that additional cryptocurrencies will be introduced increases and will gain popularity against Bitcoin, potentially negatively impacting the value of Bitcoin.

Our mining operations may experience damages, including damages that are not covered by insurance.

Our current mining operation in East Wenatchee, Washington is, and any future mines we establish will be, subject to a variety of risks relating to physical condition and operation, including:

- the presence of construction or repair defects or other structural or building damage;
- any noncompliance with or liabilities under applicable environmental, health, or safety regulations or requirements or building permit requirements; and
- any damage resulting from natural disasters, such as hurricanes, earthquakes, fires, floods, and windstorms.

For example, our mine could be rendered inoperable, temporarily or permanently, as a result of a fire or other natural disaster or by a terrorist or other attack on the mine. The security and other measures we take to protect against these risks may not be sufficient. Additionally, our mine could be materially adversely affected by a power outage, loss of access to the electrical grid, or loss by the grid of cost-effective sources of electrical power-generating capacity. Given the amount of power required to operate a cryptocurrency mine, it would not be feasible to run miners on back-up power generators in the event of a power outage. Our insurance covers the replacement cost of any lost or damaged miners but does not cover any interruption of our mining activities; our insurance therefore may not be adequate to cover the losses we suffer as a result of any of these events, dependent on the amount of downtime that is experienced. In the event of an uninsured loss, including a loss in excess of insured limits, at our current or any future mines, such mines may not be adequately repaired in a timely manner or at all and we may lose some or all of the future revenues anticipated to be derived from such mines. At this time the potential impact of such a loss on our business is magnified as we are operating only a single mine.

Reliance on Soluna to operate mining machines may cause delays in production and mining and could have an impact on our business and financial condition.

EcoChain relies on Soluna to operate its cryptocurrency mining machinery. While we hold a 2% equity interest in Soluna and certain principals of the Company have roles in Soluna, we do not control Soluna or have control over their employees and, except for restrictions imposed by our contracts with Soluna, we have limited ability to control the amount or timing of resources that Soluna devotes to our programs. Although we rely on Soluna to operate our mining machinery, we remain responsible for the overall mining operations. Soluna may, over time, have relationships with entities that compete with us. If Soluna does not perform its contractual duties or obligations, we may need to enter into new arrangements with alternative third parties. This could be costly, and mining operations may be delayed or terminated. If our relationship with Soluna terminates, we may not be able to enter into arrangements with alternative third-party contractors or to do so on commercially-reasonable terms. Though we carefully manage our relationship with Soluna, there can be no assurance that we will not encounter challenges or delays resulting from this arrangement or that any such delays or challenges will not have a material adverse impact on our business, financial condition, and prospects.

EcoChain's reliance on a third-party mining pool service provider for our mining revenue payouts may have a negative impact on EcoChain's operations.

As discussed in "Item 1. Business," EcoChain participates in mining pools whereby our miners' computations and those of other, unrelated miners are combined to place blocks on the blockchain, which generates the applicable cryptocurrency. Should any such mining pool suffer downtime due to a cyber-attack, software malfunction, or other problems, it will negatively impact our ability to mine and receive revenue from our mining activities.

We face risk of failure of our strategic alliances to achieve their objectives or perform as contemplated and the risk of cancellation or early termination of such alliance by either party.

We may need to make acquisitions or form strategic alliances or partnerships in order to remain competitive in our market, and recent acquisitions, strategic alliances or partnerships could be difficult to integrate, disrupt our business and dilute shareholder value.

For example, in January 2020, the Company formed EcoChain as its wholly-owned subsidiary to pursue a new business line focused on cryptocurrency and the blockchain ecosystem. In connection with this new venture, we entered into a strategic relationship with Soluna, which has assisted us in developing, and which is now operating, the cryptocurrency mining facility. In the future, we may acquire or form strategic alliances or partnerships with other businesses in order to remain competitive or to acquire new technologies. Acquisitions, alliances, and investments involve numerous risks, including:

- The potential failure to achieve the expected benefits of the combination or acquisition;
- Difficulties in and the cost of integrating operations, technologies, services and personnel;
- Diversion of financial and managerial resources from existing operations;
- Risk of entering new markets in which we have little or no experience or where competitors may have stronger market positions;
- Potential write-offs of acquired assets or investments, and potential financial and credit risks associated with acquired customers;
- Inability to generate sufficient revenue to offset acquisition or investment costs;
- Potential unknown liabilities associated with the acquired businesses;
- Unanticipated expenses related to acquired technology and its integration into the existing business; and
- Negative impact to our results of operations because of the depreciation and amortization of amounts related to acquired intangible assets, fixed assets and deferred compensation, and the loss of acquired deferred revenue and unbilled deferred revenue.

Our failure to successfully manage our strategic relationship with Soluna, or other future acquisitions, strategic alliances or partnerships could seriously harm our operating results. In addition, our shareholders would be diluted if we finance the future acquisitions, strategic alliances or partnerships by incurring convertible debt or issuing equity securities.

Risks Related to our Common Stock

The market price of our common stock is likely be volatile, which may cause investment losses for our shareholders.

The market price of our common stock has been and is likely to continue to be volatile, and investors in our common stock may experience a decrease, which could be substantial, in the value of their common stock or the loss of their entire investment in the Company for a number of reasons, including reasons unrelated to our operating performance or prospects. The market price of our common stock could be subject to wide fluctuations in response to a broad and diverse range of factors, including those described elsewhere in this “Risk Factors” section as well as the following:

- announcements by us regarding liquidity, significant acquisitions, equity investments and divestitures, addition or loss of significant customers and contracts, capital expenditure commitments, and litigation;
- our issuance of securities or debt, particularly if in connection with acquisition activities;
- the sale of a significant number of shares of our common stock by shareholders;
- recent changes in financial condition or results of operations, such as in earnings, revenues or other measure of company value;
- general market and economic conditions; and
- announcements of technological innovations or new product introductions by us or our competitors.

Further, broad market and industry factors may have a material adverse effect on the market price of our common stock regardless of our actual operating performance.

In addition, stock markets have experienced in the past and may in the future experience a high level of price and volume volatility, and the market prices of equity securities of many companies have experienced in the past and may in the future experience wide price fluctuations not necessarily related to the operating performance of such companies. These broad market fluctuations may adversely affect the market price of our common stock.

Finally, our relatively small public float and daily trading volume have in the past caused, and may in the future result in, significant volatility in our stock price. At December 31, 2020, we had approximately 5,549,005 million shares outstanding held by non-affiliates. Our daily trading volume for the year ended December 31, 2020 averaged approximately 13,488 shares.

If we are not able to comply with the applicable continued listing requirements or standards of Nasdaq, Nasdaq could delist our common stock or broker-dealers may be discouraged from effecting transactions in shares of our common stock.

As previously discussed, our common stock became listed and commenced trading on Nasdaq on March 23, 2020. In order to maintain that listing, we must satisfy minimum financial and other continued listing requirements and standards, including those regarding director independence and independent committee requirements, minimum stockholders' equity, minimum share price, and certain corporate governance requirements. There can be no assurances that we will be able to comply with such applicable listing standards. If we fail to do so, Nasdaq may delist our common stock, which would likely have an adverse impact on the market price and liquidity of our common stock.

In addition, our shares of common stock have in the past constituted, and may again in the future constitute, "penny stock" within the meaning of Section 3(a)(51) of the Exchange Act and Rule 3a-51-1 thereunder, and so will be subject to the "penny stock" rules adopted under Section 15(g) (now 15(h)) of the Exchange Act. The penny stock rules generally apply to companies whose common stock is not listed on a national securities exchange and trades at less than \$5.00 per share, other than companies that have had average revenue of at least \$6,000,000 for the last three years or that have tangible net worth of at least \$5,000,000 (\$2,000,000 if the company has been operating for three or more years). These rules require, among other things, that brokers who trade penny stocks to persons other than "established customers" complete certain documentation, make suitability inquiries of investors, and provide investors with certain information concerning trading in the security, including a risk disclosure document and quote information under certain circumstances. Many brokers have decided not to trade penny stocks because of the requirements of the penny stock rules and, as a result, the number of broker-dealers willing to act as market makers in such securities is limited. If our common stock is subject to the penny stock rules for any significant period, it could have an adverse effect on the market, if any, for our common stock. If the common stock is subject to the penny stock rules, investors will find it more difficult to dispose of their shares of our common stock.

Raising additional funds through debt or equity financing could be dilutive and may cause the market price of our common stock to decline. We still may need to raise additional funding which may not be available on acceptable terms, or at all. Failure to obtain additional capital may force us to delay, limit, or terminate our product development efforts or other operations.

To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest may be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a shareholder. Furthermore, any additional fundraising efforts may divert our management from their day-to-day activities, which may adversely affect our ability to develop and commercialize our products and services. In addition, the sale of a significant number of our shares of common stock, either by us or by our shareholders (in particular Brookstone, our largest shareholder) could depress the price of our common stock.

We estimate that our current cash and cash equivalents, along with the net proceeds of our contemplated common stock offering, will be sufficient for us to fund our operating expenses and capital expenditure requirements for at least the next 12 months. We may continue to seek funds through equity or debt financings, collaborative or other arrangements with corporate sources, or through other sources of financing. Additional funding may not be available to us on acceptable terms, or at all. Any failure to raise capital as and when needed, as a result of insufficient authorized shares or otherwise, could have a negative impact on our financial condition and on our ability to pursue our business plans and strategies.

Item 1B: Unresolved Staff Comments

Not applicable.

Item 2: Properties

We lease approximately 17,400 square feet of office, manufacturing, and research and development space in Albany, New York, which houses the corporate offices of MTI and MTI Instruments as well as MTI Instruments' business operations. The current lease agreement expires on November 30, 2024.

EcoChain leases approximately 19,000 square feet of space in four buildings in East Wenatchee, Washington. The space is leased for the purpose of operating EcoChain's cryptocurrency mining business. The current lease agreements expire for one building on June 30, 2024, for another on November 30, 2024, and for the remaining two buildings on July 31, 2023.

We believe these facilities are generally well-maintained and adequate for MTI's and MTI Instruments' current needs and for expansion, if required.

On March 4, 2021, EcoChain Wind, LLC acquired a 3.2-acre tract of real property located in the Southeastern United States on which it intends to build an energy-efficient cryptocurrency mining facility.

Item 3: Legal Proceedings

At any point in time, we may be involved in various lawsuits or other legal proceedings. Such lawsuits could arise from the sale of products or services or from other matters relating to our regular business activities, compliance with various governmental regulations and requirements, or other transactions or circumstances.

We have been named as a party in the December 19, 2019 United States Environmental Protection Agency ("EPA") Demand Letter regarding the Malta Rocket Fuel Area Superfund Site ("Site") located in Malta and Stillwater, New York, in connection with an alleged release of hazardous materials into the environment. The EPA is seeking reimbursement of response costs from all named parties in the amount of approximately \$358 thousand plus interest in connection with the investigation and disposal activities associated with the various drum caches discovered at the Site, issuance of the Explanation of Significant Differences ("ESD") of the Site, and implementation of the work contemplated by the ESD. We consider the likelihood of a material adverse outcome with respect to this matter to be remote and do not currently anticipate that any expense or liability that we may incur as a result of this matter in the future will be material to the Company's business or financial condition. Further, we are not presently involved in any other litigation that we believe is likely, individually or in the aggregate, to have a material adverse effect on our consolidated financial condition, results of operations or cash flows.

Item 4: Mine Safety Disclosures

Not applicable.

PART II

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

Market Information

Our common stock is listed on the Nasdaq Capital Market under the trading symbol “MKTY.” During the years ended December 31, 2020 and 2019, our common stock was quoted on the OTC Markets Group quotation system on the OTC Pink – Current Information tier under the symbol “MKTY.”

Holder

We have one class of common stock, par value \$.01, and are authorized to issue 75,000,000 shares of common stock. Each share of the Company’s common stock is entitled to one vote on all matters submitted to shareholders. As of December 31, 2020, there were 9,734,607 shares of common stock issued and outstanding. As of March 26, 2021, there were approximately 270 shareholders of record of the Company’s common stock. The number of shareholders of record does not reflect the number of persons whose shares are held in nominee or “street” name accounts through brokers.

Dividends

During 2019, we declared and paid a special dividend of \$3.5 million or \$0.37 per common share. A portion of dividends were charged against paid in capital because the Company did not have sufficient retained earnings.

Other than the special dividend in 2019, we have never declared or paid dividends on our common stock and do not anticipate or contemplate paying cash dividends on our common stock in the foreseeable future. We currently intend to use all available funds to develop our business. We can give no assurance that we will ever have excess funds available to pay dividends. Any future determination as to the payment of dividends will depend upon critical requirements and limitations imposed by our credit agreements, if any, and such other factors as our Board of Directors may consider.

Recent Sales of Unregistered Securities

On January 12, 2021, the Company issued 10,000 shares of common stock, valued at \$49,900, to PCG Advisory, Inc. in consideration for its public relations-related consulting services. Such shares were issued to PCG Advisory, Inc. pursuant to an exemption from the registration requirements of the Securities Act by virtue of Section 4(a)(2) of the Securities Act because the Company believes: (i) the securities were offered and sold only to an accredited investor; and (ii) PCG Advisory, Inc. had knowledge and experience in financial and business matters which allowed it to evaluate the merits and risk of the receipt of these securities, and that it was knowledgeable about our operations and financial condition. Further, there was no general solicitation or general advertising related to this issuance of shares.

Item 6: Selected Financial Data

Not applicable.

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

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

Prior to 2020 we conducted our sole business through our wholly-owned subsidiary MTI Instruments, a supplier of vibration measurement and system balancing solutions, precision linear displacement sensors, instruments and system solutions, and wafer inspection tools. We earn revenue through the sale of these products and the provision of related maintenance and repair services. Revenue from MTI Instruments' business constituted 93.8% of our total revenue during 2020, and we expect that we will continue to earn most of our revenues through this business in the foreseeable future. We continue to work on ways to increase our sales reach, including expanded worldwide sales coverage and enhanced internet marketing, with respect to this business.

During 2020 we formed our EcoChain wholly-owned subsidiary, through which we conduct our second core business, cryptocurrency mining powered by renewable energy. In this regard, the Company also invested in Soluna, a Canadian company that develops vertically-integrated, utility-scale computing facilities focused on cryptocurrency mining and cutting-edge blockchain applications. We earn revenue from this business as the mined cryptocurrencies are converted into U.S. dollars.

Recent Developments and Trends

In response to the COVID-19 global pandemic, the Company has implemented procedures to support flexible working arrangements for its workforce based on business needs. While these measures have been necessary and appropriate, they may result in additional costs and may adversely impact the Company's business and financial performance. As the Company's response to the pandemic evolves, the Company may incur additional costs and will potentially experience adverse impacts to its business, each of which are uncertain at this time.

We expect to use the net proceeds of our anticipated common stock offering primarily for the acquisition, development, and growth of two cryptocurrency mining facilities, which will expand EcoChain's cryptocurrency business, which should have the effect of lowering, though probably not significantly, the percentage of our total revenues derived from MTI Instruments' business. We may also use a portion of the proceeds to acquire other entities or businesses to expand the business operations of both MTI Instruments and EcoChain.

Results of Operations

Results of Operations for the Year Ended December 31, 2020 Compared to the Year Ended December 31, 2019.

The following table summarizes changes in the various components of our net income during the year ended December 31, 2020 compared to the year ended December 31, 2019.

(Dollars in thousands)	Year Ended December 31, 2020	Year Ended December 31, 2019	\$ Change	% Change
Product revenue	\$9,004	\$6,571	\$2,433	37.0%
Cryptocurrency revenue	595	—	595	100.0
Operating costs and expenses:				
Cost of product revenue	2,669	2,205	464	21.0
Cost of cryptocurrency revenue	405	—	405	100.0
Research and product development expenses	1,491	1,381	110	8.0
Selling, general and administrative expenses	3,584	2,726	858	31.5
Operating income	1,450	259	1,191	459.8
Other income, net	104	36	68	188.9
Income before income taxes	1,554	295	1,259	426.8
Income tax benefit	392	28	364	1,300
Net income	1,946	323	1,623	502.5

Product Revenue: Product revenue consists of revenue recognized from sales of MTI Instruments' products and the provision of related maintenance and repair services.

Product revenue for the year ended December 31, 2020 increased by \$2.4 million from 2019. The primary reason for the increase was a \$2.7 million increase in overall shipments to the U.S. Air Force, which offset a \$360 thousand decline in instrumentation sales, primarily from a \$190 thousand decrease in shipments of our semi-automated wafer metrology tools, as well as a \$130 thousand decrease in our laser sales due to our customers' more conservative spending policies during the 2020 period resulting primarily from COVID-19-related challenges. The percentage of our product revenue attributable to the U.S. Air Force, which continues to be our largest government and overall customer, increased to 42.9% for the year ended December 31, 2020 from 20.8% for the year ended December 31, 2019.

As further discussed in "Item 1. Business," we are dependent on a limited number of customers for a significant portion of our sales, including the U.S. Air Force, as described in the preceding paragraph. This can cause significant fluctuations in our product sales and, as a result, revenues, from one fiscal period to the next. We may sell a significant amount of our products to one or a few customers for various short-term projects in one period and then have markedly decreased sales in following periods as these projects end or customers have the products they require for the foreseeable future.

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

(Dollars in thousands) Contract⁽¹⁾	Expiration	Revenues for the Year Ended December 31,		Contract Revenues to Date December 31,	Total Contract Orders Received To Date December 31,
		2020	2019	2020	2020
\$9.35 million U.S. Air Force Systems, Accessories and Maintenance	06/30/2021 ⁽²⁾	\$3,878	\$1,286	\$9,196	\$9,738

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

(2) Date represents expiration of contract, including the exercise of option extensions.

We are in discussions with the U.S. Air Force regarding renewing their current contract, which is set to expire on June 30, 2021. The Company does not anticipate any issues with the renewal and expects to enter into a renewed contract with the U.S. Air Force on or prior to the expiration of the current contract. As a result, we do not expect that there will be any material impact on our results of operations, cash flows, liquidity, or financial condition as a result of the pending expiration of our current contract with the U.S. Air Force.

Cryptocurrency Revenue: Cryptocurrency revenue consists of revenue recognized from EcoChain's cryptocurrency mining facility.

Cryptocurrency revenue was \$595 thousand, for the year ended December 31, 2020. As discussed in "Item 1, Business," EcoChain's cryptocurrency mining facility did not begin operations until the second quarter of 2020, and therefore there was no cryptocurrency revenue for the year ended December 31, 2019. This revenue represents the cash received upon the daily sale of the various cryptocurrencies mined at EcoChain's mining facility during 2020.

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

Cost of product revenue for the year ended December 31, 2020 increased by \$464 thousand, or 21.0%, to \$2.7 million from \$2.2 million for the year ended December 31, 2019. Gross profit, as a percentage of product revenue, increased to 70.4% during 2020 compared to 66.4% for 2019.

The primary reason for the increase in the cost of product revenue during 2020 was the increase in U.S. Air Force shipments, as discussed above in "Product Revenue." The improvement in gross profit during 2020 was primarily attributable to changes in the product mix as the proportion of our most profitable product line made up an increased percentage of overall sales during 2020, and efficiencies gained with an increased amount of sales of new engine vibration balancing systems during 2020 compared to greater sales of repaired systems, accessories, and wafer metrology tools, which have higher labor and material components, during 2019.

Cost of Cryptocurrency Revenue: Cost of cryptocurrency revenue includes direct utility costs as well as overhead costs that relate to the operations of EcoChain's cryptocurrency mining facility.

Cost of cryptocurrency revenue was \$405 thousand for the year ended December 31, 2020. As noted above, EcoChain's cryptocurrency mining facility did not begin operations until the second quarter of 2020, and therefore there was no cryptocurrency revenue or associated costs for the year ended December 31, 2019.

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

Research and product development expenses increased \$110 thousand, or 8.0%, during the year ended December 31, 2020 compared to 2019. This increase was primarily due to the addition of one full-time employee to the engineering staff during the first quarter of 2020 in connection with the development of our next-generation engine vibration balancing systems and capacitance products, slightly offset by the movement of a highly-compensated employee from full-time to part-time status during the third quarter. This work is expected to continue at similar spending levels into 2021 as we introduce these next-generation products to the market.

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

Selling, general and administrative expenses for the year ended December 31, 2020 increased by \$858 thousand, or 31.5%, to \$3.6 million from \$2.7 million in 2019. This increase was a result of both expenses incurred in 2020 for which there was no comparable expense in 2019 as well as from changes in a number of our traditional selling, general and administrative expenses. Expenses for which there was no comparable outlay in 2019 consisted primarily of \$195 thousand related to the salary and benefits of the new President of MTI Instruments, who was originally hired as Director of Marketing late in the third quarter of 2019 and promoted to President of MTI Instruments in September 2020, \$272 thousand in legal fees associated with the Company's investment in Soluna and its March 2020 and September 2020 Form 10 filings, \$281 thousand in spending associated with EcoChain's operations, including management fees paid to Soluna in 2020, and \$215 thousand related to the salary, benefits, and recruitment of our new Chief Financial Officer (hired in July 2020) and Compliance Manager (hired in November 2020). In addition, compared to 2019 we experienced increases of \$85 thousand in audit fees related to the audit of the Company's financial statements for the year ended December 31, 2019, which was required in connection with our September 2020 Form 10 filing, \$52 thousand in other expenses in connection with the Form 10 filing, including fees paid to third parties for completing the electronic filings, \$30 thousand in employee bonuses corresponding to the increase in product sales, and \$71 thousand in additional insurance expense as a result of adjusting our coverage limits after a review of our current policies conducted last year as well as new insurance policies that we purchased to cover EcoChain. These increases were partially offset by a \$188 thousand decrease in spending on travel for customer visits and trade shows due to COVID-19 restrictions in place since March 2020 and a decrease of \$140 thousand in salary and benefits due to not replacing a sales employee that left the Company in March 2020. Like most companies, we are evaluating our position with respect to travel and considering how to optimize the use of a virtual environment going forward, but we do expect at least some travel related to in-person meetings with clients and potential clients to resume once it is considered safe to do so. As a result, based on current information about the status of the pandemic and the related vaccination effort, we expect travel-related spending to increase from current levels beginning in the third quarter of 2021, although the actual time that travel will resume, and the amount thereof, will be subject to a number of uncertainties related to the course of the pandemic over the next several months. In addition, due to travel restrictions during 2020 our other primary salesperson was able to cover the work of the open sales position during the past year, and while the other sales position remained open during 2020, we did not actively pursue retaining a replacement. That will no longer be the case, however, once travel is deemed safe as we expect our salespersons to conduct in-person meetings with clients and potential clients as had been the case prior to the onset of the pandemic, although the level of travel may not be as high as it was prior to the pandemic. Once travel

restrictions are lifted, we intend to retain a salesperson to replace the one that left, so we expect employee salaries and benefits will be higher in 2021 and for the foreseeable future than they were in 2020. We also expect a 17.0% to 20.0% increase in insurance expense in 2021, primarily related to insurance policies for EcoChain’s business.

The Company also expects selling, general and administrative expenses to continue to increase in 2021 and generally going forward as a result of its resumption of filing periodic reports, annual proxy statements, and other filings with the SEC following the effectiveness of its Form 10 registration statement in November.

Operating Income: Operating income increased to \$1.5 million for the year ended December 31, 2020 from \$259 thousand during the prior year. This \$1.2 million improvement was the result of the factors noted above, that is, the increased sales, specifically delivering the majority of the PBS units for the U.S. Air Force and the improvement in the profit margin, partially offset by increased selling, general and administrative expenses.

Other Income: Other income for the year ended December 31, 2020 was \$104 thousand and was primarily related to income from the sale of EcoChain’s excess equipment and interest income on operating cash balances. Other income for the year ended December 31, 2019 was \$36 thousand and was primarily related to the disposal of the tensile product line and related royalty payments and interest income on operating cash balances.

Income Tax Benefit: Income tax benefit for the year ended December 31, 2020 was \$392 thousand and was primarily related to the increase of the tax asset based on projected future taxable earnings, giving the Company the ability to use prior tax losses. Our effective income tax rate for the year ended December 31, 2020 was (25)%. Income tax benefit for the year ended December 31, 2019 was \$28 thousand and was primarily a result of a \$33 thousand income tax benefit due to a refund associated with the repeal of the federal alternative minimum tax for C corporations. Our effective income tax rate for the year ended December 31, 2019 was (9)%.

Net Income: Net income for the year ended December 31, 2020 was \$1.9 million compared to net income of \$323 thousand in 2019. These improvements were the result of the factors noted above, that is, the increased sales and improvement in the profit margin in each period, partially offset by increases in general and administrative expenses, cost of product revenue, and cost of cryptocurrency revenue.

Liquidity and Capital Resources

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

(Dollars in thousands)

	Years Ended December 31,	
	2020	2019
Cash	\$2,630	\$ 2,510
Working capital	3,142	3,093
Net income.	1,946	323
Net cash provided by operating activities	1,622	289
Purchase of property, plant and equipment	(835)	(83)
Cash dividends on common stock	—	(3,541)

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 \$117.8 million as of December 31, 2020. As of December 31, 2020, the Company had working capital of approximately \$3.1 million, no debt, no outstanding commitments for capital expenditures and approximately \$2.6 million of cash available to fund its operations.

Based on business developments, including changes in production levels, staffing requirements, and network infrastructure improvements, we may require additional capital equipment in the foreseeable future. With respect to MTI and MTI Instruments, we expect to spend a total of approximately \$300 thousand on computer equipment and software and \$1.6 million on research and development during 2021. As we have done historically, we expect to finance these expenditures and continue funding their operations from our current cash position and our projected 2021 cash flows pursuant to management’s plans. If necessary, we may also seek to supplement our resources by increasing credit facilities to fund operational working capital and capital expenditure requirements. Any additional financing, if required, may not be available to us on acceptable terms or at all.

As discussed elsewhere in this Annual Report on Form 10-K, the Company expects to use the net proceeds of our pending common stock offering to fund EcoChain’s acquisition and development of two additional mining facilities.

The Company also expects to look for acquisition opportunities that meet certain strategic requirements of the Company, which we expect will be funded by the proceeds of the offering and/or bank financing to the extent available on acceptable terms.

While it cannot be assured, management believes that, due in part to our current working capital level and projected cash requirements for operations and capital expenditures, its current available cash of approximately \$2.6 million, and its projected 2021 cash flow pursuant to management’s plans, the Company will have adequate resources to fund operations and capital expenditures for the year ending December 31, 2021 and through at least the end of the first quarter of 2022.

If our revenue estimates are off either in timing or amount, or if cash generated from operations is insufficient to satisfy the Company’s operational working capital and capital expenditure requirements, however, the Company may need to implement additional steps to ensure liquidity including, but not limited to, the deferral of planned capital spending and/or delaying existing or pending product development initiatives, or the Company may be required to obtain credit facilities or other loans, if available, to fund these initiatives. The Company has no other formal commitments for funding its future needs at this time and any additional financing we may require during the year ending December 31, 2021, may not be available to us on acceptable terms or at all. Such steps, if required, could potentially have a material and adverse effect on our business, results of operations, and financial condition.

Debt

On May 7, 2020, in connection with receipt of a \$3.3 million U.S. Air Force delivery order, MTI Instruments obtained a \$300 thousand secured line of credit from Pioneer Bank. The line of credit may be drawn in the discretion of MTI Instruments and bears interest at a rate of Prime +1% per annum. Accrued interest is due monthly, and principal is payable over a period of 30 days following the lender’s demand. The line of credit is secured by the assets of MTI Instruments and is guaranteed by the Company. As of December 31, 2020, there were no amounts outstanding under the line of credit.

We had no additional credit facilities available or debt outstanding at either December 31, 2020 or December 31, 2019.

Backlog, Inventory and Accounts Receivable

At December 31, 2020, the Company’s order backlog was \$555 thousand, compared to \$721 thousand at December 31, 2019. The decrease in backlog was primarily due to a few large orders placed in late 2019 in the capacitance line with deliveries in 2020.

Our inventory turnover ratios and average accounts receivable days outstanding for the years ended December 31, 2020 and 2019 and their changes are as follows:

	<u>Years Ended December 31,</u>		
	<u>2020</u>	<u>2019</u>	<u>Change</u>
Inventory turnover	3.0	2.3	1.3
Average accounts receivable days outstanding	33	40	7

The increase in inventory turns is due to the U.S Air Force contract driving increased inventory balances and a quicker turn to shipment.

The average accounts receivable days’ outstanding decreased seven days during 2020 compared to the prior year due to the increased volume of sales to the U.S. Air Force during 2020 compared to 2019, as the U.S. Air Force generally pays for its purchases within 15 days of delivery, compared to an average of approximately 30 days for non-government customers.

Off-Balance Sheet Arrangements

We have no off-balance sheet arrangements.

Critical Accounting Policies and Significant Judgments and Estimates

The prior discussion and analysis of our financial condition and results of operations is based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America. Note 2 of the Consolidated Financial Statements included in this Annual Report on

Form 10-K includes a summary of our most significant accounting policies. The preparation of these consolidated financial statements requires management to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue, expenses, and related disclosure of assets and liabilities. On an ongoing basis, we evaluate our estimates and judgments, including those related to revenue recognition, inventories, income taxes and share-based compensation. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. Periodically, our management reviews our critical accounting estimates with the Audit Committee of our Board of Directors.

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

Revenue Recognition, 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 a customer requires that that we provide installation of a purchased product, all revenue related to the product is deferred and recognized upon the completion of the installation. If the terms of our contract with the customer or the customer's purchase order requires specific customer acceptance criteria with respect to a product, 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 we can objectively and reliably demonstrate that the criteria specified in the acceptance provisions is satisfied. We 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.

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 products that 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 that 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, but, on occasion, we have granted extended payment terms. 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 of products to our distributors (and their subsequent payment to us) is completed upon delivery and is not contingent upon the distributors' resale of the products. 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 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 our best estimate of the amount of probable credit losses in our existing accounts receivable. We determine the allowance based on historical write-off experience and current exposures identified. We review our allowance for doubtful accounts monthly. We review past due balances over 90 days and over a specified amount individually for collectability. We review all other balances on a pooled basis by type of receivable. We charge off account balances against the allowance when we believe it is probable the receivable will not be recovered. We do not have any off-balance-sheet credit exposure related to our customers.

Cryptocurrency revenue consists of revenue recognized from EcoChain's cryptocurrency mining facility. Revenue is recognized at the cryptocurrency's realized cash value based upon the rates at cryptocurrency exchanges where we are registered. Cryptocurrencies are earned when the miners solve complex computations and cryptocurrency is issued as a result. The mined cryptocurrency is immediately paid to the Coinbase wallet. Cryptocurrency is converted to U.S. dollars on a daily basis.

Inventory. We value inventories at the lower of cost (first-in, first-out) or net realizable value. We periodically review inventory quantities on hand and record 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. We also provide 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. Although we make every effort to assure the accuracy of our forecasts of future product demand, any significant unanticipated changes in demand could have a significant impact on the value of our inventory and our reported operating results. If changes in market conditions result in reductions in the estimated net realizable value of our inventory below our previous estimate, we would increase our reserve in the period in which we made such a determination and record a charge to cost of product revenue.

Share-Based Payments. We grant options to purchase our common stock and award restricted stock to our employees and directors under our equity incentive plans. The benefits provided under these plans are share-based payments and we account 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. We measure stock-based compensation cost at grant date based on the estimated fair value of the award and recognize 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. We estimate the fair value of stock-based awards on the grant date using a Black-Scholes valuation model. We use the fair value method of accounting with the modified prospective application, which provides for certain changes to the method for valuing share-based compensation. The valuation provisions apply to new awards and to awards that are outstanding on the effective date and subsequently modified.

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

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, we use the historical volatility of our stock for the expected volatility assumption input to the Black-Scholes model, consistent with the accounting guidance. The risk-free interest rate is based on the risk-free zero-coupon rate for a period consistent with the expected option term at the time of grant. We paid a special dividend during the year ended December 31, 2019 and did not pay any dividends during the year ended December 31, 2020. We are required to assume a dividend yield as an input to the Black-Scholes model. Since the 2019 dividend was a special dividend and we do not anticipate paying any cash dividends in the foreseeable future, we therefore use an expected dividend yield of zero in the option valuation model. The expected option term is calculated based on our historical forfeitures and cancellation rates.

Income Taxes. We are subject to income taxes in the U.S. (federal and state). As part of the process of preparing our consolidated financial statements, we calculate income taxes for each of the jurisdictions in which we operate. This involves estimating actual current taxes due together with assessing temporary differences resulting from differing treatment for tax and accounting purposes that are recorded as deferred tax assets and liabilities, loss carryforwards, and tax credit carryforwards, for which income tax benefits are expected to be realized in future years. Deferred tax assets are reported net of a valuation allowance when it is more likely than not that a tax benefit 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 our provision for income taxes, our deferred tax assets and liabilities, and any valuation allowance recorded against our net deferred tax assets. We considered all available evidence, both positive and negative, such as historical levels of income and future forecasts of taxable income amongst other items in determining our valuation allowance. In addition, our assessment requires us to schedule future taxable income in accordance with accounting standards that address income taxes to assess the appropriateness of a valuation allowance, which further requires the exercise of significant management judgment.

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

We are also 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 our 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 our 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. Our effective tax rates could be affected by numerous factors, such as intercompany transactions, earnings being lower than anticipated in jurisdictions where we have lower statutory rates and higher than anticipated in jurisdictions where we have higher statutory rates, the applicability of special tax regimes, losses incurred in jurisdictions for which we are not able to realize the related tax benefit, changes in foreign currency exchange rates, entry into new businesses and geographies, changes to our existing businesses and operations, acquisitions and investments and how they are financed, changes in our stock price, changes in our deferred tax assets and liabilities and their valuation, and changes in the relevant tax, accounting, and other laws, regulations, administrative practices, principles, and interpretations.

Recent Accounting Pronouncements

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

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Not applicable.

Item 8: Financial Statements and Supplementary Data

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

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

Not applicable.

Item 9A: Controls and Procedures**(a) Evaluation of Disclosure Controls and Procedures**

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of MTI's disclosure controls and procedures as of December 31, 2020. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. We recognize that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and we necessarily apply our judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of December 31, 2020, our Chief Executive Officer and Chief Financial Officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

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

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

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

Under the supervision and with the participation of our management, including the principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting using the criteria set forth in *Internal Control—Integrated Framework* (2013 version) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our evaluation using the criteria set forth in *Internal Control—Integrated Framework*, Management has concluded that our internal control over financial reporting was effective as of December 31, 2020.

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

/s/ Michael Toporek
Chief Executive Officer
(Principal Executive Officer)

/s/ Jessica L. Thomas
Chief Financial Officer
(Principal Financial Officer)

(c) Changes in Internal Control over Financial Reporting

There have been no changes in our internal control over financial reporting, as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act, during our fiscal quarter ended December 31, 2020 that have materially affected, or are reasonable likely to materially affect, our internal control over financial reporting.

Item 9B: Other Information

Submission of Matters to a Vote of Security Holders

The Company held a special meeting of its shareholders on March 25, 2021 (the “Special Meeting”). At the Special Meeting, the Company’s shareholders:

1. Approved the reincorporation of the Company in the State of Nevada pursuant to a merger with and into a wholly-owned subsidiary of the Company;
2. Approved an amendment to the Company’s Articles (Certificate) of Incorporation to effect, in the discretion of the Board of Directors of the Company for the limited purposes provided, a reverse stock split of the Company’s common stock at any time prior to the Company’s 2022 annual meeting of shareholders at a reverse split ratio in the range of between 1-for-2 and 1-for-10, which specific ratio will be determined by our Board of Directors; and
3. Approved the adoption of the Company’s 2021 Stock Incentive Plan.

At the Special Meeting, the stockholders voted as follows:

Matter	Votes For	Votes Against	Abstentions	Broker Non-Votes
1. Approval of the reincorporation of the Company in the State of Nevada pursuant to a merger with and into a wholly-owned subsidiary of the Company	6,897,687	104,110	23,836	1,553,671
2. Approval of an amendment to the Company’s Articles (Certificate) of Incorporation to effect, in the discretion of the Board of Directors, the above-described reverse stock split	8,096,892	474,262	8,150	—
3. Approval of the adoption of the Company’s 2021 Stock Incentive Plan	6,148,808	707,434	169,390	1,553,672

Reincorporation of the Company to the State of Nevada

As provided above, at the Special Meeting held on March 25, 2021, the Company’s shareholders approved the reincorporation of the Company from the State of New York to the State of Nevada. Effective March 29, 2021, the Company filed a Certificate of Merger with the New York Department of State and Articles of Merger with the Secretary of State of Nevada in connection with the merger (the “Reincorporation Merger”) of Mechanical Technology, Incorporated, a New York corporation (“MKTY-NY”) with and into Mechanical Technology, Incorporated, a corporation formed in the State of Nevada on March 24, 2021, and a wholly-owned subsidiary of MKTY-NY (“MKTY-NV”). As a result of the Reincorporation Merger, the Company was re-domiciled from the State of New York to the State of Nevada. MKTY-NV was the surviving corporation of the Reincorporation Merger and is governed by the laws of the State of Nevada.

The terms of the Reincorporation Merger are set forth in an Agreement and Plan of Merger which was executed and entered into by MKTY-NY and MKTY-NV on March 26, 2021 (the “Merger Agreement”). Pursuant to the terms of the Merger Agreement the Reincorporation Merger was conducted as a tax-free reorganization pursuant to the provisions of Section 368 of the Internal Revenue Code. Each share of common stock, par value \$0.01 per share of MKTY-NY (the “MKTY-NY Common Stock”) which was outstanding at the effective time of the Reincorporation Merger was converted into one share of the common stock, par value \$0.001 per share of MKTY-NV (the “MKTY-NV Common Stock”) with no further action required on the part of the Company’s shareholders. In addition, each outstanding option to purchase shares of MKTY-NY Common Stock became an option to purchase the same number of shares of MKTY-NV Common Stock, with no change in the exercise price or other terms or provisions of the option.

Also, at the effective time of the Reincorporation Merger, the Articles of Incorporation and Bylaws of MKTY-NV became the Articles of Incorporation and Bylaws of the Company. In addition, all of the directors and officers of MKTY-NY, at the effective time of the Reincorporation Merger, became all of the officers and directors of MKTY-NV and continue to be the officers and directors of the Company.

The foregoing description of the Agreement and Plan of Merger, Articles of Incorporation, Bylaws, Articles of Merger and Certificate of Merger, are qualified in their entirety by reference to the full text of such Agreement and Plan of Merger, Articles of Incorporation, Bylaws, Articles of Merger and Certificate of Merger, the forms of which are attached as Exhibits 2.1, 3.1, 3.2, 3.3 and 3.4, respectively, to this Annual Report on Form 10-K, and which are incorporated herein in their entirety by reference.

PART III

Item 10: Directors, Executive Officers and Corporate Governance

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

The remaining information required by this Item 10 is incorporated herein by reference to the information appearing under the captions “Information about our Directors,” “Executive Officers,” “Board of Director Meetings and Committees – Audit Committee” and “Section 16(a) Beneficial Ownership Reporting Compliance” in our definitive Proxy Statement for our 2021 Annual Meeting of Shareholders to be filed with the SEC on or before April 30, 2021.

Item 11: Executive Compensation

The information required by this Item 11 is incorporated herein by reference to the information appearing under the caption “Executive Compensation” in the Company’s definitive Proxy Statement for our 2021 Annual Meeting of Shareholders to be filed with the SEC on or before April 30, 2021.

Item 12: Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Equity Compensation Plans

As of December 31, 2020, we have three equity compensation plans, each of which was originally approved by our shareholders; the Mechanical Technology Incorporated 2006 Equity Incentive Plan (the “2006 Plan”), the Mechanical Technology Incorporated 2012 Equity Incentive Plan and the Mechanical Technology Incorporated 2014 Equity Incentive Plan (collectively, the “Plans”). The 2006 Plan was amended and restated and approved by our Board of Directors in 2011 and 2009. See Note 11 of our Consolidated Financial Statements in this Annual Report on Form 10-K for a description of the Plans.

The following table presents information regarding these plans as of December 31, 2020:

<u>Plan Category</u>	<u>Number of Securities To Be Issued Upon Exercise of Outstanding Options, Warrants, Rights⁽¹⁾</u> (a)	<u>Weighted Average Exercise Price of Outstanding Options, Warrants, Rights</u> (b)	<u>Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (excluding securities reflected in column (a))</u> (c)
Equity compensation plans approved by security holders . . .	398,750	\$0.87	11,125

(1) The securities available under the Plans for issuance and issuable pursuant to exercises of outstanding options may be adjusted in the event of a change in outstanding stock by reason of stock dividend, stock splits, reverse stock splits, etc.

The remaining information required by this Item 12 is incorporated herein by reference to information appearing under the caption “Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters” in our definitive Proxy Statement for our 2021 Annual Meeting of Shareholders to be filed with the SEC on or before April 30, 2021.

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

The information required by this Item 13 is incorporated herein by reference to the information appearing under the captions “Certain Relationships and Related Transactions” and “Information about our Directors” in our definitive Proxy Statement for the 2021 Annual Meeting of Shareholders to be filed with the SEC on or before April 30, 2021.

Item 14: Principal Accounting Fees and Services

The information required by this Item 14 is incorporated herein by reference to the information appearing under the caption “Independent Registered Public Accounting Firm” in our definitive Proxy Statement for the 2021 Annual Meeting of Shareholders to be filed with the SEC on or before April 30, 2021.

PART IV

Item 15: Exhibits, Financial Statement Schedules

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

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

15(a) (3)

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

Exhibit Number	Description
2.1	Agreement and Plan of Merger.
3.1	Articles of Incorporation of the registrant.
3.2	Bylaws of the registrant.
3.3	Articles of Merger filed with the Secretary of State of Nevada.
3.4	Certificate of Merger filed with the Department of State of New York.
4.1	Rights Agreement, dated as of October 6, 2016, between Mechanical Technology, Incorporated and American Stock Transfer & Trust Company, LLC, as Rights Agent (incorporated by reference from Exhibit 4.1 of the Company's Form 8-K Report filed October 6, 2016).
4.2	Amendment No. 1 dated as of October 20, 2016, to the Rights Agreement, dated as of October 6, 2016, between Mechanical Technology, Incorporated and American Stock Transfer & Trust Company, LLC, as Rights Agent (incorporated by reference from Exhibit 4.2 of the Company's Form 8-K Report filed October 21, 2016).
10.1	Mechanical Technology, Incorporated Amended and Restated 2006 Equity Incentive Plan (incorporated by reference from Exhibit 10.1 of the Company's Form 10-K Report for the year ended December 31, 2016).+
10.2	Form of Restricted Stock Agreement for Mechanical Technology, Incorporated Amended and Restated 2006 Equity Incentive Plan (incorporated by reference from Exhibit 10.2 of the Company's Form 8-K Report filed July 11, 2011).+
10.3	Mechanical Technology, Incorporated Amended and Restated 2012 Equity Incentive Plan (incorporated by reference from Exhibit 10.3 of the Company's Form 10-K Report for the year ended December 31, 2016).+
10.4	Form of Restricted Stock Agreement Notice for Board of Directors and Employees for Mechanical Technology, Incorporated 2012 Equity Incentive Plan (incorporated by reference from Exhibit 10.2 of the Company's Form 10-Q Report for the quarter ended June 30, 2012).+
10.5	Form of Incentive Stock Option Notice for Employees for Mechanical Technology, Incorporated 2012 Equity Incentive Plan (incorporated by reference from Exhibit 10.3 of the Company's Form 10-Q Report for the quarter ended June 30, 2012).+

Exhibit Number	Description
10.6	Form of Non-Qualified Stock Option Notice for Employees for Mechanical Technology, Incorporated 2012 Equity Incentive Plan (incorporated by reference from Exhibit 10.4 of the Company's Form 10-Q Report for the quarter ended June 30, 2012).+
10.7	Form of Non-Qualified Stock Option Notice for Board of Directors for Mechanical Technology, Incorporated 2012 Equity Incentive Plan (incorporated by reference from Exhibit 10.5 of the Company's Form 10-Q Report for the quarter ended June 30, 2012).+
10.8	Form of Restricted Stock Award Agreement under the Mechanical Technology, Incorporated Amended and Restated 2012 Equity Incentive Plan (incorporated by reference from Exhibit 10.8 of the Company's Registration Statement on Form 10 filed March 4, 2020).+
10.9	Mechanical Technology, Incorporated 2014 Equity Incentive Plan (incorporated by reference to Exhibit A to the Registrant's Proxy Statement on Schedule 14A filed with the Commission on April 25, 2014).+
10.10	Form of Restricted Stock Grant Agreement under the Mechanical Technology, Incorporated 2014 Equity Incentive Plan (incorporated by reference from Exhibit 10.10 of the Company's Registration Statement on Form 10 filed March 4, 2020).+
10.11	Form of Nonstatutory Stock Option Grant Agreement under the Mechanical Technology, Incorporated 2014 Equity Incentive Plan (incorporated by reference from Exhibit 4.3 of the Company's Registration Statement on Form S-8 (File No. 333-196989) filed with the Commission on June 24, 2014).+
10.12	Form of Incentive Stock Option Grant Agreement under the Mechanical Technology, Incorporated 2014 Equity Incentive Plan (incorporated by reference from Exhibit 4.4 of the Company's Registration Statement on Form S-8 (File No. 333-196989) filed with the Commission on June 24, 2014).+
10.13	Lease dated August 10, 1999 between Carl E. Touhey and Mechanical Technology, Inc. (incorporated by reference from Exhibit 10.38 of the Company's Form 10-K Report for the fiscal year ended September 30, 1999).
10.14	Amendment No. 1 to Lease Agreement Between Mechanical Technology Inc. and Carl E. Touhey dated September 29, 2009 (incorporated by reference from Exhibit 10.166 of the Company's Form 10-K Report for the year ended December 31, 2009).
10.15	Amendment No. 2 to Lease Agreement Between MTI Instruments Inc. and Carl E. Touhey dated May 2, 2014 (incorporated by reference from Exhibit 10.1 of the Company's Form 10-Q Report for the quarter ended March 31, 2014).
10.16	Amendment No. 3 to Lease Agreement Between MTI Instruments Inc. and CETF Properties, LLC dated January 1, 2018 (incorporated by reference from Exhibit 10.16 of the Company's Registration Statement on Form 10 filed September 30, 2020).
10.17	Amendment No. 4 to Lease Agreement Between MTI Instruments Inc. and CETF Properties, LLC dated December 4, 2019 (incorporated by reference from Exhibit 10.17 of the Company's Registration Statement on Form 10 filed September 30, 2020).

Exhibit Number	Description
10.18 [#]	Contract dated July 1, 2016 between Mechanical Technology, Incorporated and the U.S. Air Force (incorporated by reference from Exhibit 10.1 of the Company's Form 10-Q Report for the quarter ended June 30, 2016).
10.19	Securities Purchase Agreement dated as of October 21, 2016, by and between Mechanical Technology, Incorporated and Brookstone Partners Acquisition XXIV, LLC (incorporated by reference from Exhibit 10.22 of the Company's Form 8-K Report filed October 21, 2016).
10.20	Registration Rights Agreement dated as of October 21, 2016, by and between Mechanical Technology, Incorporated and Brookstone Partners Acquisition XXIV, LLC (incorporated by reference from Exhibit 10.23 of the Company's Form 8-K Report filed October 21, 2016).
10.21	Form of Option Exercise and Stock Transfer Restriction Agreement between the Company and its Chief Executive Officer, Chief Financial Officer and Non-Employee Directors (incorporated by reference from Exhibit 10.24 of the Company's Form 8-K Report filed October 21, 2016).
10.22	Operating and Management Agreement between Soluna Technologies, Ltd. and EcoChain, Inc. dated January 13, 2020 (incorporated by reference from Exhibit 10.20 of the Company's Registration Statement on Form 10 filed March 4, 2020).
10.23	Class A Preferred Share Purchase Agreement dated January 13, 2020, among Soluna Technologies, Ltd., Mechanical Technology, Incorporated, and the other investors set forth on Exhibit A thereto (incorporated by reference from Exhibit 10.21 of the Company's Registration Statement on Form 10 filed March 4, 2020).
10.24	Contingent Rights Agreement dated January 13, 2020, by and between Soluna Technologies, Ltd. and Mechanical Technology, Incorporated (incorporated by reference from Exhibit 10.22 of the Company's Registration Statement on Form 10 filed March 4, 2020).
10.25	Side Letter Agreement dated January 13, 2020, by and between Soluna Technologies, Ltd. and Mechanical Technology, Incorporated (incorporated by reference from Exhibit 10.23 of the Company's Registration Statement on Form 10 filed March 4, 2020).
10.26	Commercial Line of Credit Agreement and Note dated May 7, 2020, by and between MTI Instruments Inc. and Pioneer Bank (incorporated by reference from Exhibit 10.27 of the Company's Registration Statement on Form 10 filed September 30, 2020).
10.27	Business Loan Agreement dated May 7, 2020, by and between MTI Instruments Inc. and Pioneer Bank (incorporated by reference from Exhibit 10.28 of the Company's Registration Statement on Form 10 filed September 30, 2020).
10.28	Commercial Loan Settlement Statement dated May 7, 2020, by and between MTI Instruments Inc. and Pioneer Bank (incorporated by reference from Exhibit 10.29 of the Company's Registration Statement on Form 10 filed September 30, 2020).
10.29	Commercial Security Agreement dated May 7, 2020, by and between MTI Instruments Inc. and Pioneer Bank (incorporated by reference from Exhibit 10.30 of the Company's Registration Statement on Form 10 filed September 30, 2020).

Exhibit Number	Description
10.30	Unlimited Continuing Guaranty dated May 7, 2020, by and between MTI Instruments Inc. and Pioneer Bank (incorporated by reference from Exhibit 10.31 of the Company's Registration Statement on Form 10 filed September 30, 2020).
10.31	Sale Order dated May 18, 2020, by and between GigaWatt, Inc. and the United States Bankruptcy Court Eastern District of Washington (incorporated by reference from Exhibit 10.32 of the Company's Registration Statement on Form 10 filed September 30, 2020).
10.32	Bill of Sale dated May 20, 2020, by and between Mark D. Waldron, as Chapter 11 Trustee and EcoChain, Inc (incorporated by reference from Exhibit 10.33 of the Company's Registration Statement on Form 10 filed September 30, 2020).
10.33	Assignment and Assumption Agreement (Tangible Property) dated May 20, 2020, by and between Mark D. Waldron, as Chapter 11 Trustee and EcoChain, Inc (incorporated by reference from Exhibit 10.34 of the Company's Registration Statement on Form 10 filed September 30, 2020).
10.34	Intellectual Property Assignment Agreement dated May 20, 2020, by and between Mark D. Waldron, as Chapter 11 Trustee and EcoChain, Inc (incorporated by reference from Exhibit 10.35 of the Company's Registration Statement on Form 10 filed September 30, 2020).
10.35	Agreement for Transfer of Responsibility for Telecommunication Services dated May 19, 2020, by and between Mark D. Waldron, as Chapter 11 Trustee and EcoChain, Inc (incorporated by reference from Exhibit 10.36 of the Company's Registration Statement on Form 10 filed September 30, 2020).
10.36	Assignment of Lease Agreements dated February 4, 2020, by and between, on the one hand, David M. Carlson, Dorrinda M. Carlson, Enterprise Focus, Inc. and, on the other hand, Mark D. Waldron, in his capacity as the Chapter 11 Trustee (incorporated by reference from Exhibit 10.37 of the Company's Registration Statement on Form 10 filed September 30, 2020).
10.37	Commercial Lease dated August 1, 2018, by and between TNT Business Complexes, LLC and Enterprise Focus, Inc. and Dave Carlson (incorporated by reference from Exhibit 10.38 of the Company's Registration Statement on Form 10 filed September 30, 2020).
10.38	Commercial Lease dated November 14, 2014, by and between TNT Business Complexes, LLC and Dave Carlson /Enterprise Focus, Inc. (incorporated by reference from Exhibit 10.39 of the Company's Registration Statement on Form 10 filed September 30, 2020).
10.39	October 21, 2019 Certified Letter Regarding Option to Extend Commercial Lease dated November 14, 2014, by and between TNT Business Complexes, LLC and Dave Carlson /Enterprise Focus, Inc (incorporated by reference from Exhibit 10.40 of the Company's Registration Statement on Form 10 filed September 30, 2020).
10.40	Amendment of Commercial Lease Agreement dated January 28, 2020, by and between Mark Waldron, as Chapter 11 Trustee and TNT Business Complexes, LLC (incorporated by reference from Exhibit 10.41 of the Company's Registration Statement on Form 10 filed September 30, 2020).
10.41	Mechanical Technology, Incorporated 2021 Stock Incentive Plan+

Exhibit Number	Description
10.42	Form of Stock Option Agreement under the Mechanical Technology, Incorporated 2021 Stock Incentive Plan+
10.43	Form of Restricted Stock Agreement under the Mechanical Technology, Incorporated 2021 Stock Incentive Plan+
10.44	Form of Restricted Stock Unit Agreement under the Mechanical Technology, Incorporated 2021 Stock Incentive Plan+
21	Subsidiaries of the Registrant
31.1	Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2	Certification of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1	Certification of Chief Executive Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2	Certification of Chief Financial Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

Certain portions of this exhibit have been omitted based upon a request for confidential treatment. The omitted portions have been filed with the Securities and Exchange Commission pursuant to our application for confidential treatment. The items are identified in the exhibit with “***”.

+ Represents management contract or compensation plan or arrangement.

Item 16: Form 10-K Summary

None.

Signatures

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

MECHANICAL TECHNOLOGY, INCORPORATED

Date: March 30, 2021

By: /s/ Michael Toporek
Michael Toporek
Chief Executive Officer

Date: March 30, 2021

By: /s/ Jessica L. Thomas
Jessica L. Thomas
Chief Financial Officer

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

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Michael Toporek</u> Michael Toporek	Chief Executive Officer, Director(Principal Executive Officer)	March 30, 2021
<u>/s/ Jessica L. Thomas</u> Jessica L. Thomas	Chief Financial Officer(Principal Financial and Accounting Officer)	March 30, 2021
<u>/s/ David C. Michaels</u> David C. Michaels	Chairman	March 30, 2021
<u>/s/ Edward R. Hirshfield</u> Edward R. Hirshfield	Director	March 30, 2021
<u>/s/ Matthew E. Lipman</u> Matthew E. Lipman	Director	March 30, 2021
<u>/s/ Thomas J. Marusak</u> Thomas J. Marusak	Director	March 30, 2021
<u>/s/ William P. Phelan</u> William P. Phelan	Director	March 30, 2021
<u>/s/ William Hazelip</u> William Hazelip	Director	March 30, 2021
<u>/s/ Alykhan Madhavji</u> Alykhan Madhavji	Director	March 30, 2021

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**MECHANICAL TECHNOLOGY, INCORPORATED AND SUBSIDIARIES
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS**

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

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

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Mechanical Technology, Incorporated and Subsidiaries (the Company) as of December, 2020 and 2019, and the related consolidated statements of operations, changes in equity, and cash flows for each of the years in the two-year period ended December 31, 2020, and the related notes (collectively referred to as the “financial statements”). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the years in the two-year period ended December 31, 2020, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting, but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Realizability of the deferred tax assets

As described in Note 6 to the financial statements, the Company’s deferred tax asset balance was \$759 thousand net of valuation allowances as of December 31, 2020. The ultimate realization of deferred tax assets depends upon generating sufficient future taxable income during the periods in which the temporary differences become deductible or before net operating loss and tax credit carryforwards expire. The Company records a valuation allowance to reduce deferred tax assets to an amount that is “more likely than not” to be realized. Evaluating the need for and quantifying the valuation allowance often requires significant judgment and extensive analysis of all the weighted positive and negative evidence available to the Company in order to determine whether all or some portion of the deferred tax assets will not be realized. In performing this analysis, the Company’s forecasted income, and the existence of potential prudent and feasible tax planning strategies that would enable the Company to utilize some or all of its deferred tax assets, are taken into consideration.

The principal considerations for our determination that performing procedures relating to the realizability of the deferred tax assets is a critical audit matter is due to the significant judgment used by management when evaluating the estimates and assumptions used in the projection of future taxable income. This led to a high degree of auditor judgment and subjectivity in performing procedures on management's assessment of the tax planning strategies to enable utilization of deferred tax assets. The evaluation of audit evidence available to support the realizability of tax loss and tax credit carryforwards was complex and subjective, and therefore required significant auditor judgment.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the financial statements. These procedures included, among others, (i) evaluating the reasonableness of management's assessment of tax planning strategies and the amount that is "more likely than not" to be realized, (ii) testing the completeness and accuracy of tax loss and tax credit carryforwards, (iii) evaluating the appropriateness of the realizability of net operating loss and credit carryforwards relevant to the deferred tax assets recognized, and (iv) evaluating the completeness, accuracy and sufficiency of disclosures.

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

We have served as the Company's auditor since 2018.

Albany, New York

March 30, 2021

Mechanical Technology, Incorporated and Subsidiaries
Consolidated Balance Sheets
As of December 31, 2020 and December 31, 2019

(Dollars in thousands, except per share)

	<u>December 31,</u> <u>2020</u>	<u>December 31,</u> <u>2019</u>
Assets		
Current Assets:		
Cash	\$ 2,630	\$ 2,510
Accounts receivable – less allowances of \$0 in 2020 and 2019	975	745
Inventories	828	924
Prepaid expenses and other current assets	<u>346</u>	<u>56</u>
Total Current Assets	<u>4,779</u>	<u>4,235</u>
Other assets	309	—
Deferred income taxes, net	759	395
Equity investment	750	—
Property, plant and equipment, net	847	174
Operating lease right-of-use assets	<u>1,203</u>	<u>947</u>
Total Assets	<u>\$ 8,647</u>	<u>\$ 5,751</u>
Liabilities and Stockholders' Equity		
Current Liabilities:		
Accounts payable	\$ 300	\$ 210
Accrued liabilities	1,019	761
Operating lease liability	316	171
Income taxes payable	<u>2</u>	<u>—</u>
Total Current Liabilities	1,637	1,142
Other liabilities	203	—
Operating lease liability	<u>891</u>	<u>776</u>
Total Liabilities	2,731	1,918
Commitments and Contingencies (Note 12)		
Stockholders' Equity:		
Common stock, par value \$0.01 per share, authorized 75,000,000; 10,750,100 issued in 2020 and 10,586,170 issued in 2019	108	106
Additional paid-in capital	137,365	137,230
Accumulated deficit	(117,793)	(119,739)
Common stock in treasury, at cost, 1,015,493 shares in both 2020 and 2019	<u>(13,764)</u>	<u>(13,764)</u>
Total Stockholders' Equity	<u>5,916</u>	<u>3,833</u>
Total Liabilities and Stockholders' Equity	<u>\$ 8,647</u>	<u>\$ 5,751</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, 2020 and 2019

(Dollars in thousands, except per share)

	Years Ended December 31,	
	<u>2020</u>	<u>2019</u>
Product revenue	\$ 9,004	\$ 6,571
Cryptocurrency revenue	<u>595</u>	<u>—</u>
Total revenue	9,599	6,571
Operating costs and expenses:		
Cost of product revenue	2,669	2,205
Cost of cryptocurrency revenue	405	—
Research and product development expenses	1,491	1,381
Selling, general and administrative expenses	<u>3,584</u>	<u>2,726</u>
Operating income	1,450	259
Other income, net	<u>104</u>	<u>36</u>
Income before income taxes	1,554	295
Income tax benefit	<u>392</u>	<u>28</u>
Net income	<u>\$ 1,946</u>	<u>\$ 323</u>
Net income per share (Basic)	\$.20	\$.03
Net income per share (Diluted)	\$.20	\$.03
Weighted average shares outstanding (Basic)	9,581,886	9,548,460
Weighted average shares outstanding (Diluted)	9,634,503	9,602,548

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

Mechanical Technology, Incorporated and Subsidiaries
Consolidated Statements of Changes in Equity
For the Years Ended December 31, 2020 and 2019

(Dollars in thousands, except per share)

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Treasury Stock		Total Stockholders' Equity
	Shares	Amount			Shares	Amount	
January 1, 2019	10,452,670	\$105	\$139,067	\$(118,462)	1,015,493	\$(13,764)	\$ 6,946
Net income	—	—	—	323	—	—	323
Stock based compensation	—	—	31	—	—	—	31
Issuance of shares – option exercises	133,500	1	73	—	—	—	74
Cash dividends	—	—	(1,941)	(1,600)	—	—	(3,541)
December 31, 2019	<u>10,586,170</u>	<u>\$106</u>	<u>\$137,230</u>	<u>\$(119,739)</u>	<u>1,015,493</u>	<u>\$(13,764)</u>	<u>\$ 3,833</u>
Net income	—	—	—	1,946	—	—	1,946
Stock based compensation	—	—	54	—	—	—	54
Issuance of shares – option exercises	83,000	1	82	—	—	—	83
Issuance of shares – restricted stock	80,930	1	(1)	—	—	—	—
December 31, 2020	<u>10,750,100</u>	<u>\$108</u>	<u>\$137,365</u>	<u>\$(117,793)</u>	<u>1,015,493</u>	<u>\$(13,764)</u>	<u>\$ 5,916</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, 2020 and 2019

(Dollars in thousands)

	<u>Year Ended December 31,</u>	
	<u>2020</u>	<u>2019</u>
Operating Activities		
Net income.....	\$ 1,946	\$ 323
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation.....	159	87
Provision for bad debts.....	—	1
Deferred income taxes.....	(364)	—
Stock based compensation.....	54	31
Provision (recovery) for excess and obsolete inventories.....	(3)	33
Loss on disposal of equipment.....	3	3
Changes in operating assets and liabilities:		
Accounts receivable.....	(230)	125
Inventories.....	99	(94)
Prepaid expenses and other current assets.....	(290)	1
Other long-term assets.....	(309)	—
Accounts payable.....	90	9
Operating lease, net.....	4	—
Income taxes and uncertain tax positions.....	2	—
Other long-term liabilities.....	203	—
Accrued liabilities.....	<u>258</u>	<u>(230)</u>
Net cash provided by operating activities.....	<u>1,622</u>	<u>289</u>
Investing Activities		
Purchases of equipment.....	(835)	(83)
Purchase of stock in equity investment.....	<u>(750)</u>	<u>—</u>
Net cash used in investing activities.....	<u>(1,585)</u>	<u>(83)</u>
Financing Activities		
Cash dividends on common stock.....	—	(3,541)
Proceeds from stock option exercises.....	<u>83</u>	<u>74</u>
Net cash provided by (used in) financing activities.....	<u>83</u>	<u>(3,467)</u>
Increase (decrease) in cash.....	120	(3,261)
Cash – beginning of period.....	<u>2,510</u>	<u>5,771</u>
Cash – end of period.....	<u>\$ 2,630</u>	<u>\$ 2,510</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 until redomestication in the State of Nevada on March 29, 2021, was incorporated in 1961 and is headquartered in Albany, New York. The Company's core business is conducted through MTI Instruments, Inc. (MTI Instruments), a wholly-owned subsidiary, which designs, manufactures and markets its products also at the Albany, New York location. The Company has also recently formed EcoChain, Inc. (EcoChain), a wholly-owned subsidiary, to conduct a new line of business associated with cryptocurrency mining operations, and also purchased Class A Preferred Shares of Soluna Technologies, Ltd. (Soluna), a Canadian company that develops vertically-integrated, utility-scale computing facilities focused on cryptocurrency mining and cutting-edge blockchain applications.

MTI Instruments was incorporated in New York on March 8, 2000 and is a supplier of vibration measurement and balancing systems, precision linear displacement solutions, and wafer inspection tools. Our products consist of engine vibration analysis systems for both military and commercial aircraft and 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. These systems, tools and solutions are developed for markets and applications that require consistent operation of complex machinery and the precise measurements and control of products, processes, the development and implementation of automated manufacturing and assembly.

EcoChain was incorporated in Delaware on January 8, 2020. EcoChain has established a new business line focused on cryptocurrency and the blockchain ecosystem. In connection with the creation of the new business line, EcoChain has established a cryptocurrency mining facility that integrates with the bitcoin blockchain network. On May 21, 2020, EcoChain closed its acquisition of the intellectual property of Giga Watt, Inc. (GigaWatt) and certain other property and rights of GigaWatt associated with GigaWatt's operation of a crypto-mining operation located in Washington State. EcoChain purchased these assets from Giga Watt's Chapter 11 Trustee in its bankruptcy case in the United States Bankruptcy Court Eastern District of Washington. Company management did not consider the assets EcoChain purchased from Giga Watt to constitute a "business" as substantially all the fair value of the gross assets acquired is concentrated in a group of similar identifiable assets. Therefore, management did not consider the acquisition of such assets to be a "business combination" as defined under ASC 805. The total purchase price of the assets acquired in the GigaWatt transaction was \$200 thousand, of which \$20 thousand was charged back as per the colocation agreement with Navier, Inc. and the remaining cost of \$180 thousand was recorded as a leasehold improvement. The acquired assets formed the cornerstone of EcoChain's cryptocurrency mining operation in Washington.

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 \$117.8 million as of December 31, 2020. As of December 31, 2020, the Company had working capital of approximately \$3.1 million, no debt, no outstanding commitments for capital expenditures, and approximately \$2.6 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 \$2.6 million and its projected 2021 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, 2021 and through the end of the first quarter of 2022. If cash generated from operations is insufficient to satisfy the Company's operational working capital and capital expenditure requirements, the Company may utilize the \$300 thousand line of credit at MTI Instruments to fund these initiatives. The Company is considering other funding sources, including debt and equity. However, the Company has no other formal commitments for funding its future needs at this time and any additional financing we may require during the year ending December 31, 2021, 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 subsidiaries, MTI Instruments and EcoChain. 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 U.S. 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.

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. 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. 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.

Equity Investment – Soluna

The equity investment in Soluna is carried at the cost of investment and is \$750 thousand as of December 31, 2020. The Company owns approximately 1.86% of Soluna's stock, calculated on a fully-diluted basis, as of December 31, 2020.

Equity Investments without Readily Determinable Fair Values

Our equity investment in Soluna is accounted for under the measurement alternative. Equity securities measured and recorded using the measurement alternative are recorded at cost minus impairment, if any, plus or minus changes resulting from qualifying observable price changes. Adjustments resulting from impairments and observable price changes are recorded in the income statement. There was no impairment of investment recognized in 2020.

Equity Method Investments

The Company's consolidated net income 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. 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.

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, 2020 and December 31, 2019, based on MeOH Power, Inc.'s net position and expected cash flows. As of December 31, 2020, 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, 2020.

Fair Value Measurement

The estimated fair value of certain financial instruments, including cash, accounts receivable 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

Product Revenue

Product revenue consists of revenue recognized from MTI Instruments’ product lines. In general, the Company determines revenue recognition by: (1) identifying the contract, or contracts, with the customer; (2) identifying the performance obligations in the contract; (3) determining the contract price; (4) allocating the transaction price to performance obligations in the contract; and (5) recognizing revenue when, or as, the performance obligations are satisfied by transferring the promised goods or services. Based on past experience, the Company reasonably estimates its returns and warranty reserves. Revenue is presented net of discounts and allowances, which are determined when the sale is negotiated. The nature of the Company’s contracts do not give rise to variable consideration. The Company enters 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.

If the product requires that the Company 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, 2020 and December 31, 2019, 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.

The transaction price is determined based on the consideration to which the Company will be entitled in exchange for transferring services to the customer. If the contract contains a single performance obligation, the entire

transaction price is allocated to the single performance obligation. Contracts that contain multiple performance obligations require an allocation of the transaction price to each performance obligation based on a relative standalone selling price basis unless the transaction price is variable and meets the criteria to be allocated entirely to a performance obligation or to a distinct good or service that forms part of a single performance obligation. The Company determines standalone selling price based on the price at which the performance obligation is sold separately. If the standalone selling price is not observable through past transactions, the Company estimates the standalone selling price taking into account available information such as market conditions and internally approved pricing guidelines related to the performance obligations.

Shipping and handling charges billed to customers is a pass-through from the freight forwarder and is included in product revenue.

Cost of Product Revenue

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

Cryptocurrency Revenue

Cryptocurrency revenue consists of revenue recognized from EcoChain's cryptocurrency mining facility. Revenue is recognized at the cryptocurrency's realized cash value based upon the rates at cryptocurrency exchanges where we are registered. Cryptocurrencies are earned when the miners solve complex computations and cryptocurrency is issued as a result. The mined cryptocurrency is immediately paid to the Coinbase wallet. Cryptocurrency is converted to U.S. dollars daily, as EcoChain is not in the business of accumulating cryptocurrency on its balance sheet for speculative gains.

Cost of Cryptocurrency Revenue

Cost of cryptocurrency revenue includes direct utility costs as well as overhead costs that relate to the operations of EcoChain's cryptocurrency mining facility.

Accounts Receivable and Allowance for Doubtful Accounts

Trade accounts receivable are stated at the invoiced amount billed to customers and do not bear interest. An allowance for doubtful accounts, if necessary, represents the Company's best estimate of the amount of probable credit losses in its existing accounts receivable. The Company determines the allowance based on historical write-off experience and current exposures identified. The Company reviews its allowance for doubtful accounts monthly. Past due balances over 90 days and over a specified amount are reviewed individually for collectability. All other balances are reviewed on a pooled basis by type of receivable. Account balances are charged off against the allowance when the Company believes it is probable the receivable will not be recovered. The Company does not have any off-balance-sheet credit exposure related to its customers. The Company's allowance for doubtful accounts was \$0 at both December 31, 2020 and December 31, 2019.

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 the Company's invoicing terms is to provide customers with simplified and predictable ways of purchasing our products and services, not to receive financing from its customers.

The Company recognizes an asset for the incremental costs of obtaining a contract with a customer, if the Company expects the benefit of those costs to be longer than one year. As of December 31, 2020 and December 31, 2019, the Company has recorded no capitalized costs to obtain a contract.

The Company applies the 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.

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 \$22 thousand and \$16 thousand as of December 31, 2020 and 2019, respectively. Warranty expense was \$11 thousand and \$1 thousand for 2020 and 2019, 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, 2020, 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 per Share

The Company computes basic income per common share by dividing net income by the weighted average number of common shares outstanding during the reporting period. Diluted income per share reflects the potential dilution, if any, computed by dividing income 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.

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 paid a special dividend during the year ended December 31, 2019 and did not pay any dividends during the year ended December 31, 2020. The Company is required to assume a dividend yield as an input to the Black-Scholes model. Since the 2019 dividend was a special dividend and the Company does not anticipate paying any cash dividends in the foreseeable future, the Company therefore used an expected dividend yield of zero in the option valuation model. The expected option term is calculated based on our historical forfeitures and cancellation rates.

The fair value of restricted stock awards is based on the market close price per share on the grant date. The Company expenses the compensation cost of these awards as the restriction period lapses, which is typically a one- to three-year service period to the Company. The shares represented by restricted stock awards are outstanding at the grant date, and the recipients are entitled to voting rights with respect to such shares upon issuance.

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.

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

Research and Development Costs

The Company expenses research and development costs as incurred. The Company incurred research and development costs of approximately \$1.5 million and \$1.4 million, which was entirely related to MTI Instruments, for the years ended December 31, 2020 and 2019, respectively.

Advertising Costs

The Company expenses advertising costs as incurred. The Company incurred advertising costs of approximately \$39 thousand and \$45 thousand, which was entirely related to MTI Instruments, for the years ended December 31, 2020 and 2019, respectively.

Other Comprehensive Income

The Company had no other comprehensive income items for the years ended December 31, 2020 and 2019.

Leases

The Company determines if an arrangement is a lease at inception. Operating leases are included in operating lease right-of-use ("ROU") assets and operating lease liability on our consolidated balance sheets. The Company did not have any finance leases as of December 31, 2020 or December 31, 2019.

Operating lease ROU assets and operating lease liabilities are recognized based on the present value of the future minimum lease payments over the lease term at commencement date. As most of the Company's leases do not provide an implicit rate, the Company uses its incremental borrowing rate based on the information available at commencement date in determining the present value of future payments. The operating lease ROU assets also include any lease payments made and excludes lease incentives and initial direct costs incurred. The Company's lease terms may include options to extend or terminate its leases when it is reasonably certain that the Company will exercise those options. Lease expense for minimum lease payments is recognized on a straight-line basis over the lease term.

The Company has lease agreements with lease and non-lease components, which are generally accounted for separately. For real estate leases, the Company accounts for lease components together with non-lease components (e.g. common-area maintenance).

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 June 2016, the FASB issued ASU 2016-13 (Financial Instruments - Credit Losses (Topic 326)) and its subsequent amendments to the initial guidance within ASU 2018-19, ASU 2019-04, ASU 2019-05, ASU 2019-10, ASU 2019-11 and ASU 2020-02, respectively (collectively, Topic 326). Topic 326 changes how entities will measure credit losses for most financial assets and certain other instruments that are not accounted for at fair value through net income. This standard replaces the existing incurred credit loss model and establishes a single credit loss framework based on a current expected credit loss model for financial assets carried at amortized cost, including loans and held-to-maturity debt securities. The current expected loss model requires an entity to estimate credit losses expected over the life of the credit exposure upon initial recognition of that exposure when the financial asset is originated or acquired, which will generally result in earlier recognition of credit losses. This standard also requires expanded credit quality disclosures. For available-for-sale debt securities, entities will be required to record allowances rather than reduce the carrying amount, as they do today under the other-than-temporary impairment model. This standard also simplifies the accounting model for purchased credit-impaired debt securities and loans. This standard will affect loans, debt securities, trade receivables, net investments in leases, off balance sheet credit exposures, reinsurance receivables, and any other financial assets not excluded from the scope that have the contractual right to receive cash. ASU 2018-19 clarifies that receivables arising from operating leases are accounted for using lease guidance and not as financial instruments. ASU 2019-04 clarifies that equity instruments without readily determinable fair values for which an entity has elected the measurement alternative should be remeasured to fair value as of the date that an observable transaction occurred. ASU 2019-05 provides an option to irrevocably elect to measure certain individual financial assets at fair value instead of amortized cost. This standard should be applied on either a prospective transition or modified-retrospective approach depending on the subtopic. This standard will be effective for the Company for annual and interim reporting periods beginning on or after December 15, 2022, and while early adoption is permitted, the Company does not expect to elect that option. The Company is currently evaluating the impact of the adoption of this standard on its consolidated financial statements, including assessing and evaluating assumptions and models to estimate losses. Upon adoption of this standard on January 1, 2023, the Company will be required to record a cumulative effect adjustment to retained earnings for the impact as of the date of adoption. The impact will depend on the Company's portfolio composition and credit quality at the date of adoption, as well as forecasts at that time.

In December 2019, the FASB issued ASU 2019-12 (Income Taxes (Topic 740) - Simplifying the Accounting for Income Taxes). This standard removes exceptions to the general principles in Topic 740 for allocating tax expense between financial statement components, accounting basis differences stemming from an ownership change in foreign investments and interim period income tax accounting for year-to-date losses that exceed projected losses. The standard will be effective for the Company for annual reporting periods beginning after December 15, 2020 and interim periods within those fiscal years, and while early adoption is permitted, the Company does not expect to elect that option. The Company is currently evaluating the impact of the adoption of this standard on its consolidated financial statements. At this time, the Company does not expect the adoption of this standard to have a material impact on its consolidated financial statements.

In January 2020, the FASB issued ASU 2020-01 (Investments - Equity Securities (Topic 321), Investments - Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815)). This standard clarifies certain interactions between the guidance to account for certain equity securities under Topic 321, the guidance to account for investments under the equity method of accounting in Topic 323, and the guidance in Topic 815, which could change how an entity accounts for an equity security under the measurement alternative or a forward contract or purchased option to purchase securities that, upon settlement of the forward contract or exercise of the purchased option, would be accounted for under the equity method of accounting or the fair value option in accordance with Topic 825, Financial Instruments. This standard will reduce diversity in practice and increasing comparability of the accounting for these interactions. The standard will be effective for the Company for annual reporting periods beginning after December 15, 2020 and interim periods within those fiscal years, and while early adoption is

permitted, the Company does not expect to elect that option. The Company is currently evaluating the impact of the adoption of this standard on its consolidated financial statements. At this time, the Company does not expect the adoption of this standard to have a material impact on its consolidated financial statements.

Accounting Updates Recently Adopted by the Company

On January 1, 2020, the Company adopted ASU No. 2018-18 (Collaborative Arrangements (Topic 808): Clarifying the Interaction Between Topic 808 and Topic 606). A collaborative arrangement is a contractual arrangement under which two or more parties actively participate in a joint operating activity and are exposed to significant risk and rewards that depend on the activity's commercial success. This standard clarifies when certain transactions between collaborative arrangement participants should be accounted for under ASC 606 and incorporates unit-of-account guidance consistent with ASC 606 to aid in this determination. The adoption of this standard did not have a material impact on its consolidated financial statements.

There have been no other significant changes in the Company's reported financial position or results of operations and cash flows as a result of its adoption of new accounting pronouncements or changes to its significant accounting policies that were disclosed in its consolidated financial statements for the fiscal year ended December 31, 2020.

3. Accounts Receivable

Accounts receivables consist of the following at:

(Dollars in thousands)	<u>December 31, 2020</u>	<u>December 31, 2019</u>
U.S. and State Government	\$ 2	\$ 57
Commercial.	909	653
Allowance for doubtful accounts.	—	—
Other	<u>64</u>	<u>35</u>
Total	<u>\$975</u>	<u>\$745</u>

4. Inventories

Inventories consist of the following at:

(Dollars in thousands)	<u>December 31, 2020</u>	<u>December 31, 2019</u>
Finished goods	\$371	\$302
Work in process	139	279
Raw materials.	<u>318</u>	<u>343</u>
Total	<u>\$828</u>	<u>\$924</u>

5. Property, Plant and Equipment

Property, plant and equipment consist of the following at:

(Dollars in thousands)	<u>December 31, 2020</u>	<u>December 31, 2019</u>
Leasehold improvements	\$ 262	\$ 39
Computers and related software	1,603	1,026
Machinery and equipment	885	915
Office furniture and fixtures	<u>38</u>	<u>40</u>
	2,788	2,020
Less: Accumulated depreciation	<u>1,941</u>	<u>1,846</u>
	<u>\$ 847</u>	<u>\$ 174</u>

Depreciation expense was \$159 thousand and \$87 thousand for the years ended December 31, 2020 and 2019, respectively. Repairs and maintenance expense was \$32 thousand and \$18 thousand for the years ended December 31, 2020 and 2019, respectively.

6. Income Taxes

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

(Dollars in thousands)	<u>2020</u>	<u>2019</u>
Federal	\$ —	\$33
State	(4)	(5)
Deferred	<u>396</u>	<u>—</u>
Total	<u>\$392</u>	<u>\$28</u>

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

(Dollars in thousands)	<u>2020</u>	<u>2019</u>
Deferred tax (expense) benefit	\$ 83	\$(101)
Net operating loss carry forward	(330)	(74)
Valuation allowance	<u>643</u>	<u>175</u>
	<u>\$ 396</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:

	<u>2020</u>	<u>2019</u>
Federal statutory tax rate	21%	21%
Change in valuation allowance	(43)	(54)
State taxes, net of federal benefit	0	1
Expiration of stock option	1	14
Federal tax benefits, R&D	(3)	9
Other Deferred Adjustments	<u>(1)</u>	<u>—</u>
Tax rate	<u>(25)%</u>	<u>(9)%</u>

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)	<u>2020</u>	<u>2019</u>
Deferred tax assets:		
Inventory valuation	\$ 49	\$ 43
Vacation pay	20	22
Bonus Accrual	—	—
Warranty and other sale obligations	5	3
Deferred revenue	10	10
Allowance for related party note receivable	69	65
Net operating loss	10,187	10,518
Property, plant and equipment	(20)	(10)
Stock options	36	72
Research and development tax credit	<u>120</u>	<u>32</u>
	10,476	10,755
Valuation allowance	<u>(9,717)</u>	<u>(10,360)</u>
Net deferred tax assets	<u>\$ 759</u>	<u>\$ 395</u>

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.

As a result of its assessment in 2020, the Company released a portion of its valuation allowance against its deferred tax assets. The partial release of the valuation allowance caused an incremental tax benefit of \$643 thousand to be recognized in 2020. The release of a portion of the valuation allowance was based upon the Company's recent cumulative income history and projected future taxable income 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, 2020. 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, 2020 and 2019 was \$9.9 million and \$10.4 million, respectively. Activity in the valuation allowance for deferred tax assets is as follows as of December 31:

(Dollars in thousands)	<u>2020</u>	<u>2019</u>
Valuation allowance, beginning of year	\$10,360	\$10,535
Allowance for related party note receivable	(65)	3
Inventory	(43)	(7)
Net operating (loss) income	(406)	(74)
Property, plant and equipment	10	7
Stock options	(72)	(35)
Research and development credit	(32)	(82)
Warranty and other sales obligations	(3)	(2)
Deferred revenue	(10)	10
Accrued compensation	(22)	5
Valuation allowance, end of year	<u>\$ 9,717</u>	<u>\$10,360</u>

Net operating losses:

At December 31, 2020, the Company has unused Federal net operating loss carryforwards of approximately \$49 million. Of these, none will expire in 2021, 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 Company has \$710 thousand unrecognized tax benefits at December 31, 2020 and 2019. These unrecognized tax benefits relate to former subsidiaries of the Company and a prior investment in a partnership.

In future periods, if 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 2020 and 2019.

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 state examinations for any periods prior to 2017, although carryforward attributes that were generated prior to 2017 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, 2020</u>	<u>December 31, 2019</u>
Salaries, wages and related expenses	\$ 344	\$238
Liability to shareholders for previous acquisition.....	363	363
Legal and professional fees	146	65
Warranty and other sale obligations	22	16
Commissions.....	4	3
Other.....	<u>140</u>	<u>76</u>
Total	<u>\$1,019</u>	<u>\$761</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, 2020 and 2019, there were 9,734,607 and 9,570,677 shares of common stock issued and outstanding, respectively.

Dividends

Dividends are recorded when declared by the Company's Board of Directors. During 2019, the Company declared and paid a special dividend of \$3.5 million or \$0.37 per common share. A portion of dividends are charged against paid in capital because the Company does not have sufficient retained earnings. There were no dividends declared or paid during 2020.

Reservation of Shares

The Company had reserved common shares for future issuance as follows as of December 31, 2020:

Stock options outstanding	398,750
Common stock available for future equity awards or issuance of options	<u>11,125</u>
Number of common shares reserved	<u>409,875</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 \$77 thousand and \$81 thousand for 2020 and 2019, 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 2020 or 2019.

10. Net income per Share

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

(Dollars in thousands, except shares)	<u>2020</u>	<u>2019</u>
<u>Numerator:</u>		
Net income	\$ 1,946	\$ 323
<u>Denominator:</u>		
Basic EPS:		
Common shares outstanding, beginning of period	9,570,677	9,437,177
Weighted average common shares issued during the period	<u>11,209</u>	<u>111,283</u>
Denominator for basic earnings per common shares —		
Weighted average common shares	<u>9,581,886</u>	<u>9,548,460</u>
Diluted EPS:		
Common shares outstanding, beginning of period	9,570,677	9,437,177
Common stock equivalents – options	52,617	54,088
Weighted average common shares issued during the period	<u>11,209</u>	<u>111,283</u>
Denominator for diluted earnings per common shares -		
Weighted average common shares	<u>9,634,503</u>	<u>9,602,548</u>

Not included in the computation of earnings per share, assuming dilution, for the year ended December 31, 2020, were options to purchase 237,000 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, 2019, were options to purchase 313,000 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.

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.

On January 14, 2020, the Company awarded to members of the Company's Investment Committee and to the Company's CEO special one-time restricted stock awards totaling 68,930 shares of common stock (67,930 from the 2012 Plan and 1,000 from the 2014 Plan) valued at \$0.99 per share based on the closing market price of the Company's common stock on the date of grant. The shares will be restricted until vested and vest in two annual installments, with half vesting on the first anniversary of the award date and the remainder vesting on the second anniversary of the award date.

During 2020, the Company granted options to purchase 25,000 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 \$0.70 per share and was based on the closing market price of the Company's common stock on the day prior to the date of grant. Using a Black-Scholes Option Pricing Model, the weighted average fair value of these options is \$0.57 per share and was estimated at the date of grant.

During 2020, the Company granted options to purchase 25,000 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 \$0.75 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 \$0.61 per share and was estimated at the date of grant.

On December 21, 2020, the Company awarded to its CFO and the President of MTI Instruments restricted stock awards totaling 15,000 shares of common stock from the 2014 Plan valued at \$3.63 per share based on the closing market price of the Company's common stock on the date of grant. The shares will be restricted until vested and vest in three annual installments beginning on the first anniversary of the award date.

During 2019, the Company granted options to purchase 15,000 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 \$0.83 per share and was based on the closing market price of the Company's common stock on the day prior to the date of grant. Using a Black-Scholes Option Pricing Model, the weighted average fair value of these options is \$0.66 per share and was estimated at the date of grant.

Stock-based compensation expense for the years ended December 31, 2020 and 2019 was generated from stock option and restricted stock 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 to three years 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 following table presents the weighted-average assumptions used for options granted under the 2014 Plan:

	<u>2020</u>	<u>2019</u>
Option term (years)	6.25	6.26
Volatility	106.22%	99.99%
Risk-free interest rate	0.31%	1.37%
Dividend yield	0%	0%
Weighted-average fair value per option granted	\$ 0.57	\$ 0.66

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

	<u>2020</u>
Option term (years)	6.25
Volatility	106.46%
Risk-free interest rate	0.28%
Dividend yield	0%
Weighted-average fair value per option granted	\$ 0.61

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 the Company's share-based awards, recognized for the years ended December 31, was comprised as follows:

	<u>2020</u>	<u>2019</u>
(Dollars in thousands)		
Cost of product revenue	\$ 1	\$ 1
Research and product development	7	4
Selling, general and administrative	46	26
Share-based compensation expense	<u>\$54</u>	<u>\$31</u>

Total unrecognized compensation costs related to non-vested stock options as of December 31, 2020 and December 31, 2019 is \$78 thousand and \$96 thousand, respectively, and is expected to be recognized over a weighted-average remaining vesting period of approximately 2.55 years and 3.02 years, respectively.

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

	<u>2020</u>	<u>2019</u>
Shares under option, beginning.....	527,875	720,624
Granted.....	50,000	15,000
Exercised.....	(83,000)	(133,500)
Forfeited.....	(27,750)	—
Expired/canceled.....	<u>(68,375)</u>	<u>(74,249)</u>
Shares under option, ending.....	<u>398,750</u>	<u>527,875</u>
Options exercisable.....	<u>276,000</u>	<u>392,375</u>
Remaining shares available for granting of options.....	<u>11,125</u>	<u>68,930</u>

The weighted average exercise price for the Company's stock option activity for the Plans is as follows for each of the years ended December 31:

	<u>2020</u>	<u>2019</u>
Shares under option, beginning.....	\$0.89	\$0.86
Granted.....	\$0.73	\$0.83
Exercised.....	\$1.00	\$0.56
Forfeited.....	\$0.90	—
Expired/canceled.....	\$0.73	\$1.15
Shares under option, ending.....	\$0.87	\$0.89
Options exercisable, ending.....	\$0.89	\$0.89

The following table summarizes information for options outstanding and exercisable for the Plans as of December 31, 2020:

Exercise Price Range	Outstanding			Exercisable		
	Number	Weighted Average Remaining Contractual Life	Weighted Average Exercise Price	Number	Weighted Average Remaining Contractual Life	Weighted Average Exercise Price
\$0.29 - \$1.08.....	349,750	6.18	\$0.82	227,000	4.84	\$0.82
\$1.09 - \$1.20.....	<u>49,000</u>	4.17	\$1.20	<u>49,000</u>	4.17	\$1.20
	<u>398,750</u>	5.93	\$0.87	<u>276,000</u>	4.72	\$0.89

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 \$1.5 million for the Company's outstanding options and \$1.1 million for the exercisable options as of December 31, 2020. The amounts are based on the Company's closing stock price of \$4.71 as of December 31, 2020.

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

	<u>2020</u> <u>Restricted</u> <u>Stock</u>	<u>2020 Weighted Average</u> <u>Grant Date</u> <u>Fair Value</u>
Non-vested restricted stock balance, beginning January 1.....	—	\$0.00
Non-vested restricted stock granted.....	83,930	\$1.46
Vested restricted stock.....	—	\$0.00
Non-vested restricted stock forfeited/expired.....	<u>(3,000)</u>	\$0.99
Non-vested restricted stock balance, ending December 31.....	<u>80,930</u>	\$1.48

At December 31, 2020, there was \$94 thousand of unrecognized compensation cost related to restricted stock awards. This cost is expected to be recognized over a remaining period of 2.15 years.

12. Commitments and Contingencies

Commitments:

Leases

The Company determines whether an arrangement is a lease at inception. The Company and its subsidiary have operating leases for certain manufacturing, laboratory, office facilities and certain equipment. The leases have remaining lease terms of less than one year to less than five years. Our lease agreements do not contain any material residual value guarantees or material restrictive covenants. As of December 31, 2020 and December 31, 2019, the Company has no assets recorded under finance leases.

Lease expense for these leases is recognized on a straight-line basis over the lease term. For the twelve months ended December 31, total lease costs are comprised of the following:

(Dollars in thousands)	<u>2020</u>	<u>2019</u>
Operating lease cost	\$308	\$222
Short-term lease cost.	<u>2</u>	<u>—</u>
Total net lease cost	<u>\$310</u>	<u>\$222</u>

Short-term leases are leases having a term of twelve months or less. The Company recognizes short-term leases on a straight-line basis and does not record a related lease asset or liability for such leases.

Supplemental cash flows information related to leases for the twelve months ended December 31 was as follows:

(Dollars in thousands)	<u>2020</u>	<u>2019</u>
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	\$304	\$222
Non-Cash Activity Right-of-use assets obtained in exchange for lease obligations:		
Operating leases	504	966

Supplemental balance sheet information for the twelve months ended December 31 was as follows:

(Dollars in thousands, except lease term and discount rate)	<u>2020</u>	<u>2019</u>
Operating leases:		
Operating lease ROU asset.	\$1,203	\$ 947
Current operating lease liabilities.	\$ 316	\$ 171
Non-current operating lease liabilities	<u>891</u>	<u>776</u>
Total operating lease liabilities.	<u>\$1,207</u>	<u>\$ 947</u>
Operating leases:		
ROU assets	\$1,452	\$1,164
Asset lease expense.	<u>(249)</u>	<u>(217)</u>
ROU assets, net.	<u>\$1,203</u>	<u>\$ 947</u>
Weighted Average Remaining Lease Term (in years):		
Operating leases	3.62	4.92
Weighted Average Discount Rate:		
Operating leases	5.12%	5.85%

Maturities of operating lease liabilities are as follows for the year ending December 31:

(Dollars in thousands)	<u>2020</u>
2021.....	\$ 371
2022.....	375
2023.....	337
2024.....	245
2025.....	<u>—</u>
Total lease payments.....	1,328
Less: imputed interest.....	<u>121</u>
Total lease obligations.....	1,207
Less: current obligations.....	<u>316</u>
Long-term lease obligations.....	<u>\$ 891</u>

As of December 31, 2020, there were no additional operating lease commitments that had not yet commenced.

Warranties

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

(Dollars in thousands)	Twelve Months Ended	
	December 31,	
	<u>2020</u>	<u>2019</u>
Balance, January 1.....	\$ 16	\$ 24
Accruals for warranties issued.....	22	16
Accruals for pre-existing warranties.....	(12)	(15)
Settlements made (in cash or in kind).....	<u>(4)</u>	<u>(9)</u>
Balance, end of period.....	<u>\$ 22</u>	<u>\$ 16</u>

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.

The Company has been named as a party in the December 19, 2019 United States Environmental Protection Agency (EPA) Demand Letter regarding the Malta Rocket Fuel Area Superfund Site (Site) located in Malta and Stillwater, New York in connection with an alleged release of hazardous materials into the environment. The EPA is seeking reimbursement of response costs from all named parties in the amount of approximately \$358,000 plus interest in connection with the investigation and disposal activities associated with the various drum caches discovered at the Site, issuance of the Explanation of Significant Differences (“ESD”) of the Site, and implementation of the work contemplated by the ESD. The Company considers the likelihood of a material adverse outcome to be remote and does not currently anticipate that any expense or liability it may incur as a result of these matters in the future will be material to the Company’s financial condition.

13. Related Party Transactions

MeOH Power, Inc.

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, 2020 and December 31, 2019, \$321 thousand and \$312 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, 2020 and December 31, 2019, the Company incurred \$95 thousand and \$54 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.

Soluna Transactions

On January 8, 2020, the Company formed EcoChain as a wholly-owned subsidiary to pursue a new business line focused on cryptocurrency and the blockchain ecosystem. In connection with this new business line, EcoChain established a facility to mine cryptocurrencies and integrate with the blockchain network. Pursuant to an Operating and Management Agreement dated January 13, 2020, by and between EcoChain and Soluna, a Canadian company that develops vertically-integrated, utility-scale computing facilities focused on cryptocurrency mining and cutting-edge blockchain applications, Soluna assisted the Company in developing, and is now operating, the cryptocurrency mining facility. The Operating and Management Agreement requires, among other things, that Soluna provide developmental and operational services, as directed by EcoChain, with respect to the cryptocurrency mining facility in exchange for EcoChain's payment to Soluna of a one-time management fee of \$65 thousand and profit-based success payments in the event EcoChain achieves explicit profitability thresholds. Once aggregate earnings before interest, taxes, depreciation and amortization of the mine exceeds the total amount of funding provided by the Company to Soluna (whether pursuant to this agreement or otherwise) for the purposes of creating, developing, assembling and constructing the mine (the Threshold), Soluna is entitled to ongoing success payments of 20.0% of the earnings before interest, taxes, depreciation and amortization of the mine. As of December 31, 2020, no additional payments have been made or due, as the Threshold has not been achieved. Pursuant to the Operating and Management Agreement, during the developmental phase of the cryptocurrency mining facility, which ended on March 14, 2020, Soluna gathered and analyzed information with respect to EcoChain's cryptocurrency mining efforts and produced budgets, financial models, and technical and operational plans, including a detailed business plan, that it delivered to EcoChain in March 2020 (the "Deliverables"), all of which was designed to assist with the efficient implementation of a cryptocurrency mine. The agreement provided that, following EcoChain's acceptance of the Deliverables, which occurred on March 23, 2020, Soluna, on behalf of EcoChain, would commence operations of the cryptocurrency mine in a manner that will allow EcoChain to mine and sell cryptocurrency. In that regard, on May 21, 2020, EcoChain acquired the intellectual property of GigaWatt and certain other property and rights of GigaWatt associated with GigaWatt's operation of a crypto-mining operation located in Washington State. The acquired assets formed the cornerstone of EcoChain's cryptocurrency mining operation. EcoChain sells for U.S. dollars all cryptocurrency it mines and is not in the business of accumulating cryptocurrency on its balance sheet for speculative gains. On October 22, 2020, the Company loaned Soluna \$112 thousand to acquire additional assets from the bankruptcy trustee for Giga Watt assets and Soluna further transferred title of the assets to EcoChain, which satisfied the note. On November 19, 2020 EcoChain and Soluna entered into an additional Operating and Management agreement related to a target located in the Southeast United States. In accordance with the terms of the agreement EcoChain paid to Soluna \$150 thousand. On December 1, 2020, EcoChain and Soluna entered into an additional Operating and Management agreement for a target located in the West Region, \$38 thousand was paid to Soluna in accordance with this agreement, this target subsequently did not meet the business requirements to continue pursuing the investment. Each Operating and Management agreement requires that Soluna shall provide project sourcing services including acquisition negotiations, establishing an operating model, investments/financing timeline and project development path.

Simultaneously with entering into the Operating and Management Agreement with Soluna, the Company, pursuant to a purchase agreement it entered into with Soluna, made a strategic investment in Soluna by purchasing 158,730 Class A Preferred Shares of Soluna for an aggregate purchase price of \$500 thousand on January 13, 2020. After acceptance of the Deliverables, as required by the terms of the purchase agreement, on March 23, 2020, the Company purchased an additional 79,365 Class A Preferred Shares of Soluna for an aggregate purchase price of \$250 thousand. The Company also has the right, but not the obligation, to purchase additional equity securities of Soluna and its

subsidiaries (including additional Class A Preferred Shares of Soluna) if Soluna secures certain levels or types of project financing with respect to its own wind power generation facilities. The Company has additionally entered into a Side Letter Agreement, dated January 13, 2020, with Soluna Technologies Investment I, LLC, a Delaware limited liability company that owns, on a fully diluted basis, 61.5% of Soluna and is controlled by a Brookstone Partners-affiliated director of the Company. The Side Letter Agreement provides for the transfer to the Company of additional Class A Preferred Shares of Soluna in the event Soluna issues additional equity below agreed-upon valuation thresholds.

Several of Soluna’s equityholders are affiliated with Brookstone Partners, the investment firm that holds an equity interest in the Company through Brookstone Partners Acquisition XXIV, LLC. The Company’s two Brookstone-affiliated directors also serve as directors and, in one case, as an officer, of Soluna and also have ownership interest in Soluna. In light of these relationships, the various transactions by and between the Company and EcoChain, on the one hand, and Soluna, on the other hand, were negotiated on behalf of the Company and EcoChain via an independent investment committee of the Company’s Board of Directors and separate legal representation. The transactions were subsequently unanimously approved by both the independent investment committee and the full Board of Directors of the Company.

Three of our directors have various affiliations with Soluna.

Chief Executive Officer and Director Michael Toporek (i) owns 90% of the equity of Soluna Technologies Investment I, LLC, which owns 61.5% of Soluna and (ii) owns 100% of the equity of MJT Park Investors, Inc., which owns 3.2% of Soluna, in each case on a fully-diluted basis. Mr. Toporek does not own directly, or indirectly, equity interest in Tera Joule, LLC, which owns 8.5% of Soluna; however, as a result of his 100% ownership of Brookstone IAC, Inc., which is the manager of Tera Joule, LLC, he has dispositive power over the equity interests that Tera Joule owns in Soluna.

Director Matthew E. Lipman serves as a director and as acting Secretary and Treasurer of Soluna. Mr. Lipman does not own directly, or indirectly, equity interest in Tera Joule, LLC, which owns 8.5% of Soluna; however, as a result of his position as a director and officer of Brookstone IAC, Inc., which is the manager of Tera Joule, LLC, he has dispositive power over the equity interests that Tera Joule owns in Soluna.

As a result, the approximate dollar value of the amount of Mr. Toporek’s and Mr. Lipman’s interest in the Company’s transactions with Soluna through December 31, 2020, are \$631 thousand and \$0, respectively.

The Company’s investment in Soluna is carried at the cost of investment and is \$750 thousand as of December 31, 2020. The Company owns approximately 1.86% of Soluna’s stock, calculated on a fully-diluted basis, as of December 31, 2020.

William P. Phelan, a director of the Company, serves as a director of Soluna.

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>2020</u>	<u>2019</u>
Product revenue:		
United States	\$6,670	\$4,248
Association of South East Asian Nations (ASEAN)	1,510	1,714
Europe, the Middle East and Africa (EMEA)	713	463
North America	111	129
South America	<u>—</u>	<u>17</u>
Total product revenue	<u>\$9,004</u>	<u>\$6,571</u>

Revenues are attributed to regions based on the location of customers. In 2020 and 2019, approximately 25.9% and 35.3%, respectively, of our product revenues was from customers outside of the United States.

Long-lived assets of \$847 thousand and \$174 thousand at December 31, 2020 and 2019, respectively, consist of property, plant and equipment all located within the United States.

At MTI Instruments, the largest commercial customer in 2020 was a U.S. supplier that builds and executes custom solutions for industry and government markets, which accounted for 9.1% of total product revenue. At MTI Instruments, the largest commercial customer in 2019 was a U.S. manufacturer of support solutions to the aerospace and energy markets, which accounted for 11.0% of total product revenue. The U.S. Air Force continues to be the largest government customer, accounting for 42.9% and 20.8% of total product revenue in 2020 and 2019, respectively.

The Company operates in two business segments, Test and Measurement Instrumentation and Cryptocurrency. The Test and Measurement Instrumentation segment designs, manufactures, markets and services computer-based balancing systems for aircraft engines, high performance test and measurement instruments and systems, and wafer characterization tools for the semiconductor and solar industries. The Cryptocurrency segment is focused on cryptocurrency and the blockchain ecosystem. The Company's principal operations in both segments are located in North America.

The accounting policies of the Test and Measurement Instrumentation and Cryptocurrency segments are similar to those described in the summary of significant accounting policies herein and in the Company's Annual Report. The Company evaluates performance based on profit or loss from operations before income taxes, accounting changes, items management does not deem relevant to segment performance, and interest income and expense. Inter-segment sales and expenses are not significant.

Summarized financial information concerning the Company's reportable segments is shown in the following table. The "Other" column includes corporate related items and items such as income taxes or unusual items, which are not allocated to reportable segments. In addition, segments' non-cash items include any depreciation and amortization in reported profit or loss.

(Dollars in thousands)	<u>Test and Measurement Instrumentation</u>	<u>Cryptocurrency</u>	<u>Other</u>	<u>Condensed Consolidated Totals</u>
<u>Year ended December 31, 2020</u>				
Product revenue	\$9,004	\$ —	\$ —	\$9,004
Cryptocurrency revenue	—	595	—	595
Research and product development expenses	1,491	—	—	1,491
Selling, general and administrative expenses	1,752	445	1,387	3,584
Segment profit / (loss) from operations before income taxes	2,498	(209)	(735)	1,554
Segment profit / (loss)	2,498	(209)	(343)	1,946
Total assets	2,676	1,373	4,598	8,647
Capital expenditures	30	805	—	835
Depreciation and amortization	79	80	—	159

The following table presents the details of "Other" segment loss:

(Dollars in thousands)	<u>Year Ended December 31, 2020</u>
Corporate and other (expenses) income:	
Salaries and benefits	(608)
Income tax (expense) benefit	392
Other income (expense), net	<u>(127)</u>
Total expense	<u><u>\$(343)</u></u>

15. Line of Credit

On May 7, 2020, in connection with receipt of the \$3.3 million United States Air Force delivery order, MTI Instruments obtained a \$300 thousand secured line of credit from Pioneer Bank that will, among other things, assist with MTI Instruments' timely fulfillment of the delivery order. The line of credit may be drawn in the discretion of

MTI Instruments and bears interest at a rate of Prime +1% per annum. Accrued interest is due monthly, and principal is payable over a period of 30 days following lender's demand. The line of credit is secured by the assets of MTI Instruments and is guaranteed by the Company. As of December 31, 2020, there were no amounts outstanding under the line of credit.

16. 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, 2020 and March 30, 2021, the date the financial statements were available to be issued.

On January 14, 2021, EcoChain established a subsidiary, EcoChain Wind, LLC, a Nevada limited liability company, for the purpose of acquiring real property in the Southeastern United States for purposes of building cryptocurrency mining operations at a green data center (the "Facility"). EcoChain signed an agreement, dated January 21, 2021, relating to the acquisition of this property, and closed the acquisition on March 4, 2021.

On February 22, 2021, EcoChain executed and entered into an Industrial Power Contract with a power providing cooperative pursuant to which EcoChain will be provided with electric power and energy for use in the Facility. This agreement, and the electric power and energy to be provided to EcoChain, pursuant thereto, will commence upon the completion of the Facility, which is expected to occur on or around the third or fourth quarter of 2021, and will continue for an initial term of five (5) years, with automatic renewals unless EcoChain elects to sooner terminate. EcoChain has agreed to pay the provider for the electric power and energy provided in accordance with the applicable monthly rates, charges and provisions agreed to from time to time between the power provider and the Tennessee Valley Authority ("TVA"), which is subject to modification or adjustment, from time to time, as agreed to between the power provider and the TVA.

On February 22, 2021, we filed a definitive proxy statement on Schedule 14A providing notice of a Special Meeting of Shareholders of the Company that was held on March 25, 2021 (the "Special Meeting"). The Special Meeting was held: (i) to approve the Redomestication; (ii) to approve an amendment (the "Amendment") to the Company's restated certificate of incorporation, as amended ("Certificate of Incorporation") to effect, in the discretion of the Board, a reverse stock split of the Company's common stock at any time prior to the 2022 annual meeting of shareholders at a reverse split ratio in the range of between 1-for-2 and 1-for-10, which specific ratio will be determined by our Board (the "Reverse Stock Split"). The Amendment will not be implemented and the Reverse Stock Split will not occur unless the Board determines that the Reverse Stock Split is necessary to satisfy the initial or continued listing standards or requirements of Nasdaq or another national securities exchange and it is in the best interests of the Company and its shareholders to implement the Reverse Stock Split; and to approve the adoption of the Company's 2021 Plan. At the Special Meeting on March 25, 2021, the Company's shareholders approved each of these matters.

On February 23, 2021, the Board, pursuant to its powers under the Company's Certificate of Incorporation and amended and restated by-laws ("Bylaws"), appointed William Hazelip as a member of the Board to fill an existing vacancy in the Board, effective February 23, 2021. Mr. Hazelip will serve with directors serving on the class of directors whose terms expire in 2023, and until the 2023 annual meeting of the Company's shareholders, at which time, if nominated, he will stand for election for a three-year term until the third annual meeting of the Company's shareholders following his election, or his earlier resignation, retirement, or other termination of service.

On February 24, 2021, the Board, pursuant to its powers under the Company's Certificate of Incorporation and Bylaws, appointed Alykhan Madhavji as a member of the Board to fill an existing vacancy in the Board, effective February 24, 2021. Mr. Madhavji will serve with directors serving on the class of directors whose terms expire in 2022, and until the 2022 annual meeting of the Company's shareholders, at which time, if nominated, he will stand for election for a three-year term until the third annual meeting of the Company's shareholders following his election, or his earlier resignation, retirement, or other termination of service.

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Mechanical Technology, Incorporated (MTI) was founded in 1961 by two entrepreneurial engineers dedicated to developing and commercializing new technologies.

Currently, MTI's core businesses are conducted through its wholly-owned subsidiaries, MTI Instruments, Inc. and EcoChain, Inc. MTI Instruments is engaged in the field of non-contact precision instrumentation. EcoChain is engaged in cryptocurrency mining power by renewable energy.

Board of Directors

Board Committees

David C. Michaels

Chairman of the Board

Chairman - Audit Committee

Matthew E. Lipman

Board Director

Thomas J. Marusak

Board Director

Chairman - Compensation Committee

Member - Governance and Nominating Committee

Edward R. Hirshfield

Board Director

Chairman - Governance and Nominating Committee

Member - Audit Committee

William P. Phelan, CPA

Board Director

Member - Audit Committee

Member - Compensation Committee

Michael Toporek

Board Director

William Hazelip

Board Director

Member - Governance and Nominating Committee

Member - Compensation Committee

Alykhan Madhavji

Board Director

Member - Audit Committee

Management

Michael Toporek

Chief Executive Officer

Mechanical Technology, Incorporated

Jessica L. Thomas

Chief Financial Officer

Mechanical Technology, Incorporated

MTI Instruments, Inc. EcoChain, Inc.

Moshe Binyamin

President

MTI Instruments, Inc.



EcoChain, incorporated in 2020, is engaged in cryptocurrency mining powered by 100% renewable energy. EcoChain aims to develop a network of cryptocurrency mining operations by transforming underutilized green power to create a sustainable future for the next generation of financial infrastructure.



MTI Instruments is a worldwide supplier of precision non-contact physical measurement solutions, condition based monitoring systems, portable vibration analysis and balancing equipment and semiconductor wafer inspection tools. MTI Instruments' products use a comprehensive array of technologies to solve complex real world applications in numerous industries including electronics manufacturing, semiconductor, commercial/military aviation, automotive and material manufacturing.

MTI Online:

Stockholders of MTI automatically receive the Company's annual report and proxy solicitation material enabling them to vote at the annual meeting. The 2020 annual report, Form 10-K and other investor information can be viewed online at:

www.proxyvote.com

Mechanical Technology, Incorporated Website:

www.mechtech.com



Mechanical Technology, Incorporated

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Albany, NY 12205

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Stockholder Information

To expedite requests regarding misplaced stock certificates, address changes, or the consolidation of accounts, stockholders are asked to contact the Transfer Agent:

American Stock Transfer & Trust Co LLC

6201 15th Avenue
Brooklyn, NY 11219
800.937.5449