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

FORM 10-K

(Mark One)
☒**ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended December 31, 2022
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 1-36117

inTEST Corporation
(Exact name of registrant as specified in its charter)

Delaware (State or Other Jurisdiction of Incorporation or Organization)	**22-2370659** (I.R.S. Employer Identification Number)
804 East Gate Drive, Suite 200 **Mt. Laurel, New Jersey** (Address of Principal Executive Offices)	**08054** (Zip Code)

Registrant's telephone number, including area code: (856) 505-8800

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, par value $0.01 per share	INTT	NYSE American

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

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

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 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 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 ☐	Accelerated filer ☐
Non-accelerated filer ☒	Smaller reporting company ☒
	Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial account 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. ☐

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant’s executive officers during the relevant recovery period pursuant to § 240.10D-1(b). ☐

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 computed by reference to the price at which the common equity was last sold on June 30, 2022 (the last business day of the registrant's most recently completed second fiscal quarter), was: $71,710,141.

The number of shares outstanding of the registrant's Common Stock, at March 15, 2023, was 11,121,359.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the definitive proxy statement of the Registrant for the Registrant's 2023 Annual Meeting of Stockholders, to be filed with the Securities and Exchange Commission within 120 days after the end of the fiscal year covered by this Report, are incorporated by reference into Part III of this Report.

inTEST CORPORATION
FORM 10-K
FOR THE YEAR ENDED DECEMBER 31, 2022

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Cautionary Statement Regarding Forward-Looking Statements

From time to time, we make written or oral "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, as amended, including statements contained in our filings with the Securities and Exchange Commission (the “SEC”) (including this Annual Report on Form 10-K for the year ended December 31, 2022 (this “Report”)), in our annual report to stockholders and in other communications. These statements do not convey historical information, but relate to predicted or potential future events, such as statements of our plans, strategies and intentions, or our future performance or goals, projections of revenue, taxable earnings (loss), net earnings (loss), net earnings (loss) per share, capital expenditures and other financial items, that are based on management’s current expectations and estimates. Our forward-looking statements can often be identified by the use of forward-looking terminology such as “believes,” “expects,” “intends,” “may,” “could,” “will,” “should,” “plans,” “depending,” “projects,” “forecasts,” “seeks,” “anticipates,” “goal,” “objective,” “target,” “estimates,” “future,” “outlook,” “strategy,” “vision,” or variations of such words or similar terminology. Investors and prospective investors are cautioned that such forward-looking statements are only projections based on current expectations and estimates. These statements involve risks and uncertainties and are based upon various assumptions. Such risks and uncertainties include, but are not limited to:

- our ability to execute on our 5-Point Strategy;
- our ability to grow our presence in the life sciences, security, industrial and international markets;
- the possibility of future acquisitions or dispositions and the successful integration of any acquired operations;
- the success of our strategy to diversify our business by entering markets outside the semiconductor and automated test equipment (“ATE”) markets, collectively the “semi market”;
- indications of a change in the market cycles in the semi market, or other markets we serve;
- developments and trends in the semi market, including changes in the demand for semiconductors;
- our ability to convert backlog to sales and to ship product in a timely manner;
- the loss of any one or more of our largest customers, or a reduction in orders by a major customer;
- the availability of materials used to manufacture our products;
- the impact of current global supply chain constraints or other interruptions in our supply chain caused by external factors;
- the sufficiency of cash balances, lines of credit and net cash from operations;
- stock price fluctuations;
- the ability to borrow funds or raise capital to finance potential acquisitions or for working capital;
- changes in the rate of, and timing of, capital expenditures by our customers;
- the impact of COVID-19 on our business, liquidity, financial condition and results of operations;
- effects of exchange rate fluctuations;
- progress of product development programs;
- the anticipated market for our products;
- the availability of and retention of key personnel or our ability to hire personnel at anticipated costs; and
- general economic conditions both domestically and globally.

We discuss many of these risks and uncertainties and others under Part I, Item 1A "Risk Factors," in this Report, and elsewhere in this Report. These risks and uncertainties, among others, could cause our actual future results to differ materially from those described in our forward-looking statements or from our prior results. Any forward-looking statement made by us in this Report is based only on information currently available to us and speaks to circumstances only as of the date on which it is made. We undertake no obligation to update publicly any forward-looking statements for any reason after the date of this Report to conform these statements to actual results or to changes in our expectations, except as required by law.

PART I

Item 1. BUSINESS

OVERVIEW AND STRATEGY

inTEST Corporation was incorporated in New Jersey in 1981 and reincorporated in Delaware in April 1997. The consolidated entity is comprised of inTEST Corporation and our wholly-owned subsidiaries. In this Report, "we," "us," "our," and the "Company" refer to inTEST Corporation and our consolidated subsidiaries.

We are a global supplier of innovative test and process solutions for use in manufacturing and testing across a wide range of markets including automotive, defense/aerospace, industrial, life sciences, security and semiconductors ("semi"). During the year ended December 31, 2021, we managed our business as two operating segments which were also our reportable segments and reporting units: Thermal Products ("Thermal") and Electromechanical Solutions ("EMS"). As discussed further in Note 19 to our consolidated financial statements in this Report, effective January 1, 2022, we reorganized our operating segments. Accordingly, for 2022, we have three operating segments which are also our reportable segments and reporting units: Electronic Test, Environmental Technologies and Process Technologies. Prior period information has been reclassified to be comparable to the current period's presentation.

In early 2021, we launched our 5-Point Strategy, our new corporate vision and our mission statement. Our vision is to be the supplier of choice for innovative test and process technology solutions. Our mission is to leverage our deep industry knowledge and expertise to develop and deliver high quality, innovative customer solutions and superior support for complex global challenges. We are committed to becoming recognized as a leader in our markets for design and manufacturing capabilities that help solve our customers' most complex challenges in their manufacturing and quality processes. Our products provide highly engineered, high quality and cost-effective test and process solutions which are delivered with a customer focus that are intended to drive a high level of customer satisfaction. Our strategy is to consistently develop unique and differentiated solutions through innovative new product development and acquisitions. We expect to expand our portfolio of products, services, and support to drive increased value to our customers to drive revenue and earnings growth. We believe by executing on our 5-Point Strategy, as described more fully below, that we can grow our annual revenue to between \$200 million to \$250 million by 2025, while maintaining our strong margin profile. We expect to do this through a combination of organic growth and acquisitions. Our 5-Point Strategy is as follows:

Global and Market Expansion. We believe we can provide significant and sustainable long-term growth by expanding our serviceable addressable market ("SAM") and building a larger installed product base. To capture this opportunity, we intend to make investments to drive further penetration in our existing markets. These investments may include initiatives to increase revenue both by leveraging our customer relationships to provide a broader array of our current portfolio of products to our existing customer base as well as by expanding our customer base within these markets. In addition, we intend to increase our global footprint and coverage to better serve new and existing customers. Finally, our strategy in this area includes targeting expansion into new markets with our existing product portfolio. During 2022, our businesses continued to gain new customers in both the semi market and in our other target markets and we have expanded our sales and support network to regions of the world where we identified gaps in coverage. Including the impact of the Q4 2021 acquisitions, we believe our SAM is now in excess of \$2.0 billion.

Innovation and Differentiation. Our 5-Point Strategy focuses on leveraging our engineering know-how and expertise to deliver innovative solutions which we believe will outperform those of our competitors. We continue to invest in engineering resources with the goal of developing new and unique solutions to help solve our customers' most complex challenges in their manufacturing and quality processes. Designed to be broadly applicable through more standardized platforms, these solution platforms enable late-stage configuration to address each customers' unique requirements. We believe creating more standardization to increase market availability will drive growth and reduce costs by enabling us to increase the breadth and depth of our customer base. In 2022, we launched our Eco-ThermoStream which we believe is more energy efficient and offers more advanced control technologies than competitive platforms and we expanded our automated manipulator portfolio with the mid-tier LSC model. We have also continued to see success with the adoption of our induction heating solution for Silicon-Carbide crystal growth.

Service and Support. We have strong customer relationships and believe service and support activities are valuable in strengthening customer satisfaction, loyalty and retention. Through ensuring that we serve our customers' needs, whether by expanding service coverage and decreasing response time or through expanding and enhancing service offerings, we believe we can drive revenue growth and strengthen our customer relationships. We expect to invest in resources to fill areas where we have identified gaps in service and support. We also plan to invest in technology to provide remote service capabilities to monitor the health of our products that are onsite at customer locations. As we expand our SAM and increase our market penetration, we also expect to identify opportunities to add more consumable products within our offerings. We believe that increasing the number of ways and the frequency with which we make customer contacts can drive growth in our business in the future. In 2022, we continued to expand our service partner network across the U.S., Canada and Asia. We are driving adoption of our master service agreements across our installed base to better support our customers' operations and drive customer satisfaction.

Strategic Acquisitions & Partnerships. In addition to driving organic growth, our strategy includes acquiring businesses, technologies or products that are complementary to our current product offerings. Our acquisition strategy is to add to our current solutions by expanding capabilities, such as expanded induction heating frequency or refrigeration temperature range, and to expand our geographic presence. We also will consider new technologies that replicate the highly engineered, high quality and differentiated solutions of our current product portfolio for test and process solutions. Our focus is on expanding our electronic test capabilities, widening our thermal test capabilities in areas such as environmental test, and building our processing technologies offerings with expanded imaging and heating capabilities. In 2022, we focused on the integration of the acquisitions that occurred in the fourth quarter of 2021. We continue to assess target companies to drive further inorganic growth in support of our 5-year plan.

Talent and Culture. We believe ensuring the right people are in the right roles and are empowered to deliver success is crucial to the achievement of our core strategies. In addition, we have and will continue to create a culture and environment of openness, one that is results-oriented and drives accountability across the organization. Finally, we intend to foster diversity, equity and inclusion and provide opportunities for career development so as to maximize employee engagement, all of which is necessary to achieving our corporate vision. In 2022, we added a new HR leader at the corporate level to help drive these initiatives and advance the cultural transformation that is underway.

ACQUISITIONS

In line with our 5-Point Strategy, a key element of our growth is acquisitions. During 2021, we completed three acquisitions, Z-Sciences Corp. ("Z-Sciences") (now North Sciences) on October 6, 2021, Videology Imaging Solutions Inc. and Videology Imaging Solutions (collectively, "Videology") on October 28, 2021 and Acculogic Inc. and its affiliates ("Acculogic") on December 21, 2021. These acquisitions expanded our technology offerings, diversified our markets and customers and expanded our presence into Europe. North Sciences is included in our Environmental Technologies segment, Videology is included in our Process Technologies segment and Acculogic is included in our Electronic Test segment. These acquisitions are discussed further in Note 3 to our consolidated financial statements in this Report. Their results have been included in our consolidated results as of their respective acquisition dates.

MARKETS

Overview

We are focused on specific target markets which include automotive, defense/aerospace, industrial, life sciences, security and semi. Our largest market is semi. Products and equipment sold into semi are generally delineated as being part of either "front-end" or "back-end." The roots of inTEST's engineered product history are in the back-end of semi in integrated circuit ("IC") testing.

($ in 000s)	**Years Ended**					
					Change	
	12/31/2022		**12/31/2021**		**$**	**%**
Revenue						
Semi	$ 68,422	58.6%	$ 54,937	64.7%	$ 13,485	24.5%
Industrial	10,038	8.6%	7,314	8.6%	2,724	37.2%
Automotive/EV	10,776	9.2%	6,205	7.3%	4,571	73.7%
Life Sciences	4,589	3.9%	2,353	2.8%	2,236	95.0%
Defense/Aerospace	7,006	6.0%	5,043	6.0%	1,963	38.9%
Security	3,241	2.8%	699	0.8%	2,542	363.7%
Other	12,756	10.9%	8,327	9.8%	4,429	53.2%
	$ 116,828	100.0%	$ 84,878	100.0%	$ 31,950	37.6%

During 2022, our revenue from semi grew $13.5 million or 25%, primarily reflecting growth in demand for our front-end solutions used in the wafer manufacturing process. Revenue from sales of back-end product offerings also increased year over year as we continued to expand our product offerings and customer base. The increase in back-end semi reflects the impact of Acculogic as well as the success of new product offerings and refocused sales efforts by our legacy businesses. Growth in revenue to the automotive, defense/aerospace, industrial, life sciences and security markets were all reflective of the impact of the acquisitions we completed in the fourth quarter of 2021.

<u>*Semi Market*</u>

The semi market includes both the broader semiconductor manufacturing industry as well as the more specialized wafer manufacturing (front-end) and semiconductor ATE (back-end) sectors within the broader semiconductor market. With our induction heating products, we serve the front-end of the semiconductor manufacturing process including silicon carbide ("SiC") crystal growth and epitaxial reactors. A variety of our electronic test and environmental technologies segments' products are used in the back-end of the semiconductor manufacturing process, which includes the testing of ICs.

IC Testing. Semiconductor manufacturers typically produce ICs in multiples of several hundred or more on a silicon wafer that is later separated or "diced" into individual ICs. Extended leads are then attached to the individual ICs for later connection to other electrical components. In most cases, the ICs are then encapsulated in a plastic, ceramic or other protective housing. These process steps are called "packaging."

Wafers are tested before being diced and packaged to ensure that only properly functioning ICs are packaged. This testing step has several names, including "front-end test," "wafer test," "wafer probe" or "wafer sort." In front-end test, an electronic handling device known as a wafer prober automatically positions the wafer under a probe card that is electronically connected to a "test head," which connects electrically to a test system. During front-end testing, there is a growing trend of thermally conditioning the wafer during test. Once the good ICs have been identified, they are packaged.

The packaged ICs also require testing, called "back-end test" or "final test," to determine if they meet design and performance specifications. Packaged ICs are tested after loading into another type of electronic handling device called a "package handler" or "handler," which then transfers the packaged ICs into a test socket that is attached to the test head. These handlers may be temperature controlled for testing.

Testers range in price from approximately $100,000 to over $2.0 million each, depending primarily on the complexity of the IC to be tested. Probers and handlers range in price from approximately $50,000 to $500,000 each. A typical test floor of a large semiconductor manufacturer may have 100 test heads and 100 probers or 250 handlers supplied by various vendors for use at any one time. While larger global semiconductor manufacturers typically purchase ATE to test the ICs they manufacture, there are a growing number of semiconductor manufacturers who outsource IC testing to third-party foundries, test and assembly providers.

Test head manipulators, also referred to as positioners, facilitate the movement of the test head to the electronic device handler. Docking hardware mechanically connects the test head to the wafer prober or handler. Tester interface products provide the electrical connection between the test head and the wafer or packaged IC.

Market Trends. We believe the semi market, a highly cyclical industry historically, is currently undergoing strong growth as a result of billions of dollars of investments in new fabrication (“fab”) facilities around the world. These investments are being driven by the continued growth of the use of electronics, the need for powering an ever-growing number of devices and the continued economic development of less wealthy nations. We believe the COVID-19 pandemic and geopolitical tensions have made the high concentration of semiconductor manufacturing in China and Taiwan very apparent to more wealthy nations and has spurred the investment in expansion of this industry in areas outside of these regions.

We believe that semiconductor manufacturers remain under pressure to maximize production yields and reduce testing costs. At the same time, the growing complexity of ICs has increased the difficulty of maximizing test yields. In order to address these market trends, we believe semiconductor manufacturers strive for more effective utilization of ATE, smaller test areas and increased wafer level testing which requires our differentiated solutions that include test head manipulators, test head docking stations and test interfaces. As technology advances and ICs become increasingly more complex, we believe the need for increased capabilities in the test process should drive greater demand for our equipment. We expect that more front-end testing is going to be required in order to ensure maximum yield from the massive capital investments being made in fab expansion.

Other Markets

We provide a variety of solutions to our automotive, defense/aerospace, industrial, life sciences, and security markets. We believe a number of drivers are creating more opportunity for our highly-engineered solutions in these markets.

In the automotive market, we provide solutions that help in the quality and productivity of electric vehicle (“EV”) manufacturing. Our solutions include induction heating solutions for motor manufacturing and automated test equipment for battery cells. We believe there is a strong global growth trend in EVs and that our differentiated solutions can be applied with more customers in more geographic regions.

In the defense/aerospace industry, we provide ATE to prime and subcontract manufacturers to ensure quality control is maintained while also providing quicker, more accurate test times of electronic circuit boards.

In the life sciences industry, we provide image capture products, heating systems for medical device manufacturing and equipment for critical applications within the medical cold chain for pharmaceuticals.

In the security industry, our image capture and data management technologies are used in a broad variety of applications.

The industrial market is the broadest, most diverse area we serve with a majority of our products serving a variety of applications. Applications for our induction heating products include annealing, bonding, brazing, curing, forging, heat treating, melting and shrink-fitting. Applications for our thermal test and process products include pressure-sensor testing and cold-trap cooling for industrial processes. We believe the trend toward the use of green energy, automation, increased productivity and expanding manufacturing technology present opportunities for us to help our customers solve their complex challenges.

OUR SOLUTIONS

We focus our development efforts on designing and producing high quality products that provide superior performance and cost-effectiveness. We seek to address each manufacturer's individual needs through innovative and customized designs, use of the best materials available, quality manufacturing practices and personalized service. We design solutions to overcome the evolving challenges facing the semi market and other markets that we serve, which we believe provide the following advantages:

Temperature-Controlled Testing. Our ThermoStream(R) products are used by manufacturers in a number of markets to stress test a variety of semiconductor and electronic components, printed circuit boards and sub-assemblies. Factors motivating manufacturers to use temperature testing include design characterization, failure analysis and quality control, as well as determining performance under extreme operating temperatures, all of which contribute to manufacturing cost savings. Our thermal platforms and temperature chambers, sold under our Sigma Systems product line, can accommodate large thermal masses and are found in both laboratory and production environments. Thermonics' products provide a range of precision temperature forcing systems and have been melded into Temptronic's ATS ThermoStream product line. The Thermonics brand is now used to market a family of process chillers for test and industrial applications.

Ultra-Cold Storage Solutions. With our acquisition of Z-Sciences (now North Sciences) we have expanded our product offerings to include high-performance biomedical freezer, refrigerators and mobile storage solutions that meet versatile applications, including ultra-cold storage solutions for biological sample banks, blood safety, vaccine safety, medical supplies and reagent safety.

Induction Heating. Our induction heating products are used in process applications where precision-controlled heating is needed. Customers use our induction heating products in conjunction with other technologies in various manufacturing environments to improve production efficiencies and reduce or eliminate greenhouse gas emissions. Applications for our EKOHEAT(R) or EASYHEAT™ induction heating products include annealing, bonding, brazing, curing, forging, heat treating, melting, shrink-fitting, crystal growing, semi-wafer heating and material testing.

Digital Streaming and Image Capturing Solutions. Our acquisition of Videology added industrial-grade circuit board mounted digital imaging solutions, Zoom Block cameras and complete image capture systems. Videology also offers OEMs imaging solutions designed to the customers’ specifications and that can interface with the customers’ software.

Scalable, Universal, High Performance Interface Technology. Our universal test head manipulators provide a high degree of positioning flexibility with a minimum amount of effort. As a result, our products can be used in virtually any test setting. Our manipulator products are designed to accommodate the increased size of test heads. Our docking hardware products offer precise control over the connection to test sockets, probing assemblies and interface boards, reducing downtime and minimizing costly damage to fragile components. Our newest manipulator and docking hardware designs offer automated capabilities that allow for reduced downtime and increased productivity through predictable and repeatable production setup with reduced risk of operator error. Our tester interface products optimize the integrity of the signals transmitted between the test head and the device under test by being virtually transparent to the test signals, which results in increased accuracy of the test data and may thus enable improved test yields.

Compatibility and Integration. A hallmark of our products has been, and continues to be, compatibility with a wide variety of ATE. Our manipulator and docking hardware products are all designed to be used with otherwise incompatible ATE. We believe this integrated approach to ATE facilitates smooth changeover from one tester to another, longer lives for interface components, better test results, increased ATE utilization and lower overall test costs.

Robotics-Based Electronic Production Test Equipment. Our acquisition of Acculogic adds to our electronic test platform offerings beyond those which exclusively serve semi. Acculogic designs and manufactures robotics-based electronic production test equipment and provides application support services which are sold to electronic manufacturers including OEM and contract electronic manufacturers as well as battery manufacturers.

Worldwide Customer Service and Support. We have long recognized the need to maintain a physical presence near our customers' facilities. At December 31, 2022, we had manufacturing facilities in the U.S. in Massachusetts, New Jersey, and New York as well as outside the U.S. in Canada, Germany and the Netherlands. We provided service to our customers from sales and service personnel based in the U.S., Europe and Asia. Our engineers are easily accessible to, and can work directly with, most of our customers from the time we begin developing our initial proposal, through the delivery, installation and use of the product by our customer. In this way, we are able to develop and maintain close relationships with our customers.

OUR SEGMENTS

As noted above, during the year ended December 31, 2021, we managed our business as two operating segments, Thermal and EMS. Effective January 1, 2022, we reorganized our operating segments. Accordingly, for 2022, we have three operating segments which are also our reportable segments and reporting units: Electronic Test, Environmental Technologies and Process Technologies. Prior period information has been reclassified to be comparable to the current period’s presentation.

Our Electronic Test segment consists of (i) inTEST EMS which has operations in New Jersey and California, and (ii) Acculogic, which has operations in Canada, California and Germany. Semiconductor manufacturers use our inTEST EMS solutions in back-end testing where our mechanical and electrical products serve production testing of wafers and specialized packaged ICs. These ICs include microprocessors, digital signal processing chips, mixed signal devices, MEMS (Micro-Electro-Mechanical Systems), application specific ICs and specialized memory ICs, and are used primarily in the automotive, consumer electronics, industrial, and mobile communication markets. Our products are a combination of standard designs based on industry requirements and those designed specifically to meet a customer's particular combination of ATE. With the acquisition of Acculogic, our Electronic Test segment now also includes robotics-based electronic test equipment and application support services used primarily in defense/aerospace, automotive, battery, life sciences and electronic manufacturing services industries.

Our Environmental Technologies segment consists of inTEST Thermal Solutions (“iTS”), which manufactures and sells products under the Temptronic, Sigma, Thermonics and North Sciences brand names and has operations in Massachusetts, Germany and Singapore. Customers use the thermal solutions produced by iTS for product development, characterization and production test. This segment also offers ultra-cold storage solutions for the life sciences cold chain market. Our Environmental Technologies segment provides these solutions across an array of markets including automotive, defense/aerospace, industrial, life sciences and semiconductor.

Our Process Technologies segment consists of (i) Ambrell which has operations in New York, the Netherlands and the U.K and (ii) Videology, which has operations in Massachusetts and the Netherlands. Ambrell provides customers with induction heating solutions for a wide variety of manufacturing processes. Videology is a designer, developer and manufacturer of digital streaming and image capturing solutions. Our Process Technologies segment provides these solutions across an array of markets including automotive, defense/aerospace, industrial, life sciences, security and semiconductor.

Electronic Test Products

Manipulator Products. We offer three lines of manipulator products: the in2(R), the Cobal and the LS Series. These free-standing universal manipulators can hold a variety of test heads and enable an operator to reposition a test head for alternate use with any one of several probers or handlers on a test floor.

Our manipulator products incorporate a balanced floating-head design. This design permits a test head weighing up to 1,760 pounds to be held in an effectively weightless state, so it can be moved manually or with optional powered assistance, up or down, right or left, forward or backward and rotated around each axis (known as six degrees of motion freedom) by an operator using a modest amount of force or with a computer controlled pendant. The same design features enable the operator to dock the test head without causing inadvertent damage to the fragile electrical contacts. As a result, after testing a particular production lot of ICs, the operator can quickly and easily disconnect a test head that is held in an in2(R) or Cobal Series manipulator and equipped with our docking hardware and dock it to another electronic device handler for testing either a subsequent lot of the same packaged ICs or to test different ICs. With the LS Series manipulators, the undocking, movement of the test head and redocking can be done automatically through the computer controlled pendant. Our manipulator products generally range in price from approximately $12,000 to $85,000.

Docking Hardware Products. We offer two lines of docking hardware products: fixed manual docking and IntelliDock pin and cup docking. Both types protect the delicate interface contacts and ensure proper repeatable and precise alignment between the test head's interface board and the prober's probing assembly or the handler's test socket as they are brought together, or "docked." Fixed manual docking includes a mechanical cam mechanism to dock and lock the test head to the prober or handler. IntelliDock is an automated docking solution that provides operator feedback for each docking step via a touchscreen display, and when coupled with the LS Series manipulator, redeployment of the test head can be done automatically and accurately via the computer pendant. Both types of docking hardware products eliminate motion of the test head relative to the prober or handler once docked. This minimizes deterioration of the interface boards, test sockets and probing assemblies that is caused by constant vibration during testing. Our docking hardware products are used primarily with floating-head universal manipulators when maximum mobility and inter-changeability of handlers and probers between test heads is required. By using our docking hardware products, semiconductor manufacturers can achieve cost savings through improved ATE utilization, improved accuracy and integrity of test results, optimized floor support and reduced repairs and replacements of expensive ATE interface products.

We believe our docking hardware products offer our customers the ability to make various competing brands of test heads compatible with various brands of probers and handlers by only changing interface boards. This is called "plug-compatibility." Plug-compatibility enables increased flexibility and utilization of test heads, probers and handlers purchased from various ATE manufacturers. We believe that because we do not compete with ATE manufacturers in the sale of probers, handlers or testers, ATE manufacturers are willing to provide us with the information that is integral to the design of plug-compatible products. Our docking hardware products generally range in price from approximately $2,000 to $25,000.

Interface Products. Our tester interface products provide the electrical connections between the tester and the wafer prober or IC handler to carry the electrical signals between the tester and the probe card on the prober or the test socket on the handler. Our designs optimize the integrity of the transmitted signal. Therefore, our tester interfaces can be used with high speed, high frequency, digital or mixed signal testers used in testing more complex ICs. Because our tester interface products enable the tester to provide more reliable yield data, our interfaces may also reduce IC production costs. We design standard and modular interface products to address most possible tester/prober combinations on the market today. In addition, we provide a custom design service that will allow any of our customers to use virtually any tester, prober or handler combination with any type of device, such as analog, digital, mixed signal and radio frequency. For example, our Centaur(R) modular interface is designed to provide flexibility and scalability through the use of replaceable signal modules which can be easily changed on the test floor as our customers' testing requirements change. In addition to the Centaur(R) modular interface, we also offer over 200 different types of tester interface models that we custom designed for our customers' specific applications. These tester interface products generally range in price from approximately $7,000 to $175,000.

Acculogic Scorpion Flying Probe Test Systems. Acculogic designs and manufactures robotics-based electronic test equipment and provides application support services for OEMs, contract electronic manufacturers and battery manufacturers. These systems are used to structurally test an electronic device. Structural testing is a confirmation that the device was manufactured properly. Acculogic’s Scorpion Flying Probe system can be quickly programmed to test almost any printed circuit board. This programming is quickly done with a digitized drawing of the device to be tested. Traditional in-circuit testing systems require a dedicated fixture for each board to be tested. Acculogic’s Flying Probe system can test a virtually unlimited number of boards without any hardware modifications. These systems generally sell for between $200,000 and $600,000.

Acculogic BRiZ Automated Test and Programming Services: BRiZ is an automated test platform that can consolidate any variety of circuit board test and programming into a single, compact, low-cost test station. These platforms generally sell for between $50,000 and $250,000.

Environmental Technologies Products

ThermoStream(R) Products: Our ThermoStream(R) products are used in the semi market as a stand-alone temperature management tool, or in a variety of electronic test applications as part of our MobileTemp systems. ThermoStream(R) products provide a source of heated and cooled air that can be directed over the component or device under test. These systems are capable of controlling temperatures to within +/- 0.1 degree Celsius over a range of -100 degrees Celsius to as high as +300 degrees Celsius within 1.0 degree Celsius of accuracy. As a stand-alone tool, ThermoStreams(R) provide a temperature-controlled air stream to rapidly change and stabilize the temperature of packaged ICs and other devices.

Our MobileTemp Series combines our ThermoStream(R) products with our family of exclusive, high-speed ThermoChambers to offer thermal test systems with fast, uniform temperature control in a compact package enabling temperature testing at the test location. MobileTemp Systems are designed specifically for small thermal-mass applications beyond the semi market and have found application in the automotive, electronic, fiber optic and oil field service markets testing such things as electronic sub-assemblies, sensor assemblies, and printed circuit boards.

Traditionally, our customers use ThermoStream(R) products primarily in engineering, quality assurance and small-run manufacturing environments. ThermoStream(R) and MobileTemp products generally range in price from approximately $15,000 to $55,000.

Thermal Chambers: Our thermal chamber products are available in a variety of sizes, from small bench-top units to chambers with internal volumes of twenty-seven cubic feet and greater and with temperature ranges as wide as from -190 degrees Celsius to +500 degrees Celsius. Chambers can be designed to utilize liquid nitrogen or liquid carbon dioxide cooling or mechanical refrigeration, and sometimes both. These chambers can accommodate large thermal masses and are found in both laboratory and production environments. Chambers are generally priced from $18,000 to $150,000.

Thermal Platforms: Our thermal platforms are available in surface sizes ranging from 7.2 square inches to 616 square inches. They provide a flat, thermally conductive, precisely temperature controllable surface that is ideal for conditioning of testing devices with a flat surface. Platforms are available with temperature ranges as broad as -100 degrees Celsius to +250 degrees Celsius. Thermal platforms can be designed to utilize either liquid nitrogen or liquid carbon dioxide cooling or mechanical refrigeration. Platforms offer virtually unimpeded access to the device under test and their easy access and compact size makes them ideal for convenient bench-top use. Platforms are generally priced from $6,500 to $65,000.

Thermonics(R) Products: Our Thermonics temperature conditioning products, which include our process chillers, provide tempered gas or fluid to enable customers to maintain desired thermal conditions within their tool or process. Applications include general industrial, chemical processing, energy, electronics, automotive, defense/aerospace and semiconductor markets. Prices generally range from $25,000 to greater than $300,000.

Ultra-Cold Storage Solutions: Our high-performance biomedical freezers, refrigerators and mobile storage solutions meet versatile applications, including ultra-cold storage solutions for biological sample banks, blood safety, vaccine safety, medical supplies and reagent safety. Prices generally range from $1,500 to $20,000.

Process Technologies Products

EKOHEAT(R) Products: Our EKOHEAT(R) induction heating systems with power ratings from 10kW to 1 MW are manufactured by Ambrell and are used to conduct fast, efficient, repeatable non-contact heating of metals or other electrically conductive materials in order to transform raw materials into finished parts. Prices generally range from $25,000 to $250,000.

EASYHEAT™ Products: Our compact EASYHEAT™ induction heating systems with power ratings from 0.5kW to 10kW are manufactured by Ambrell and used to conduct fast, efficient, repeatable non-contact heating of metals or other electrically conductive materials in order to transform raw materials into finished parts. Prices generally range from $5,000 to $25,000.

Applications for both EKOHEAT(R) and EASYHEAT™ products include annealing, bonding, brazing, curing, forging, heat treating, melting, shrink-fitting, soldering and testing.

Digital Streaming and Image Capturing Solutions. Our industrial-grade imaging solutions are designed and manufactured by Videology. They provide custom solutions for OEMs and end users and specialize in meeting customer's design specifications for imaging systems. Per unit prices for these products can range from less than $100 to as much as $5,000 for a single unit. These products are generally purchased in higher volumes than our other products.

Financial Information About Operating Segments and Geographic Areas

Please see Note 19 to the consolidated financial statements included in Item 8 of this Report for additional data regarding revenue, profit or loss and total assets of each of our segments and revenue attributable to foreign countries.

MARKETING, SALES AND CUSTOMER SUPPORT

We market and sell our products globally and across multiple markets, as previously discussed. North American and European semiconductor manufacturers, as well as third-party foundries, test and assembly providers, have located most of their back-end factories in Southeast Asia. The front-end wafer fabrication plants of U.S. semiconductor manufacturers are primarily in the U.S. Likewise, European, Taiwanese, South Korean and Japanese semiconductor manufacturers generally have located their wafer fabrication plants in their respective countries.

Electronic Test Products: In North America, we sell our inTEST EMS products to semiconductor manufacturers through internal account representatives and independent, commissioned sales representatives. North American sales representatives also coordinate product installation and support with our technical staff and participate in trade shows.

Our internal sales account managers handle sales to ATE manufacturers and are responsible for a portfolio of customer accounts and for managing certain independent sales representatives. In addition, our sales account managers are responsible for pricing, quotations, proposals and transaction negotiations, and they assist with applications engineering and custom product design. Technical support is provided to North American customers and independent sales representatives by employees based in New Jersey, California and Texas.

In Europe, we sell to semiconductor and ATE manufacturers through our internal sales staff. Technical support is provided by our staff in the U.K. In China, Japan, the Philippines, South Korea, and Thailand, we sell through the use of independent sales representatives who are supervised by our internal sales staff. In Malaysia, Singapore and Taiwan, our sales are handled by our internal sales staff. International sales representatives are responsible for sales, installation, support and trade show participation in their geographic market areas. Technical support is provided to Asian customers primarily by employees based in Malaysia, the Philippines and Taiwan.

Our robotics-based electronic test equipment and automated test programming services are sold in North America through a combination of internal sales staff and manufacturer representatives. Customer support is supplied by a team located throughout North America. In Europe, these products and services are sold through manufacturer representatives and supported with direct employees based in our Hamburg, Germany facility. In Asia, these products and services are sold through a mixture of distributors and manufacturer representatives. Customer support is provided by trained distributors and supplemented by direct employees from North America and Europe.

Environmental Technologies Products: We market our Temptronic, Sigma Thermonics, and North Sciences (formerly Z-Sciences) brands under the umbrella name of inTEST Thermal Solutions and sales to ATE manufacturers are handled directly by our own sales force. Sales to life sciences customers worldwide are handled directly by our own sales force or by our network of independent representatives and distributors. Sales to semiconductor manufacturers and customers in other markets in the U.S. are handled through independent sales representative organizations. In Singapore and Malaysia, our sales and service are handled through our internal sales and service staff. In the rest of Asia, our sales are handled through distributors. In Europe, sales managers at our office in Germany, as well as regional distributors and independent sales representatives, sell to semiconductor manufacturers and customers in other markets. We communicate with our distributors regularly and have trained them to sell and service our thermal products.

Process Technologies Products: We market our EASYHEAT™ and EKOHEAT(R) precision induction heating equipment to manufacturers who require specialized industrial heating in a wide array of industries, including automotive, aerospace and semiconductor, and are sold globally through a combination of regional sales managers and independent distributors. In North America, direct regional sales managers provide sales coverage augmented by independent sales representatives. In Europe, direct sales managers provide sales coverage augmented by independent distributors. In Asia, distributors have responsibility for sales and service of our products. We generate a significant portion of our sales leads through our website as well as through trade show attendance where we display our products and technology.

We also provide induction heating product support through our SmartCARE Service offering, which includes equipment repairs and training, preventative maintenance, enhanced warranties and spare parts. Our field service engineers, located in the U.S. and Europe, provide service and support globally. Additionally, a number of distributors in Europe and Asia have factory-trained service technicians.

We market our Videology industrial camera solutions to OEMs and end users both directly and through distributors. We have both manufacturing and service capabilities in the U.S. and the Netherlands. We acquire our sales from repeat long-term customers, new leads through our website, regional sales managers and distributors as well as through trade show attendance where we display our products and technology.

CUSTOMERS

We market our products to end users including semiconductor manufacturers, third-party foundries and test and assembly providers, as well as to OEMs, which include ATE manufacturers and their third-party outsource manufacturing partners. We also market our products to independent testers of semiconductors, manufacturers of automotive, defense/aerospace, industrial, life sciences and security products, semiconductor research facilities, and manufacturers and manufacturing process integrators for a variety of industrial process applications. Our customers use our products principally in production testing or process/manufacturing applications, although our ThermoStream(R) products traditionally have been used largely in engineering development and quality assurance. We believe that we sell to most of the major semiconductor manufacturers in the world.

During the year ended December 31, 2022, no customer accounted for 10% or more of our consolidated revenue. During the year ended December 31, 2021, one customer accounted for 13% of our consolidated revenue. This revenue was primarily generated by our Electronic Test segment. During the year ended December 31, 2021, no other customer accounted for 10% or more of our consolidated revenue. Our ten largest customers accounted for approximately 43% of our consolidated revenue in each of the years ended December 31, 2022 and 2021.

An important aspect of our 5-Point Strategy includes broadening and diversifying our customer base. We plan to do this both through acquisitions as well as through leveraging current customer relationships, increasing our portfolio of product offerings and expanding our global footprint to better serve existing and new customers. The list of our largest customers in any given period continues to shift as we advance the applications of our technologies, acquire new technologies and grow the business. The loss of any one or more of our largest customers, or a reduction in orders by a major customer, could materially reduce our revenue or otherwise materially affect our business, financial condition or results of operations.

MANUFACTURING AND SUPPLY

At December 31, 2022, our principal manufacturing operations consisted of assembly and testing at our facilities in in the U.S. (Massachusetts, New Jersey and New York), Canada, Germany and the Netherlands. We assemble most of our products from a combination of standard components and custom parts that have been fabricated to our specifications by either third-party manufacturers or our own facilities. Our practice is to use high quality raw materials and components in our products. The primary raw materials used in fabricated parts are widely available. Substantially all of our components are purchased from multiple suppliers; however, certain raw materials and components are sourced from single suppliers. Although, from time to time, certain components may be in short supply due to high demand or inability of vendors to meet quality or delivery requirements, we believe that all materials and components are available in adequate amounts from other sources.

We conduct inspections of incoming raw materials, fabricated parts and components using sophisticated measurement equipment. This includes testing with coordinate measuring machines in all but one of our manufacturing facilities to ensure that products with critical dimensions meet our specifications. We have designed our inspection standards to comply with applicable MIL specifications and ANSI standards.

Each of our Massachusetts, New York, and Canada facilities is ISO 9001:2015 certified. Our New Jersey facility manufactures products only for the semiconductor industry where ISO certification is not required, so we do not maintain any ISO certifications there. However, this location does employ the practices embodied in the ISO 9001:2008.

Our Massachusetts facility and our Acculogic office in CA are ITAR compliant enabling them to support the specific requirement of the U.S. Department of Defense. Our Canadian facility is compliant with the Canadian version of ITAR, enabling them to support the Canadian Department of Defense.

ENGINEERING AND PRODUCT DEVELOPMENT

Our success depends on our ability to provide our customers with products and solutions that are well engineered and to design those products and solutions before, or at least no later than, our competitors. At December 31, 2022, we employed a total of 77 engineers engaged in engineering and product development. In addition, when the demands of engineering and product development projects exceed the capacity or knowledge of our in-house staff, we retain temporary third-party engineering and product development consultants to assist us. Our practice in many cases is to assign engineers to work with specific customers, thereby enabling us to develop the relationships and exchange of information that is most conducive to successful product development and enhancement. In addition, some of our engineers are assigned to new product research and development and have worked on such projects as the development of new types of universal manipulators, the redesign and development of new thermal products and the development of high-performance interfaces.

Since most of our products are customized, we consider substantially all of our engineering activities to be engineering and product development. In the years ended December 31, 2022 and 2021, we spent approximately $7.5 million and $5.5 million, respectively, on engineering and product development.

PATENTS AND OTHER PROPRIETARY RIGHTS

We intend to protect our technology by filing patent applications for the technologies that we consider important to our business. We also rely on trademarks, trade secrets, copyrights and unpatented know-how to protect our proprietary rights.

We believe our intellectual property has value, and we have taken in the past, and will take in the future, actions we deem appropriate to protect such property from misappropriation. There can be no assurance, however, that such actions will provide meaningful protection from competition. In the absence of intellectual property protection, we may be vulnerable to competitors who attempt to copy or imitate our products or processes. For additional information regarding risks related to our intellectual property, see Part I, Item 1A "Risk Factors" in this Report.

While we believe that our patents and other proprietary rights are important to our business, we also believe that, due to the rapid pace of technological change in the markets we serve, the successful manufacture and sale of our products also depends upon our engineering, manufacturing, marketing and servicing skills.

It is our practice to require that all of our employees and third-party product development consultants assign to us all rights to inventions or other discoveries relating to our business that were made while working for us. In addition, all employees and third-party product development consultants agree not to disclose any private or confidential information relating to our technology, trade secrets or intellectual property.

At December 31, 2022, we held 49 active U.S. patents and had three pending U.S. patent applications covering various aspects of our technology. Our U.S. patents expire at various times beginning in 2023 and extending through 2042. During 2022, two U.S. patents were issued and seven U.S. patents expired. We do not believe that the upcoming expiration of certain of our patents in 2023 will have a material impact on our business. We also hold foreign patents and file foreign patent applications, in selected cases corresponding to our U.S. patents and patent applications, to the extent management deems appropriate.

COMPETITION

We operate in an increasingly competitive environment within all of our operating segments. Some of our competitors have greater financial resources and more extensive design and production capabilities than us. Certain markets in which we operate have become more fragmented, with smaller companies entering the market. These new smaller entrants typically have much lower levels of fixed operating overhead than us, which enables them to be profitable with lower priced products. In order to remain competitive with these and other companies, we must continue to commit a significant portion of our personnel, financial resources, research and development and customer support to developing new products and maintaining customer relationships worldwide.

Our competitors include independent manufacturers, ATE manufacturers and, to a lesser extent, semiconductor manufacturers' in-house ATE interface groups. Competitive factors in the markets we serve include price, functionality, timely product delivery, customer service, applications support, product performance and reliability. We believe that our long-term relationships with our customers in the various markets we support and our commitment to, and reputation for, providing high quality products, are important elements in our ability to compete effectively in all of our markets.

Our principal competitors for manipulator products are Advantest Corporation, Esmo AG, Reid-Ashman Manufacturing and Teradyne, Inc. Our principal competitors for docking hardware products include Advantest Corporation, Esmo AG, Reid-Ashman Manufacturing and Teradyne, Inc. Our principal competitors for tester interface products are Advantest Corporation, Esmo AG, Reid-Ashman Manufacturing and Teradyne, Inc. Our principal competitors for Acculogic products are Digitaltest GmbH, Seica S.P.A., SPEC S.P.A., and Takaya Corporation.

Our principal competitors for Thermostream(R) products are FTS Systems, a part of SP Industries, and MPI Corporation. Our principal competitors for environmental chambers are Cincinnati Sub-Zero Products, Inc., Espec Corp. and Thermotron Industries. Our principal competitor for thermal platforms is Environmental Stress Systems Inc. Our principal competitors for liquid chillers include Huber Kältemaschinenbau AG, Julabo GmbH, Boyd Corporation, and Advanced Thermal Sciences Corporation. Our principal competitors for life sciences products include Panasonic Health Care Holdings Corporation, Haier Group Corporation, Thermo Fisher Scientific Corporation, and Eppendoerf AG.

Our principal competitors for EKOHEAT(R) and EASYHEAT™ products are Inductotherm Corporation, Park-Ohio Holdings, EFD Induction Corporation, Trumpf Huettinger GmbH, Ultraflex Power Technologies and CEIA SpA. Our digital streaming and image capturing solutions products compete in a large space with multiple small competitors. There is no competitor that has over 5% share of the current market.

BACKLOG

At December 31, 2022, our backlog of unfilled orders for all products was $46.8 million compared with $34.1 million at December 31, 2021. Our backlog consists of purchase orders that we have accepted, substantially all of which we expect to deliver in 2023. While backlog is calculated on the basis of firm purchase orders, a customer may cancel an order or accelerate or postpone currently scheduled delivery dates. Our backlog may be affected by the tendency of customers to rely on shorter lead times available from suppliers, including us, in periods of depressed demand. In periods of increased demand, there is a tendency towards longer lead times, which has the effect of increasing backlog. As a result of these factors, our backlog at a particular date is not necessarily indicative of sales for any future period. See also the discussion of backlog in Part II, Item 7 under "Orders and Backlog."

EMPLOYEES

At December 31, 2022, we had 346 employees (327 of which were full-time), including 161 in manufacturing operations, 139 in customer support/operations and 46 in administration. Substantially all of our key employees are highly skilled and trained technical personnel. None of our employees are represented by a labor union, and we have never experienced a work stoppage. From time to time, we retain third-party contractors to assist us in manufacturing operations and engineering and product development projects.

COVID-19 PANDEMIC

We are following the guidance of the Centers for Disease Control and Prevention (the "CDC") and the local regulatory authorities in regions outside the U.S. While we are no longer requiring employees to wear masks indoors in our domestic locations or conducting temperature screenings, we are encouraging all employees to receive COVID-19 vaccinations and boosters, if possible, and to stay home if they feel sick. We are continuing to allow employees to work remotely either part-time or full-time in circumstances when possible. We continue to monitor the situation closely in the regions in which we operate in the U.S. and abroad and will adjust our operations as necessary to protect the health and well-being of our employees. To the extent that further governmental mandates or restrictions are implemented in the future, we currently expect to be able to continue to operate our business in a manner similar to how we have operated over the past three years.

ADDITIONAL INFORMATION

Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, and amendments to these reports that are filed with the SEC pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended ("Exchange Act"), are available free of charge through our website (www.intest.com) as soon as reasonably practicable after we electronically file them with, or furnish them to, the SEC. We also routinely post press releases, presentations, webcasts and other information regarding the Company on our website. The information posted to our website is not part of this Report.

Item 1A. RISK FACTORS

The following are some of the factors that could materially and adversely affect our future performance or could cause actual results to differ materially from those expressed or implied in our forward-looking statements. The risks and uncertainties described below are not the only risks facing us and we cannot predict every event and circumstance that may adversely affect our business. However, these risks and uncertainties are the most significant factors that we have identified at this time. If one or more of these risks actually occurs, our business, results of operations and/or financial condition could suffer, and the price of our stock could be negatively affected.

RISKS RELATED TO OUR ACQUISITION AND GROWTH STRATEGY

We seek to grow our business through the acquisition of additional businesses. If we are unable to do so, our future rate of growth may be reduced or limited. We may incur significant expenses related to due diligence or other transaction-related expenses for a proposed acquisition that may not be completed.

A key element of our growth strategy is to acquire businesses, technologies or products that are complementary to our current product offerings. For example, we completed the acquisitions of Z-Sciences (now North Sciences), Videology and Acculogic in 2021. We seek to make additional acquisitions that will further expand our product lines as well as strengthen our positions in served markets and provide expansion into new markets. We may not be able to execute our acquisition strategy and our future growth may be limited if:

- we are unable to identify suitable businesses, technologies or products to acquire;
- we do not have sufficient cash or access to required capital at the necessary time;
- we are unwilling or unable to outbid larger companies with greater resources; or

- we are unable to successfully close proposed acquisitions.

We may incur significant expenses related to due diligence or other transaction-related expenses for a proposed acquisition that may not be completed, which may have a material adverse effect on our financial condition and results of operations.

Our acquisition strategy involves financial and management risks which may adversely affect our results in the future.

With respect to the acquisitions we completed in 2021 and if we acquire additional businesses, technologies or products, we will face the following additional risks:

- acquisitions could divert management's attention from daily operations or otherwise require additional management, operational and financial resources;
- we might not be able to integrate acquisitions into our business successfully or operate acquired businesses profitably;
- we may realize substantial acquisition related expenses that would reduce our net earnings in future years;
- we may not realize the expected benefits of such acquisitions;
- our investigation of potential acquisition candidates may not reveal problems and liabilities of the companies and businesses that we acquire;
- any acquisitions may pose risks associated with entry into new geographic markets, including outside the U.S., distribution channels, lines of business or product categories, where we may not have significant or any prior experience and where we may not be as successful or profitable as we are in businesses and geographic regions where we have greater familiarity and brand recognition;
- an acquisition may result in disparate information technology, internal control, financial reporting and record-keeping systems;
- an acquisition may result in employee anxiety, morale and/or engagement issues and employees not familiar with our business;
- an acquisition may result in the loss of our or the acquired company's key personnel, customers, distributors or suppliers; and
- we may become exposed to litigation or claims associated with an acquisition.

If any of the events described above occur, our earnings could be reduced and may adversely affect our financial condition, results of operations and ability to grow our business or otherwise achieve our financial and strategic objectives. If we issue shares of our stock or other rights to purchase our stock in connection with any future acquisitions, the issuance will dilute our existing stockholders' interests and our earnings per share may decrease. If we issue or incur debt in connection with any future acquisitions, lenders may require that we pledge our assets to secure repayment of such debt and impose covenants on us, which could, among other things, restrict our ability to increase capital expenditures or to acquire additional businesses.

We may attempt to acquire a business that would require us to issue equity or incur significant debt from third parties. If we are unable to secure sufficient financing at terms that are acceptable to us, we may not be able to close the proposed acquisition. Additionally, should we incur significant debt, we may not be able to achieve compliance with all covenants related to the debt depending on our financial results in future periods.

In connection with our acquisition strategy, we may pursue potential acquisition opportunities which could require us to issue equity or obtain significant third-party financing to close the proposed transaction. We may encounter difficulties in securing necessary financing at terms that would be acceptable to us and may not be able to close on the proposed acquisition. In addition, should we incur significant third-party debt, our future financial results may be negatively impacted by external factors, such as an economic recession, which may impact our ability to achieve compliance with any covenants related to the debt as well as make the required payments under the terms of the indebtedness.

We may acquire businesses in the future and utilize an earnout structure as we have done in prior transactions we have closed. In connection with the earnout, we may be required to accrue significant increases or decreases to the contingent consideration liability we would establish. These adjustments to the contingent consideration liability could cause our results of operations to have increased variability, which may negatively impact our stock's trading price.

We may utilize an earnout structure on future acquisitions as we have done in prior transactions we have closed. The initial contingent consideration liability is established as part of the accounting for the business combination. In subsequent periods, we are required to estimate the fair value of the contingent consideration associated with any earnout on a quarterly basis and record an adjustment to the contingent consideration liability in our results of operations for the period concerned. The contingent consideration adjustment we record quarterly may cause increased variability in our future results of operations, which may cause fluctuations in our stock price.

In connection with our acquisition of Acculogic we have recorded a contingent consideration liability that represents the fair value of additional payments we may make to the seller of up to an additional CAD $5.0 million in the five-year period from 2022 through 2026. The additional payments will be based on a percent of net invoices for which payments have been received on systems sold to EV or battery customers in excess of CAD $2.5 million per year in each of the five years. The maximum payment is capped at CAD $5.0 million, which equates to approximately USD $3.7 million at December 31, 2022. There were no payments due for the year ended December 31, 2022. The fair value of this contingent consideration liability involves assessing the total amount of revenue we expect from sales to EV or battery customers during the applicable time periods as well as when we expect to receive payment for the related net invoices. At December 31, 2022, the contingent consideration liability on our balance sheet was USD $1.4 million which was its estimated fair value at that date. Any future adjustments to the estimated fair value of the contingent liability will be recorded in our results of operations for the period in which the adjustment occurs.

We may not be able to effectively manage our growth and operations, which could materially and adversely affect our business.

As we implement our business strategy as intended, we have and may in the future experience rapid growth and development in a relatively short period of time. The management of this growth will require, among other things, continued development of our financial and management controls and management information systems, stringent control of costs, the ability to attract and retain qualified management personnel and the training of new personnel. Failure to successfully manage our possible growth and development could have a material adverse effect on our business.

There is a risk that some or all of the anticipated strategic and financial benefits may fail to materialize, may not continue on their existing terms, or may not occur within the time period anticipated. Although we have conducted due diligence with respect to material aspects of the development of our business, there is no certainty that our due diligence procedures will reveal all of the risks and liabilities associated with our current plans. Although we are not aware of any specific liabilities, such liabilities may be unknown and, accordingly, the potential monetary cost of such liability is also unknown.

We may fail to effectively integrate acquired businesses into our operations or otherwise fail to realize the anticipated benefits of the acquisitions.

If we fail to accurately assess and successfully integrate any recent or future acquisitions, we may not achieve the anticipated benefits, which could result in lower revenue, unanticipated operating expenses, and increased losses. Successful integration involves many challenges, including:

- the difficulty of integrating acquired operations and personnel with our existing operations;
- the difficulty of developing, manufacturing, and marketing new products and services;
- the diversion of our management’s attention as a result of evaluating, negotiating and integrating acquisitions;
- in some cases, our exposure to unforeseen liabilities of acquired companies; and
- the loss of key employees of an acquired business operation.

In addition, an acquisition could adversely impact cash flows, operating results, and stockholder interests, for many reasons, including:

- contingent consideration payments;
- the issuance of securities in connection with an acquisition or new business venture that dilutes or lessens the rights of our current stockholders;
- charges to our income to reflect the impairment of acquired intangible assets, including goodwill; and
- interest costs and debt service requirements for any debt incurred in connection with an acquisition or new business venture.

The anticipated benefit of any of our acquisitions may never materialize. Future acquisitions could result in potentially dilutive issuances of our equity securities, the incurrence of debt, contingent liabilities or amortization expenses, or write-offs of goodwill, any of which could harm our financial condition. Future acquisitions may require us to obtain additional equity or debt financing, which may not be available on favorable terms, or at all.

RISKS RELATED TO OUR MARKETS

Our sales are affected by the cyclicality of the semi market, which causes our operating results to fluctuate significantly.

A significant portion of our business depends upon the capital expenditures of semiconductor manufacturers. Capital expenditures by these companies depend upon, among other things, the current and anticipated market demand for semiconductors and the products that utilize them. Typically, semiconductor manufacturers curtail capital expenditures during periods of economic downturn. Conversely, semiconductor manufacturers increase capital expenditures when market demand requires the addition of new or expanded production capabilities or the reconfiguration of existing fabrication facilities to accommodate new products. These market changes have contributed in the past, and will likely continue to contribute in the future, to fluctuations in our operating results.

We seek to further diversify the markets for our products in order to increase the proportion of our sales attributable to markets which are less subject to cyclicality than the semi market. If we are unable to do so, our future performance will remain substantially exposed to the fluctuations of the cyclicality of the semi market.

We sell certain of our products in markets other than the semi market, including the automotive, defense/aerospace, industrial, life sciences and security markets. During 2022 and 2021, our sales to markets other than the semi market were $48.0 million and $30.0 million, respectively, and represented 41% and 35% of our consolidated revenue, respectively. Our goal is to increase our sales to markets other than the semi market; however, in most cases, the expansion of our product sales into these new markets has occurred in the last several years, and we may experience difficulty in expanding our sales efforts further into these markets. These difficulties could include hiring sales and marketing staff with sufficient experience selling into these new markets and our ability to continue to develop products which meet the needs of customers in these markets and which are not currently offered by our competitors. In addition, due to the highly specialized nature of certain of our product offerings in these markets, we do not expect broad market penetration in many of these markets. If we are unable to expand these sales, our revenue and results of operations will remain substantially dependent upon the cycles of the semi market.

RISKS RELATED TO OUR BUSINESS OPERATIONS

If our suppliers do not meet product or delivery requirements, or inflationary pressures continue to increase and we cannot increase our prices to our customers, we could have reduced revenues and earnings.

During 2022, as global supply chain constraints became more pronounced, we experienced price increases and lack of availability from several of our normal suppliers for the materials needed to produce our products in a timely manner and/or with the level of margins we typically expect to achieve. Certain components of our products may continue to be in short supply from time to time because of high demand or the inability of some vendors to consistently meet our quality or delivery requirements. A significant portion of our material purchases require some custom work, and there are not always multiple suppliers capable of performing such custom work on a timely or cost-effective basis. If any of our suppliers were to cancel commitments or fail to meet quality or delivery requirements needed to satisfy customer orders for our products, we could lose time-sensitive customer orders, have reduced revenues and earnings, experience reputational harm and be subject to contractual penalties, any of which could have a material adverse effect on our business, results of operations and financial condition. Additionally, we may not be able to raise our prices to our customers in an amount or timeframe sufficient to offset the increases in price we are experiencing from our suppliers. This could result in a reduction in our earnings in future periods.

A breach of our operational or security systems could negatively affect our business, our reputation and results of operations.

We rely on various information technology networks and systems, some of which are managed by third parties, to process, transmit and store electronic information, including confidential data, and to carry out and support a variety of business activities, including manufacturing, research and development, supply chain management, sales and accounting. A failure in, or a breach of, our operational or security systems or infrastructure, or those of our suppliers and other service providers, including as a result of cyberattacks, could disrupt our business, result in the disclosure or misuse of proprietary or confidential information, result in litigation, damage our reputation, cause losses and significantly increase our costs. Although we have been the target of security breaches in the past, we have not experienced material losses to date related to such incidents. Nevertheless, there can be no assurance that we will not suffer such losses in the future. In addition, domestic and international regulatory agencies have implemented, and are continuing to implement, various reporting and remediation requirements that companies must comply with upon learning of a breach. While we have insurance that may protect us from incurring some of these costs, there is no assurance that such insurance coverage is adequate to cover all costs and damages incurred in connection with a cyberattack.

We are subject to significant environmental, health and safety laws and regulations and related compliance expenditures and liabilities.

Our businesses are subject to many foreign, federal, state and local environmental, health and safety laws and regulations, particularly with respect to the use, handling, treatment, storage, discharge and disposal of substances and hazardous wastes used or generated in our manufacturing processes. Compliance with these laws and regulations is a significant factor in our business. We have incurred and expect to continue to incur significant expenditures to comply with applicable environmental laws and regulations. Our failure to comply with applicable environmental laws and regulations and permit requirements could result in civil or criminal fines or penalties or enforcement actions, including regulatory or judicial orders enjoining or curtailing operations or requiring corrective measures, installation of pollution control equipment or remedial actions.

We expect to continue to be subject to increasingly stringent environmental and health and safety laws and regulations. It is difficult to predict the future interpretation and development of environmental and health and safety laws and regulations or their impact on our future earnings and operations. We anticipate that compliance will continue to require increased capital expenditures and operating costs. Any increase in these costs, or unanticipated liabilities arising from, among other things, discovery of previously unknown conditions or more aggressive enforcement actions, could adversely affect our results of operations, and there is no assurance that they will not exceed our reserves or have a material adverse effect on our financial condition.

Our business may suffer if we are unable to attract and retain key employees or hire personnel at the costs we currently project.

Our future success will depend largely upon the continued services of our senior management and other key employees or the development of successors with commensurate skills and talents in a timely fashion and at the costs we project. If we cannot continue to increase employee salaries and maintain employee benefits commensurate with competitive opportunities, we may not be able to retain our senior management and other key employees. The loss of key personnel could adversely affect our ability to manage our business effectively and could increase our costs in future periods.

We have recently experienced difficulty in hiring personnel at the costs projected in our forecasts. This has resulted in the need to increase the labor rates offered for certain positions. If we cannot find savings in other areas or increase the price for which we sell our products in an amount sufficient to cover these additional labor costs, we may experience reduced margins in future periods.

We have experienced and may continue to experience significant variability in our effective tax rates and may have exposure to additional tax liabilities and costs.

We are subject to income taxes in the U.S. and various other countries in which we operate. Our effective tax rate is dependent on where our earnings are generated and the tax regulations and the interpretation and judgment of administrative tax or revenue entities in the U.S. and other countries. We are also subject to tax audits in the countries where we operate. Any material assessment resulting from an audit from an administrative tax or revenue entity could negatively affect our financial results.

The terms and covenants relating to our credit facility could adversely impact our ability to pursue our strategy and our financial performance and liquidity, and thus we may need additional financial resources to maintain our liquidity.

Our credit facility with M&T Bank contains covenants requiring us to, among other things, provide financial and other information and to provide notice upon the occurrence of certain events affecting us or our business. These covenants also place restrictions on our ability to incur additional indebtedness, and enter into certain transactions, including selling assets, engaging in mergers or acquisitions, or engaging in transactions with affiliates. If we fail to satisfy one or more of the covenants under our credit facility, we would be in default thereunder, and may be required to repay such debt with capital from other sources or otherwise not be able to draw down against our facility. Under such circumstances, we may have difficulty in locating another lender that would be willing to extend credit to us, and other sources of capital may not be available to us on reasonable terms or at all. See “Management's Discussion and Analysis of Financial Condition and Results of Operations – Overview – Credit Facility” and Note 12 to our consolidated financial statements in this Report for a discussion of the material terms of our credit facility.

We hold our cash and cash equivalents that we use to meet our working capital needs in deposit accounts that could be adversely affected if the financial institutions holding such funds fail.

We hold our cash and cash equivalents that we use to meet our working capital needs in deposit accounts at multiple financial institutions. The balance held in these accounts may exceed the Federal Deposit Insurance Corporation ("FDIC"), standard deposit insurance limit or similar government guarantee schemes. If a financial institution in which we hold such funds fails or is subject to significant adverse conditions in the financial or credit markets, we could be subject to a risk of loss of all or a portion of such uninsured funds or be subject to a delay in accessing all or a portion of such uninsured funds. Any such loss or lack of access to these funds could adversely impact our short-term liquidity and ability to meet our obligations.

For example, on March 10, 2023, Silicon Valley Bank ("SVB"), and on March 12, 2023, Signature Bank, were closed by state regulators and the FDIC was appointed receiver for each bank. The FDIC created successor bridge banks and all deposits of SVB and Signature Bank were transferred to the bridge banks under a systemic risk exception approved by the United States Department of the Treasury, the Federal Reserve and the FDIC. If financial institutions in which we hold funds for working capital were to fail, we cannot provide any assurances that such governmental agencies would take action to protect our uninsured deposits in a similar manner.

We also maintain investment accounts with other financial institutions in which we hold our investments and, if access to the funds we use for working capital is impaired, we may not be able to sell investments or transfer funds from our investment accounts to new accounts on a timely basis sufficient to meet our working capital needs.

We face risks associated with doing business in China.

We conduct sales and other business operations in China, as a result, the economic, political, legal and social conditions in China could harm our business. In recent years, the Chinese economy has experienced periods of rapid expansion and high rates of inflation. These factors have led to the adoption by the Chinese government, from time to time, of various corrective measures designed to restrict the availability of credit or regulate growth and contain inflation. Various factors may in the future cause the Chinese government to impose controls on credit or prices, or to take other action, which could inhibit economic activity in China, and thereby harm the market for our products. In addition, the legal system in China has inherent uncertainties that may limit the legal protections available in the event of any claims or disputes that we have with third parties, including our ability to protect the intellectual property we develop in China or elsewhere. As China's legal system is still evolving, the interpretation of many laws, regulations and rules is not always uniform and enforcement of these laws, regulations and rules involve uncertainties, which may limit the remedies available in the event of any claims or disputes with third parties. In addition, any litigation in China may be protracted and result in substantial costs and diversion of resources and management attention. Some of the other risks related to doing business in China include:

- The Chinese government exerts substantial influence over the manner in which we must conduct our business activities;
- Restrictions on currency exchange may limit our ability to receive, transfer and use our cash effectively;
- Increased uncertainties related to the enforcement of intellectual property rights including any intellectual property rights that we may license to a Chinese (or other emerging jurisdiction) entity, including any joint ventures we may form;
- Increased uncertainties relating to Chinese regulation of exports of products and technology to and from China;
- Increased and rapidly changing export and related trade regulations and restrictions imposed by U.S. and Chinese legislation, executive actions and regulations;
- Difficulty of travel to and from China (and to and from United States) arising from or related to the COVID-19 pandemic or any future pandemic;
- The Chinese government may favor its local businesses and make it more difficult for foreign businesses to operate in China on an equal footing, or create generally difficult conditions for foreign headquartered businesses to operate;
- Increased uncertainties related to the enforcement of contracts with certain parties;
- More restrictive rules on foreign investment could adversely affect our ability to expand our operations in China; and
- Geopolitical tensions between China on the one hand and the United States and/or the European Union on the other hand, may increase and may lead to increased export sanctions with Chinese entities and sanctions made against China.

As a result of our growing operations in China, these risks could harm our business.

We face political and other risks conducting business in Taiwan particularly due to their tense relationships with China.

We have customers located in Taiwan. Accordingly, our business, financial condition and results of operations may be affected by changes in governmental and economic policies in Taiwan, social instability and diplomatic and social developments in or affecting Taiwan due to its unique international political status. Although significant economic and cultural relations have been established between Taiwan and China, we cannot assure that relations between Taiwan and China will not face political or economic uncertainties in the future. Any deterioration in the relations between Taiwan and China, and other factors affecting military, political or economic conditions in Taiwan, could disrupt our business operations and materially and adversely affect our results of operations.

RISKS RELATED TO OUR CUSTOMER BASE

Changes in the buying patterns of our customers have affected, and may continue to affect, demand for our products and our gross and net operating margins. Such changes in patterns are difficult to predict and may not be immediately apparent.

In addition to the cyclicality of the semi market, demand for our products and our gross and net operating margins have also been affected by changes in the buying patterns of our customers. Some of the changes in customer buying patterns that have impacted us in the past, and may continue to do so in the future, have included customers placing heightened emphasis on shorter lead times (which places increased demands on our available engineering and production capacity and may result in increasing unit costs) and ordering in smaller quantities (which prevents us from acquiring component materials in larger volumes at lower unit costs.) We have also experienced customer supply chain management groups demanding lower prices and spreading purchases across multiple vendors. We believe some of the changes in customer buying patterns are the result of changes within the semi market over the last several years, including, for example, changing product requirements and longer time periods between new product offerings by OEMs. Such shifts in market practices have had, and may continue to have, varying degrees of impact on our revenue and our gross and net operating margins. Such shifts are difficult to predict and may not be immediately apparent, and the impact of these practices is difficult to quantify from period to period. There can be no assurance that we will be successful in implementing effective strategies to counter these shifts.

We generate a large portion of our sales from a small number of customers. If we were to lose one or more of our large customers, our operating results could suffer dramatically.

During the year ended December 31, 2022, no customer accounted for 10% or more of our consolidated revenue. During the year ended December 31, 2021, one customer accounted for 13% of our consolidated revenue. This revenue was primarily generated by our Electronic Test segment. During the year ended December 31, 2021, no other customer accounted for 10% or more of our consolidated revenue. Our ten largest customers accounted for approximately 43% of our consolidated revenue in each of the years ended December 31, 2022 and 2021. The loss of any one or more of our largest customers, or a reduction in orders by a major customer could materially reduce our net revenues or otherwise materially affect our business, financial condition or results of operations.

RISKS RELATED TO COMPETITION

Our business is subject to intense competition, which has in the past and could in the future, materially adversely affect our business, financial condition and results of operations.

We face significant competition throughout the world in each of our operating segments. Some of our competitors have substantial financial resources and more extensive design and production capabilities than us. Some of our competitors are much smaller than we are, and therefore have much lower levels of overhead than us, which enables them to sell their competing products at lower prices. In order to remain competitive, we must continually commit a significant portion of our personnel and financial resources to developing new products and maintaining customer satisfaction worldwide. We expect our competitors to continue to improve the performance of their current products and introduce new products or technologies. In the recent past, in response to significant declines in global demand for our products, some competitors have reduced their product pricing significantly, which has led to intensified price-based competition, which has and could continue to materially adversely affect our business, financial condition and results of operations.

Our markets are subject to rapid technological change, and our business prospects would be negatively affected if we are unable to quickly and effectively respond to innovation in the semi market or other markets that we serve.

Technology, including semiconductor technology, continues to become more complex as the pace of innovation and development of new technology increases. In addition, manufacturers are incorporating ICs into an increasing variety of products. This trend, including the changes needed in automated testing systems to respond to developments in the semiconductor market, are likely to continue. We cannot be certain that we will be successful or timely in developing, manufacturing or selling products that will satisfy customer needs or that will attain market acceptance. Our failure to provide products that effectively and timely meet customer needs or gain market acceptance will negatively affect our business prospects.

RISKS RELATED TO FOREIGN OPERATIONS

The current conflict in the Ukraine could disrupt our supply chain or cause other adverse effects on our revenue and earnings.

In late February 2022, Russia initiated significant military action against Ukraine. In response, the U.S. and certain other countries imposed significant sanctions and trade actions against Russia. The U.S. and certain other countries could impose further sanctions, trade restrictions and other retaliatory actions should the conflict continue or worsen. It is not possible to predict the broader consequences of the conflict, including related geopolitical tensions, and the measures and retaliatory actions taken by the U.S. and other countries in respect thereof, as well as any counter measures or retaliatory actions by Russia in response. At a minimum, the continuing conflict is likely to cause regional instability, geopolitical shifts and could materially adversely affect global trade, currency exchange rates, regional economies and the global economy, which could materially adversely affect our financial condition or results of operations. In addition, the conflict and actions taken in response to the conflict could increase our costs or disrupt our supply chain for certain material which Acculogic currently acquires from a key sole-source supplier in Belarus. If we cannot find an alternate supplier for this material, our revenue and earnings could be adversely affected.

A substantial portion of our customers are located outside the U.S., which exposes us to foreign political and economic risks.

We have operated internationally for many years and expect to expand our international operations to continue expansion of our sales and service to our non-U.S. customers. Our foreign subsidiaries generated 19% and 12% of consolidated revenue in 2022 and 2021, respectively. Revenue from foreign customers totaled $67.7 million, or 58% of consolidated revenue in 2022, and $58.1 million, or 68% of consolidated revenue in 2021. We expect our revenue from foreign customers will continue to represent a significant portion of total revenue. In addition to the risks generally associated with sales and operations in the U.S., sales to customers outside the U.S. and operations in foreign countries are subject to additional risks, which may, in the future, affect our operations. These risks include:

- the effects of COVID-19 on markets outside the U.S.;

- the effects of certain foreign customers being added to the list of restricted customers by the U.S. Department of Commerce;
- the implementation of trade tariffs by the U.S. and other countries that would impact our products;
- political and economic instability in foreign countries;
- the imposition of financial and operational controls and regulatory restrictions by foreign governments;
- the need to comply with a wide variety of U.S. and foreign import and export laws;
- local business and cultural factors that differ from our normal standards and practices, including business practices that we are prohibited from engaging in by the Foreign Corrupt Practices Act and other anti-corruption laws and regulations;
- trade restrictions;
- changes in taxes;
- longer payment cycles;
- fluctuations in currency exchange rates; and
- the greater difficulty of administering business abroad.

A significant portion of our cash position is maintained overseas and we may not be able to repatriate cash from overseas when necessary, which could have an adverse effect on our financial condition.

While much of our cash is in the U.S., a significant portion is generated from and maintained by our foreign operations. At December 31, 2022, $5.0 million, or 37%, of our cash and cash equivalents was held by our foreign subsidiaries. We also had $1.1 million of restricted cash that is discussed in Note 2 to our consolidated financial statements in this Report that was held by one of our subsidiaries in the Netherlands. Our financial condition and results of operations could be adversely impacted if we are unable to maintain a sufficient level of cash flow in the U.S. to address our cash requirements and if we are unable to efficiently and timely repatriate cash from overseas. Any payment of distributions, loans or advances to us by our foreign subsidiaries could be subject to restrictions on, or taxation of, dividends or repatriation of earnings under applicable local law, monetary transfer restrictions and foreign currency exchange regulations in the jurisdictions in which our subsidiaries operate. If we are unable to repatriate the earnings of our subsidiaries, it could have an adverse impact on our ability to redeploy earnings in other jurisdictions where they could be used more profitably.

RISKS RELATED TO COVID-19

Our business, results of operations and financial condition and the market price of our common stock have been and may continue to be adversely affected by the COVID-19 pandemic.

While the negative impact of COVID-19 on our business was further reduced in 2022, the spread of the virus or variants of the virus could worsen and one or more of our significant customers or suppliers could be impacted, or significant additional governmental regulations and restrictions could be imposed, thus negatively impacting our business in the future.

We have had occasions where one or more employees have contracted COVID-19 and entered our facilities while infected. We have managed these occurrences with minimal disruption to our business while protecting other employees, but there can be no assurances that we can avoid similar occurrences in the future or that, in such cases, we can avoid significant disruption of our operations as a result of such occurrences. Should this occur, or should we have employees who become ill or otherwise are unable to work as a result of COVID-19, we may experience limitations in employee resources or may be required to close affected facilities for a time to clean and disinfect appropriately, and allow employees to quarantine, as appropriate.

We rely on a relatively few number of customers for a significant portion of our sales. The spread of the virus or variants of the virus could worsen and one or more of our significant customers could be impacted. If one or more of our significant customers is negatively impacted, our business, results of operations and financial condition will be adversely affected. In addition, the aftermarket service and support that we provide to our customers has been adversely affected by COVID-19 in the past due to travel restrictions and limitations on visitors allowed into customer facilities, which resulted in some of these activities being reduced or suspended. If the spread of the virus or variants of the virus were to worsen and travel restrictions and limitations were to be reinstated, this portion of our business could be adversely affected in the future.

Generally, global supply chains and the timely availability of products have been materially disrupted by quarantines, factory slowdowns or shutdowns, border closings and travel restrictions resulting from COVID-19 in the past. If the spread of the virus or variants worsens and one or more of our significant suppliers is negatively impacted in the future, we could experience delays in receipt of materials or price increases in the future which could have a material negative impact on our business, results of operations and financial condition.

The adverse effects of COVID-19 on our business could be material in future periods, particularly if there are significant and prolonged economic slowdowns in regions where we derive a significant amount of our revenue or profit, or where our suppliers are located, or if we are forced to close facilities and limit or cease manufacturing operations for extended periods of time. We could experience delays in receipt of customer orders, cancellation or postponement of existing orders. Further, as a result of COVID-19, our ability to fulfill orders within the proposed parameters at the time of order, including within the approximated timeline and estimated cost, may be negatively affected. This could lead to a reduction in revenue and/or an increase in our cost of revenues in future periods and could have a material adverse effect on our business, results of operations and financial condition. COVID-19 has also led to extreme volatility in capital markets and has adversely affected, and may adversely affect, the market price of our common stock in the future. As a result of any negative impact of COVID-19 on our business, results of operations, financial condition and cash flows, we may determine that our goodwill and long-lived assets are impaired, which would result in recording an impairment charge. The amount of any such impairment charge could be material.

RISKS RELATED TO INTELLECTUAL PROPERTY

Claims of intellectual property infringement by or against us could seriously harm our businesses.

From time to time, we may be forced to respond to or prosecute intellectual property infringement claims to defend or protect our rights or a customer's rights. These claims, regardless of merit, may consume valuable management time, result in costly litigation or cause product shipment delays. Any of these factors could seriously harm our business and operating results. We may have to enter into royalty or licensing agreements with third parties who claim infringement. These royalty or licensing agreements, if available, may be costly to us. If we are unable to enter into royalty or licensing agreements with satisfactory terms, our business could suffer. In instances where we have had reason to believe that we may be infringing the patent rights of others, or that someone may be infringing our patent rights, we have asked our patent counsel to evaluate the validity of the patents in question, as well as the potentially infringing conduct. If we become involved in a dispute, neither the third parties nor the courts are bound by our counsel's conclusions.

If we are unable to protect our intellectual property, we may lose a valuable asset or may incur costly litigation to protect our rights.

We protect the technology that is incorporated in our products in several ways, including through patent, copyright, trademark and trade secret protection and by contractual agreement. However, even with these protections, our intellectual property may still be challenged, invalidated or subject to other infringement actions. While we believe that our intellectual property has value in the aggregate, no single element of our intellectual property is in itself essential. If a significant portion of our intellectual property is invalidated or ineffective, our business could be materially adversely affected.

RISKS RELATED TO OUR OPERATING RESULTS AND STOCK PRICE

Our operating results often change significantly from quarter to quarter and may cause fluctuations in our stock price.

Historically, our operating results have fluctuated significantly from quarter to quarter. We believe that these fluctuations occur primarily due to the cycles of demand in the semiconductor manufacturing industry. In addition to these changing cycles of demand, other factors that have caused our quarterly operating results to fluctuate in the past or that may cause fluctuations and losses in the future, include:

- costs related to due diligence and transaction-related expenses for a proposed acquisition that does not get completed;
- costs and timing of integration of our acquisitions and plant consolidations and relocations;
- changes in demand in the markets we serve including the automotive, defense/aerospace, industrial, life sciences and security markets;
- the state of the U.S. and global economies;
- changes in the buying patterns of our customers including any changes in the rate of, and timing of, purchases by our customers;
- the impact of interruptions in our supply chain caused by external factors;
- changes in our market share;

- the impact of COVID-19 or any other pandemic on our business;
- the technological obsolescence of our inventories;
- quantities of our inventories greater than is reasonably likely to be utilized in future periods;
- fluctuations in the level of product warranty charges;
- competitive pricing pressures;
- excess manufacturing capacity;
- our ability to control operating costs;
- delays in shipments of our products;
- the mix of our products sold;
- the mix of customers and geographic regions where we sell our products;
- changes in the level of our fixed costs;
- costs associated with the development of our proprietary technology;
- our ability to obtain raw materials or fabricated parts when needed;
- increases in costs of component materials;
- cancellation or rescheduling of orders by our customers;
- changes in government regulations; and
- geopolitical instability.

Because the market price of our common stock has tended to vary based on, and in relation to, changes in our operating results, fluctuations in the market price of our stock are likely to continue as variations in our quarterly results continue.

Item 1B. UNRESOLVED STAFF COMMENTS

This disclosure is not required as the Company is not an accelerated filer, large accelerated filer, nor a well-known seasoned issuer.

Item 2. PROPERTIES

At December 31, 2022, we leased thirteen facilities worldwide. The following chart provides information regarding each of our principal facilities that we leased at December 31, 2022:

Location	**Lease Expiration**	**Approx. Square Footage**	**Principal Uses**
Rochester, NY	April 2028	79,150	Process Technologies segment operations (principal facility for Ambrell)
Mansfield, MA	December 2024	52,700	Environmental Technologies segment operations (principal facility for iTS), Process Technologies segment operations (principal facility for Videology)
Mt. Laurel, NJ	April 2031	33,650	Corporate headquarters and Electronic Test segment operations
Ontario, Canada	February 2028	16,437	Electronic Test segment operations (primary facility for Acculogic Inc.)
Fremont, CA	November 2025(1)	15,746	Formerly Electronic Test segment sales and engineering

All of our facilities have space to accommodate our needs for the foreseeable future.

(1) During the fourth quarter of 2020, we consolidated all manufacturing operations for our EMS segment into our facility in Mt. Laurel, New Jersey, as more fully discussed in Note 5 to our consolidated financial statements for the year ended December 31, 2022 in this Report. In August 2021, we subleased this facility for the balance of the term.

Item 3. LEGAL PROCEEDINGS

From time to time we may be a party to legal proceedings occurring in the ordinary course of business. We are not currently involved in any material legal proceedings.

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 for Common Stock

Our common stock is traded on NYSE American LLC (“NYSE American”) under the symbol "INTT." On March 15, 2023, the closing price for our common stock as reported on the NYSE American was $15.84. At March 15, we had 11,121,359 shares outstanding that were held by approximately 1,000 beneficial and record holders.

No dividends were paid on our common stock in the years ended December 31, 2022 or 2021. We do not currently plan to pay cash dividends in the foreseeable future. Our current policy is to use any future earnings for reinvestment in the operation and expansion of our business, including possible acquisitions of other businesses, technologies or products and, when approved by our Board of Directors, to repurchase our outstanding common stock. Payment of any future dividends will be at the discretion of our Board of Directors.

Purchases of Equity Securities

There were no shares of our common stock repurchased by us or on our behalf during the three months ended December 31, 2022.

On July 31, 2019, our Board of Directors authorized the repurchase of up to $3 million of our common stock from time to time on the open market, in compliance with Rule 10b-18 under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), or in privately negotiated transactions pursuant to a newly authorized stock repurchase plan (the “2019 Repurchase Plan”). Repurchases are to be made under a Rule 10b5-1 plan entered into with RW Baird & Co., which permits shares to be repurchased when we might otherwise be precluded from doing so under insider trading laws and our internal trading windows. The 2019 Repurchase Plan does not obligate us to purchase any particular amount of common stock and can be suspended or discontinued at any time without prior notice. The 2019 Repurchase Plan is funded using our operating cash flow or available cash. Purchases began on September 18, 2019 under this plan. On March 2, 2020, we suspended repurchases under the 2019 Repurchase Plan. From the adoption of the 2019 Repurchase Plan through the suspension of the plan, we repurchased a total of 243,075 shares at a cost of $1.2 million, which includes fees paid to our broker of $6,000. All of the repurchased shares were retired.

Securities Authorized for Issuance Under Equity Compensation Plan

Information regarding securities authorized for issuance under equity compensation plans is included in Item 12. “Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters” under the caption “Equity Compensation Plan Information.”

Item 6. RESERVED

Item 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of our financial condition and results of operations and quantitative and qualitative disclosures should be read in conjunction with our audited consolidated financial statements and related notes included in this Annual Report on Form 10-K for the year ended December 31, 2022. In addition, please refer to the discussion of our business and markets contained in Part I, Item 1 of this Report. Management's Discussion and Analysis of Financial Condition and Results of Operations contains a number of forward-looking statements that reflect our plans, estimates, and beliefs, all of which are based on our current expectations and could be affected by certain uncertainties, risks, and other factors described under Cautionary Statement Regarding Forward-Looking Statements, Risk Factors, and elsewhere throughout this Annual Report. Our actual results could differ materially from those discussed in the forward-looking statements or from our prior results.

Overview

We are a global supplier of innovative test and process solutions for use in manufacturing and testing across a wide range of markets including automotive, defense/aerospace, industrial, life sciences, security and semiconductor. During the year ended December 31, 2021, we managed our business as two operating segments which were also our reportable segments and reporting units: Thermal and EMS. Effective January 1, 2022, we reorganized our operating segments to better align with our plan to manage and report our business going forward. This change in our operating and reporting structure reflects the evolution of our business, particularly as a result of the broadening of our product portfolio through the acquisitions we completed in the fourth quarter of 2021, which are discussed more fully in Note 3 to our consolidated financial statements in this Report. Accordingly, for 2022, we have three operating segments which are also our reportable segments and reporting units: Electronic Test (which includes our semiconductor test equipment, flying probe and in-circuit testers), Environmental Technologies (which includes our thermal test, process and storage products) and Process Technologies (which includes our induction heating and video imaging products). Prior period information has been reclassified to be comparable to the current period's presentation.

All of our operating segments have multiple products that we design, manufacture and market to our customers. Due to a number of factors, our products have varying levels of gross margin. These factors include, for example, the amount of engineering time required to develop the product, the market or customer to which we sell the product and the level of competing products available from other suppliers. The needs of our customers ultimately determine the products that we sell in a given time period. Therefore, the mix of products sold in a given period can change significantly when compared against the prior period. As a result, our consolidated gross margin may be significantly impacted by a change in the mix of products sold in a particular period.

Markets

As discussed further in Part I, Item 1 "Markets", we are focused on specific target markets which include automotive, defense/aerospace, industrial, life sciences, security as well as both the front-end and back-end of the semiconductor manufacturing industry. The semi market, which includes both the broader semiconductor market, as well as the more specialized ATE and wafer production sectors within the broader semiconductor market, has historically been the largest single market in which we operate. The semi market is characterized by rapid technological change, competitive pricing pressures and cyclical market patterns and is subject to periods of significant expansion or contraction in demand. Our intention is to continue diversifying our markets, our product offerings within the markets we serve and our customer base across all of our markets with the goal of reducing our dependence on any one market, product or customer. In particular, we are seeking to reduce the impact of volatility in the semi market on our results of operations.

The portion of our business that is derived from the semi market is substantially dependent upon the demand for ATE by semiconductor manufacturers and companies that specialize in the testing of ICs and, for our induction heating products, the demand for wafer production equipment. Demand for ATE or wafer production equipment is primarily driven by semiconductor manufacturers that are opening new, or expanding existing, semiconductor fabrication facilities or upgrading equipment, which in turn is dependent upon the current and anticipated market demand for ICs and products incorporating ICs. Such market demand can be the result of market expansion, development of new technologies or redesigned products to incorporate new features, or the replacement of aging equipment.

In the past, the semi market has been highly cyclical with recurring periods of oversupply, which often severely impact the semi market's demand for the products we manufacture and sell into the market. This cyclicality can cause wide fluctuations in both our orders and revenue and, depending on our ability to react quickly to these shifts in demand, can significantly impact our results of operations. Market cycles are difficult to predict and, because they are generally characterized by sequential periods of growth or declines in orders and revenue during each cycle, year over year comparisons of operating results may not always be as meaningful as comparisons of periods at similar points in either up or down cycles. These periods of heightened or reduced demand can shift depending on various factors impacting both our customers and the markets that they serve. In addition, during both downward and upward cycles in the semi market, in any given quarter, the trend in both our orders and revenue can be erratic. This can occur, for example, when orders are canceled or currently scheduled delivery dates are accelerated or postponed by a significant customer or when customer forecasts and general business conditions fluctuate during a quarter.

While a significant portion of our orders and revenue are derived from the semi market, and our operating results generally follow the overall trend in the semi market, in any given period we may experience anomalies that cause the trend in our revenue from the semi market to deviate from the overall trend in the market. We believe that these anomalies may be driven by a variety of factors within the semi market, including, for example, changing product requirements, longer periods between new product offerings by OEMs and changes in customer buying patterns. In addition, in recent periods, we have seen instances when demand within the semi market is not consistent for each of our operating segments or for any given product within a particular operating segment. This inconsistency in demand can be driven by a number of factors but, in most cases, we have found that the primary reason is unique customer-specific changes in demand for certain products driven by the needs of their customers or markets served. Recently this has become more pronounced for our sales into the wafer production sector within the broader semiconductor market due to the limited market penetration we have into this sector and the variability of orders we have experienced from the few customers we support. These shifts in market practices and customer-specific needs have had, and may continue to have, varying levels of impact on our operating results and are difficult to quantify or predict from period to period. Management has taken, and will continue to take, such actions it deems appropriate to adjust our strategies, products and operations to counter such shifts in market practices as they become evident.

As discussed further in Part I, Item 1 “Overview and Strategy”, although the semi market remains our largest market, as part of our strategy to grow our business, we are focused on several other key target markets where we believe our products address test and process requirements and where we believe there is significant potential for growth. These key target markets include the automotive, defense/aerospace, industrial, life sciences and security markets. We believe that these markets are usually less cyclical than the semi market. While market share statistics exist for some of these markets, due to the nature of our highly specialized product offerings in these markets, we do not expect broad market penetration in many of these markets and, therefore, do not anticipate developing meaningful market shares in most of these markets.

In addition, because of our limited market share, our orders and revenue in any given period in these markets do not necessarily reflect the overall trends in these markets. Consequently, we are continuing to evaluate buying patterns and opportunities for growth in these, and other, markets that may affect our performance. The level of our orders and revenue in all of the markets we serve has varied in the past, and we expect will vary significantly in the future, as we work to build our presence in our current markets and establish new markets for our products.

Acquisitions

During 2021, we completed three acquisitions, North Sciences on October 6, 2021, Videology on October 28, 2021 and Acculogic on December 21, 2021. These acquisitions expanded our technology offerings, diversified our markets and customers and expanded our presence into Europe. North Sciences is included in our Environmental Technologies segment, Videology is included in our Process Technologies segment and Acculogic is included in our Electronic Test segment. These acquisitions are discussed further in Note 3 to our consolidated financial statements in this Report. Their results have been included in our consolidated results as of their respective acquisition dates. In order to fund a portion of these acquisitions, we utilized our delayed draw term note that is part of our credit facility. This credit facility is discussed further in Note 12 to our consolidated financial statements in this Report and in Liquidity and Capital Resources below.

Revenue

The following table sets forth, for the periods indicated, a breakdown of the revenue by market (in thousands).

	Years Ended December 31,		Change	
	2022	**2021**	**$**	**%**
Revenue:				
Semi	$ 68,422	$ 54,937	$ 13,485	24.5%
Industrial	10,038	7,314	2,724	37.2%
Auto/EV	10,776	6,205	4,571	73.7%
Life Sciences	4,589	2,353	2,236	95.0%
Defense/Aerospace	7,006	5,043	1,963	38.9%
Security	3,241	$ 699	2,542	363.7%
Other	12,756	8,327	4,429	53.2%
	$ 116,828	$ 84,878	$ 31,950	37.6%

Total consolidated revenue for the year ended December 31, 2022 was $116.8 million compared to $84.9 million in 2021, an increase of $32.0 million or 38% as compared to 2021. Revenue from acquired businesses in 2021 (from the respective dates of acquisition through December 31, 2021) was $1.5 million. Revenue from acquired businesses in 2022 was $19.7 million.

Acquired businesses contributed significantly to the increases in industrial, auto/EV, life sciences, defense/aerospace and security in 2022 as compared to 2021. The $13.5 million increase in revenue from the semi market primarily reflects strength in demand for our induction heating technology solutions for silicon carbide (SiC) crystal growth applications.

Orders and Backlog

We use the following key performance metrics to analyze and measure our financial performance and results of operations: orders and backlog. We define orders as purchase orders that we have accepted from our customers. Orders are recorded based on the date received and accepted by us. We believe tracking orders is useful in planning for future production needs and staffing levels and we use information about the level of our orders to make decisions about resource allocation, including appropriate levels of inventory purchases and the balance of inventory we carry at any given time. Another important operational measure used is backlog. Backlog is a common measurement used in industries with extended lead times for order fulfillment, like those in which we operate. Backlog at any given date represents the amount of net revenue that we expect to realize for unfilled orders received as of that date. We believe backlog is useful and use this information for similar reasons to those detailed above for orders. The majority of our backlog at any given time is expected to be fulfilled within the next twelve months. Depending on the terms of the purchase orders we have accepted, customers may have the ability to cancel an order or accelerate or postpone currently scheduled delivery dates. In some cases, we may have the ability to charge a cancellation fee if a purchase order we have accepted is later cancelled by a customer. Given that both orders and backlog are operational measures and our methodology for calculating orders and backlog do not meet the definition of a non-GAAP measure, as that term is defined by the SEC, a quantitative reconciliation for each is not required or provided.

The following table sets forth, for the periods indicated, a breakdown of the orders received by market (in thousands).

	Years Ended December 31,		Change	
	2022	**2021**	**$**	**%**
Orders:				
Semi	$ 73,070	$ 68,464	$ 4,606	6.7%
Industrial	10,554	9,001	1,553	17.3%
Auto/EV	9,899	7,466	2,433	32.6%
Life Sciences	5,705	2,413	3,292	136.4%
Defense/Aerospace	10,261	4,904	5,357	109.2%
Security	4,386	1,691	2,695	159.4%
Other	15,701	8,003	7,698	96.2%
	$ 129,576	$ 101,942	$ 27,634	27.1%

Total consolidated orders for the year ended December 31, 2022 were $129.6 million compared to $101.9 million in 2021, an increase of $27.6 million, or 27%. Orders from acquired businesses in 2021 (from the respective dates of acquisition through December 31, 2021) totaled $2.5 million. Orders from acquired businesses in 2022 totaled $21.8 million.

Acquired businesses contributed significantly to the increases in industrial, auto/EV, life sciences, defense/aerospace and security in 2022 as compared to 2021. The $4.6 million increase in orders from the semi market primarily reflects strength in demand for our products used in back-end test as well as the impact of the acquisition of Acculogic, which accounted for approximately $1.3 million of orders from the semi market in 2022.

At December 31, 2022, our backlog of unfilled orders for all products was approximately $46.8 million compared with approximately $34.1 million at December 31, 2021. The increase in our backlog reflects increased demand for our products and, to a lesser extent, longer lead times for many of our products which has lead to our customers placing orders with us earlier than had been their historical practice. Our backlog includes customer orders that we have accepted, substantially all of which we expect to deliver in 2023. While backlog is calculated on the basis of firm purchase orders, a customer may cancel an order or accelerate or postpone currently scheduled delivery dates. Our backlog may be affected by the tendency of customers to rely on short lead times available from suppliers, including us, in periods of depressed demand. In periods of increased demand, there is a tendency towards longer lead times that has the effect of increasing backlog. As a result, our backlog at a particular date is not necessarily indicative of sales for any future period.

War in Ukraine, Inflation and Global Supply Chain Constraints

The ongoing war between Russia and Ukraine continues to contribute to global inflationary pressures and the availability of certain raw materials produced in that region, further exacerbating global supply chain challenges that emerged after the onset of the COVID-19 pandemic as described below. Acculogic purchases certain material from a key sole-source supplier in Belarus, which is bordered by Russia to the east and northeast and Ukraine to the south. We estimate that we currently have a six-to-nine-month supply of this material. We are currently in the process of qualifying an alternate supplier for this material.

In addition, while we have been able to mitigate a significant portion of the supply chain and logistics challenges that we encountered in 2022, we expect to continue to experience increased prices, lack of availability and logistics delays to varying degrees for the foreseeable future. The actions we are taking to mitigate these risks include qualifying new vendors as alternate sources in our supply chain, increasing our inventory of raw materials and ordering further in advance of when we expect to need materials than has been our practice in the past. We have increased, and may further increase, the prices that we charge our customers as a result of increased raw material expenses. We are also working with our customers to find alternate options for the shipment of products where they control aspects of the logistics process. However, the situation is evolving and shifting rapidly at times, and the success of our efforts to mitigate and address the impacts on our business may not be successful. As a result, we could see increases in our costs or reduced revenue which would impact the level of our earnings in future periods.

Please refer to Part I, Item 1A of our 2021 Form 10-K for further discussion of the risks associated with our business operations, including risks associated with foreign operations.

COVID-19 Pandemic

We are following the guidance of the Centers for Disease Control and Prevention (the "CDC") and the local regulatory authorities in regions outside the U.S. While we are no longer requiring employees to wear masks indoors in our domestic locations or conducting temperature screenings, we are encouraging all employees to receive COVID-19 vaccinations and boosters, if possible, and to stay home if they feel sick. We are continuing to allow employees to work remotely either part-time or full-time in circumstances when possible. We continue to monitor the situation closely in the regions in which we operate in the U.S. and abroad and will adjust our operations as necessary to protect the health and well-being of our employees. To the extent that further governmental mandates or restrictions are implemented in the future, we currently expect to be able to continue to operate our business in a manner similar to how we have operated over the past two years. See "Risks Related to COVID-19" under Item 1A "Risk Factors" in this Report.

Results of Operations

The results of operations for our three operating segments are generally affected by the same factors described in the Overview section above. Separate discussions and analyses for each segment would be repetitive. The discussion and analysis that follows, therefore, is presented on a consolidated basis and includes discussion of factors unique to a particular operating segment where significant to an understanding of that segment.

Year Ended December 31, 2022 Compared to Year Ended December 31, 2021

Revenue. Revenue was $116.8 million for the year ended December 31, 2022 compared to $84.9 million in 2021, an increase of $32.0 million or 38%. We believe this increase reflects the factors previously discussed in the Overview section above.

Gross Margin. Gross margin was 46% for the year ended December 31, 2022 compared to 49% in 2021. The decrease in our gross margin primarily reflects an increase in our component material costs as a percentage of revenue, reflecting changes in product, customer and sales channel mix. During 2022, our fixed operating costs increased $3.5 million compared to 2021, however, these costs represented 12% of revenue in both 2022 and 2021 as they were better absorbed by the higher revenue levels in 2022. Approximately $2.0 million of this increase is attributable to acquired businesses. The remaining $1.5 million increase primarily reflects higher levels of salary and benefits expense as we made headcount investments to support the higher revenue levels in 2022 and the execution of our 5-Point Strategy.

Selling Expense. Selling expense was $15.9 million for the year ended December 31, 2022 compared to $11.1 million in 2021, an increase of $4.8 million or 44%. The acquired businesses account for approximately $2.9 million of this increase. The remaining increase primarily reflects headcount investments, higher levels of commission expense and increased travel and advertising costs across all our segments.

Engineering and Product Development Expense. Engineering and product development expense was $7.5 million for the year ended December 31, 2022 compared to $5.5 million in 2021, an increase of $2.0 million, or 36%. The acquired businesses account for approximately $1.7 million of this increase. The remaining increase primarily reflects headcount investments.

General and Administrative Expense. General and administrative expense was $19.3 million for the year ended December 31, 2022 compared to $15.9 million in 2021, an increase of $3.4 million, or 22%. The acquired businesses account for approximately $2.0 million of this increase, excluding amortization expense. During 2021, we incurred $1.9 million of transaction expenses related to acquisitions and costs associated with financing activities. There were no similar expenses in 2022. The decrease in transaction and financing related expenses was offset by higher levels of amortization expense, increased salary and benefits costs as a result of headcount investments and higher stock-based compensation expense. The increase in stock-based compensation expense was primarily a result of changes in our estimate of the probable vesting percentage for certain of our performance-based awards that vest in August 2023.

Restructuring and Other Charges. There were no restructuring and other charges in 2022. For the year ended December 31, 2021, we recorded $286,000 in restructuring and other charges. Of this amount, $169,000 was related to finalizing the consolidation of the manufacturing operations for certain of our Electronic Test products. The remainder of the charges in 2021 were primarily related to the retirement of our former CFO. These actions are discussed in more detail in Note 5 to our consolidated financial statements in this Report.

Income Tax Expense. For the year ended December 31, 2022, we recorded income tax expense of $1.7 million compared to $1.1 million in 2021. Our effective tax rate was 17% for 2022 compared to 13% for 2021. On a quarterly basis, we record income tax expense or benefit based on the expected annualized effective tax rate for the various taxing jurisdictions in which we operate our businesses. See Note 13 to our consolidated financial statements for further detail of the difference between our effective tax rates in 2022 and 2021 and the statutory tax rate of 21%.

Liquidity and Capital Resources

As discussed more fully in the Overview, our business and results of operations are substantially dependent upon the demand for ATE by semiconductor manufacturers and companies that specialize in the testing of ICs. The cyclical and volatile nature of demand for ATE makes estimates of future revenues, results of operations and net cash flows difficult.

Our primary historical source of liquidity and capital resources has been cash flow generated by our operations. In 2021, we also utilized our Credit Facility, which is discussed below, to fund our acquisitions. We manage our businesses to maximize operating cash flows as our primary source of liquidity for our short-term cash requirements, as discussed below. We use cash to fund growth in our operating assets, for new product research and development, for acquisitions and for stock repurchases. We currently anticipate that any additional long-term cash requirements related to our strategy would be funded through a combination of our cash and cash equivalents, our Credit Facility or by issuing equity.

Credit Facility

As discussed in the Overview and in Note 12 to our consolidated financial statements in this Report, on October 15, 2021, we entered into the Loan Agreement with M&T. The Loan Agreement includes a $25 million non-revolving delayed draw term note (the “Term Note”) and a $10 million revolving credit facility (the “Revolving Facility and together with the Term Note, the “Credit Facility”). The Credit Facility had a five year contract period that began on the Closing Date and expired on October 15, 2026, and draws under the Term Note were permissible for two years.

On September 20, 2022, we further amended the Loan Agreement by entering into a Third Amendment to Amended and Restated Loan and Security Agreement (the Loan Agreement as amended by the Third Amendment, the “Amended Loan Agreement”) and the Third Amended and Restated Delayed Draw Term Note 1A. Under the Amended Loan Agreement, the maximum loan amount that we may borrow under the Term Note increased from $25 million to $50.5 million, which raises the available funding at December 31, 2022 to $30 million. Under the Amended Loan Agreement, the maturity date of the Term Note and Revolving Facility were also extended to September 19, 2027 (the “Contract Period”). At December 31, 2022, we had not borrowed any amounts under the $10 million Revolving Facility. Our borrowings under the Term Note are discussed below and occurred prior to entering into the Amended Loan Agreement. The principal balance of the Revolving Facility and the principal balance of any amount drawn under the Term Note accrues interest based on the Secured Overnight Financing Rate or a bank-defined base rate plus an applicable margin, depending on leverage. The Amended Loan Agreement includes customary affirmative, negative and financial covenants, including a maximum ratio of consolidated funded debt to consolidated EBITDA of not more than 3.0 to 1.0 and a fixed charge coverage ratio of not less than 1.25 to 1.0. Our obligations under the Amended Loan Agreement are secured by liens on substantially all of our tangible and intangible assets. At December 31, 2022, we were in compliance with all of the covenants included in the Credit Facility. At this date, our consolidated funded debt to consolidated EBITDA ratio was 1.0 and our fixed charge coverage ratio was 3.1.

On October 28, 2021, we drew $12 million under the Term Note to finance the acquisition of Videology. We also entered into an interest rate swap agreement with M&T as of this date which is designed to protect us against fluctuations in interest rates during the five-year repayment and amortization period. As a result, the annual interest rate we expect to pay for this draw under the Term Note is fixed at approximately 3.2% based on current leverage.

On December 29, 2021, we drew $8.5 million under the Term Note to finance the acquisition of Acculogic. We did not enter into an interest rate swap agreement with M&T related to this draw. The annual interest rate we expect to pay for this draw under the Term Note is variable. At December 31, 2022 it was approximately 4.0% based on current leverage. Effective March 1, 2023, this rate had increased to approximately 6.7%.

Interest expense for the years ended December 31, 2022 and 2021 was $635,000 and $89,000, respectively.

Liquidity

Our cash and cash equivalents and working capital were as follows (in thousands):

	December 31,			
	2022		2021	
Cash and cash equivalents	$	13,434	$	21,195
Working capital	$	33,182	$	27,005

At December 31, 2022, $5.0 million, or 37%, of our cash and cash equivalents was held by our foreign subsidiaries. We also had $1.1 million of restricted cash that is discussed in Note 2 to our consolidated financial statements in this Report that was held by one of our subsidiaries in the Netherlands. We currently expect our cash and cash equivalents, in combination with the borrowing capacity available under our Revolving Facility and the anticipated net cash to be provided by our operations in the next twelve months to be sufficient to support our short-term working capital requirements and other corporate requirements. Our Revolving Facility is discussed in Note 12 to our consolidated financial statements.

Our material short-term cash requirements include payments due under our various lease agreements, recurring payroll and benefits obligations to our employees, purchase commitments for materials that we use in the products we sell and principal and interest payments on our debt. During 2022, in connection with the increasing level of our backlog, we have made additional investments in inventory which now comprises a greater portion of our total working capital at December 31, 2022 than at December 31, 2021. We also anticipate making investments in our business in the next twelve months including hiring of additional staff, updates to our website and other systems and investments related to our geographic and market expansion efforts. We estimate that our minimum short-term working capital requirements currently range between $8.0 million and $10.0 million. We expect our current cash and cash equivalents, in combination with the borrowing capacity available under our Revolving Facility and the anticipated net cash to be provided by our operations to be sufficient to support these additional investments as well as our current short-term cash requirements.

Our current strategy for growth includes pursuing acquisition opportunities for complementary businesses, technologies or products. As discussed further in the Overview, on October 28, 2021, we acquired substantially all of the assets of Videology and on December 21, 2021, we completed the acquisition of Acculogic. We utilized $20.5 million under the Term Note to finance these acquisitions. As previously discussed, we currently anticipate that any additional long-term cash requirements related to our strategy would be funded through a combination of our cash and cash equivalents, the remaining availability under the Term Note or by issuing equity. The borrowing availability under the Term Note was expanded in September 2022 as discussed above and in Note 12 to our consolidated financial statements in this Report.

Cash Flows

Operating Activities. Net cash used in operations for the year ended December 31, 2022 was $1.4 million. For the year ended December 31, 2022, we recorded net earnings of $8.5 million. During this same period, we had non-cash charges of $4.7 million for depreciation and amortization (which included $1.2 million of amortization related to right-of-use ("ROU") assets) and $1.8 million for deferred compensation expense related to stock-based awards. We also recorded a $1.7 million deferred income tax benefit during 2022. Accounts receivable increased $4.9 million, inventories increased $10.6 million and accounts payable increased $2.9 million during 2022, reflecting the higher level of business activity in 2022 and investments in inventory in order to secure availability of critical parts. Customer deposits and deferred revenue decreased $1.5 million in 2022 as we started shipping against the $10.0 million order received by our Process Technologies segment in the fourth quarter of 2021, which had significantly increased the level of customer deposits on hand at the end of 2021. Operating lease liabilities decreased $1.4 million during 2022, reflecting payments made under our various lease agreements.

Investing Activities. Net cash used in investing activities for year ended December 31, 2022 was $1.2 million. In April 2022, we used $3.5 million to purchase U.S. treasury bills, which matured in October 2022. During 2022, we received a refund from the seller of approximately $371,000 of the purchase price for Acculogic. This refund reflects the final post-closing working capital adjustment. During 2022, we also paid out $179,000 of contingent consideration related to the acquisition of Z-Sciences as discussed further in Note 3 to our consolidated financial statements in this Report. During 2022, purchases of property and equipment were $1.4 million, primarily reflecting leasehold improvements to our facility in Mansfield, Massachusetts for the space that our Videology subsidiary occupied in the second quarter of 2022 and the purchase of new software tools to assist in the consolidation and reporting of our business operations. These purchases were funded using our working capital. We have no significant commitments for capital expenditures for 2023; however, depending upon changes in market demand or manufacturing and sales strategies, we may make such purchases or investments as we deem necessary and appropriate. These additional cash requirements would be funded by our cash and cash equivalents, anticipated net cash to be provided by operations and our Credit Facility.

Financing Activities. Net cash used in financing activities for the year ended December 31, 2022 was $3.7 million. During 2022, we made principal payments on our Term Note totaling $4.0 million. During this same period we received $197,000 as a result of purchases of our stock that were made by our employees under the the inTEST Corporation Employee Stock Purchase Plan and $38,000 as a result of the exercise of options to purchase our stock by employees. We also acquired $10,000 of stock as a result of shares withheld by us from employees to satisfy tax liabilities incurred by them as a result of vesting of restricted stock awards. These shares are classified as treasury stock on our consolidated balance sheets.

New or Recently Adopted Accounting Standards

See Note 2 to the consolidated financial statements for information concerning the implementation and impact of new or recently adopted accounting standards.

Critical Accounting Estimates

The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States of America requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues, expenses and related disclosure of contingent assets and liabilities. On an on-going basis, we evaluate our estimates, including those related to inventories, long-lived assets, goodwill, identifiable intangibles, contingent consideration and deferred income tax valuation allowances. We base our estimates on historical experience and on appropriate and customary assumptions that we believe to be 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. Some of these accounting estimates and assumptions are particularly sensitive because of their significance to our consolidated financial statements and because of the possibility that future events affecting them may differ markedly from what had been assumed when the financial statements were prepared.

Inventory Valuation

Inventories are valued at cost on a first-in, first-out basis, not in excess of market value. Cash flows from the sale of inventories are recorded in operating cash flows. On a quarterly basis, we review our inventories and record excess and obsolete inventory charges based upon our established objective excess and obsolete inventory criteria. Our criteria identify excess material as the quantity of material on hand that is greater than the average annual usage of that material over the prior three years. Effective January 1, 2021, our criteria identify obsolete material as material that has not been used in a work order during the prior twenty-four months. Prior to January 1, 2021, these criteria identified obsolete material as material that had not been used in a work order during the prior twelve months. In certain cases, additional excess and obsolete inventory charges are recorded based upon current market conditions, anticipated product life cycles, new product introductions and expected future use of the inventory. The excess and obsolete inventory charges we record establish a new cost basis for the related inventories. During 2022 and 2021, we recorded inventory obsolescence charges for excess and obsolete inventory of $771,000 and $203,000, respectively.

Goodwill, Intangible and Long-Lived Assets

We account for goodwill and intangible assets in accordance with Accounting Standards Codification ("ASC") Topic 350 (Intangibles- Goodwill and Other). Finite-lived intangible assets are amortized over their estimated useful economic life and are carried at cost less accumulated amortization. Goodwill is assessed for impairment at least annually in the fourth quarter, on a reporting unit basis, or more frequently when events and circumstances occur indicating that the recorded goodwill may be impaired. As a part of the goodwill impairment assessment, we have the option to perform a qualitative assessment to determine whether it is more-likely-than-not that the fair value of a reporting unit is less than its carrying amount. If, as a result of our qualitative assessment, we determine this is the case, we are required to perform a goodwill impairment test to identify potential goodwill impairment and measure the amount of goodwill impairment loss to be recognized. The test is discussed below. If, as a result of our qualitative assessment, we determine that it is more-likely-than-not that the fair value of the reporting unit is greater than its carrying amounts, the goodwill impairment test is not required.

The quantitative goodwill impairment test, used to identify both the existence of impairment and the amount of impairment loss, compares the fair value of a reporting unit with its carrying amount, including goodwill. If the fair value of a reporting unit exceeds its carrying amount, goodwill of the reporting unit is considered not impaired. If the carrying amount of a reporting unit exceeds its fair value, an impairment loss shall be recognized in an amount equal to that excess, limited to the total amount of goodwill allocated to that reporting unit. The goodwill impairment assessment is based upon the income approach, which estimates the fair value of our reporting units based upon a discounted cash flow approach. This fair value is then reconciled to our market capitalization at year end with an appropriate control premium. The determination of the fair value of our reporting units requires management to make significant estimates and assumptions including the selection of control premiums, discount rates, terminal growth rates, forecasts of revenue and expense growth rates, income tax rates, changes in working capital, depreciation, amortization and capital expenditures. Changes in assumptions concerning future financial results or other underlying assumptions could have a significant impact on either the fair value of the reporting unit or the amount of the goodwill impairment charge. At December 31, 2022 and 2021, goodwill was $21.6 million and $21.4 million, respectively. We did not record any impairment charges related to our goodwill during 2022 or 2021.

Indefinite-lived intangible assets are assessed for impairment at least annually in the fourth quarter, or more frequently if events or changes in circumstances indicate that the asset might be impaired. As a part of the impairment assessment, we have the option to perform a qualitative assessment to determine whether it is more likely than not that an indefinite-lived intangible asset is impaired. If, as a result of our qualitative assessment, we determine that it is more-likely-than-not that the fair value of the indefinite-lived intangible asset is less than its carrying amount, the quantitative impairment test is required; otherwise, no further testing is required. The quantitative impairment test consists of a comparison of the fair value of the intangible asset with its carrying amount. If the carrying amount of the intangible asset exceeds its fair value, an impairment loss is recognized in an amount equal to that excess. Our indefinite-lived intangible assets were trademarks and trade names carried at $8.4 million at each of December 31, 2022 and 2021, respectively. We did not record any impairment charges related to our indefinite-lived intangible assets during 2022 or 2021.

Long-lived assets, which consist of finite-lived intangible assets, property and equipment and ROU assets, are assessed for impairment whenever events or changes in business circumstances indicate that the carrying amount of the assets may not be fully recoverable or that the useful lives of these assets are no longer appropriate. Each impairment test is based on a comparison of the estimated undiscounted cash flows to the recorded value of the asset. If impairment is indicated, the asset is written down to its estimated fair value. The cash flow estimates used to determine the impairment, if any, contain management's best estimates using appropriate assumptions and projections at that time. At December 31, 2022 and 2021, finite-lived intangibles and long-lived assets were $19.1 million and $21.8 million, respectively. We did not record any impairment charges related to our long-lived assets during 2022 or 2021.

Contingent Consideration Liabilities

The contingent consideration liabilities on our balance sheet are accounted for in accordance with the guidance in ASC 820 (Fair Value Measurement). ASC 820 establishes a fair value hierarchy for instruments measured at fair value that distinguishes between assumptions based on market data (observable inputs) and our own assumptions (unobservable inputs). Our contingent consideration liabilities are measured at fair value on a recurring basis using Level 3 inputs which are inputs that are unobservable and significant to the overall fair value measurement. These unobservable inputs reflect our assumptions about the inputs that market participants would use in pricing the asset or liability and are developed based on the best information available in the circumstances.

Our contingent consideration liabilities are a result of our acquisitions of Z-Sciences on October 6, 2021, and Acculogic on December 21, 2021. The contingent consideration for Z-Sciences represents the fair value of the balance of the purchase price less the working capital adjustment and is payable on the one-year anniversary of the acquisition if the founder remains an employee or consultant for us at that time. The fair value of this Level 3 instrument involves assessing whether we expect this to occur. At December 31, 2021, the contingent consideration liability on our balance sheet was $179,000 and was included in Other Current Liabilities. This liability was paid out in October 2022. The contingent consideration for Acculogic represents the fair value of additional payments we may make to the seller of up to an additional CAD $5.0 million in the five-year period from 2022 through 2026. The additional payments will be based on a percent of net invoices for which payments have been received on systems sold to EV or battery customers in excess of CAD $2.5 million per year in each of the five years. There was no payment due to the seller for the year ended December 31, 2022. The maximum payment over the five-year period is capped at CAD $5.0 million, which equates to approximately $3.7 million at December 31, 2022. The fair value of this Level 3 instrument involves assessing the total amount of revenue we expect from sales to EV or battery customers during the applicable time period as well as when we expect to receive payment for the related net invoices. At December 31, 2022 and 2021, the contingent consideration liability on our balance sheet was $1.4 million and $930,000, respectively. The current portion of this liability at December 31, 2022 and 2021 was $324,000 and $0, respectively, and was included in Other Current Liabilities.

Income Taxes

The asset and liability method is used in accounting for income taxes. Under this method, deferred tax assets and liabilities are recognized for operating loss and tax credit carryforwards and for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in the results of operations in the period that includes the enactment date.

Deferred tax assets are analyzed to determine if there will be sufficient taxable income in the future in order to realize such assets. We assess all of the positive and negative evidence concerning the realizability of the deferred tax assets, including our historical results of operations for the recent past and our projections of future results of operations, in which we make subjective determinations of future events. If, after assessing all of the evidence, both positive and negative, a determination is made that the realizability of the deferred tax assets is not more likely than not, we establish a deferred tax valuation allowance for all or a portion of the deferred tax assets depending upon the specific facts. If any of the significant assumptions were changed, materially different results could occur, which could significantly change the amount of the deferred tax valuation allowance established. At December 31, 2022 we had a net deferred tax asset of $280,000. At December 31, 2021, we had a net deferred tax liability of $1.4 million. Our deferred tax valuation allowance at December 31, 2022 and 2021 was $180,000 and $64,000, respectively.

Off-Balance Sheet Arrangements

There were no off-balance sheet arrangements during the year ended December 31, 2022 that have or are reasonably likely to have, a material current or future effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, cash requirements or capital resources.

Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

This disclosure is not required for a smaller reporting company.

Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Consolidated financial statements are set forth in this Report beginning at page F-1 and are incorporated by reference into this Item 8.

Item 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

Item 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures, as such term is defined in Rule 13a-15(e) under the Exchange Act. Because there are inherent limitations in all control systems, a control system, no matter how well conceived and operated, can provide only reasonable, as opposed to absolute, assurance that the objectives of the control system are met. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the control. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Our management, including the Chief Executive Officer (“CEO”) and Chief Financial Officer (“CFO”), does not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent all error and all fraud. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected. Accordingly, our management has designed the disclosure controls and procedures to provide reasonable assurance that the objectives of the control system were met.

CEO/CFO Conclusions about the Effectiveness of the Disclosure Controls and Procedures. As required by Rule 13a-15(b) of the Exchange Act, inTEST management, including our CEO and CFO, conducted an evaluation as of the end of the period covered by this Report, of the effectiveness of our disclosure controls and procedures. Based on that evaluation, our CEO and CFO concluded that, as of the end of the period covered by this Report, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control Over Financial Reporting

During the period covered by this Report, there has been no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the period covered by this Report that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rule 13a-15(f) and 15d-15(f) under the Exchange Act as a process designed by, or under the supervision of, our principal executive and principal financial officers and effected by our Board of Directors, management and other personnel 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 and includes those policies and procedures that:

1. pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets;

2. provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and

3. provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of our assets that could have a material effect on the financial statements.

Because of inherent limitations, internal control over financial reporting may not prevent or detect all misstatements. 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.

Management assessed the effectiveness of our internal control over financial reporting at December 31, 2022. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) on Internal Control-Integrated 2013 Framework. Based upon this assessment, management believes that, at December 31, 2022, our internal control over financial reporting is effective at a reasonable assurance level.

This annual report does not include an attestation report of our independent registered public accounting firm regarding our internal control over financial reporting, as an attestation is not required pursuant to rules of the SEC applicable to registrants that are non-accelerated filers.

Item 9B. OTHER INFORMATION

None.

Item 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not Applicable.

PART III

Item 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this Item 10 is incorporated by reference from our definitive proxy statement for our 2023 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year covered by this Report.

Code of Ethics

We have adopted a Code of Ethics (the “Code”) as a guide to the standards of business conduct to which our employees, officers and directors must adhere. A copy of the Code can be found on our website at https://intestcorp.gcs-web.com/corporate-governance. We intend to satisfy the disclosure requirements of the SEC regarding amendments to, or waivers from, the Code by posting such information on the same website.

Item 11. EXECUTIVE COMPENSATION

The information required by this Item 11 is incorporated by reference from our definitive proxy statement for our 2023 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year covered by this Report.

Item 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by Item 201(d) of Regulation S-K is set forth below. The remainder of the information required by this Item 12 is incorporated by reference from our definitive proxy statement for our 2023 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year covered by this Report.

The following table shows the number of securities that may be issued pursuant to our equity compensation plans (including individual compensation arrangements) at December 31, 2022:

Equity Compensation Plan Information

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights(1)	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans(2)
Equity compensation plans approved by security holders	580,419	$ 8.91	1,149,967
Equity compensation plans not approved by security holders	-	-	-
Total	580,419	$ 8.91	1,149,967

(1) The securities that may be issued are shares of inTEST common stock, issuable upon exercise of outstanding stock options.

(2) The securities that remain available for future issuance include 931,119 that are issuable pursuant to the Third Amended and Restated 2014 Stock Plan, as amended, and 218,848 that are issuable pursuant to the inTEST Corporation Employee Stock Purchase Plan.

Item 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this Item 13 is incorporated by reference from our definitive proxy statement for our 2023 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year covered by this Report.

Item 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this Item 14 is incorporated by reference from our definitive proxy statement for our 2023 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year covered by this Report.

PART IV

Item 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a) The documents filed as part of this Annual Report on Form 10-K are:

(i) Our consolidated financial statements and notes thereto as well as the applicable report of our independent registered public accounting firm are included in Part II, Item 8 of this Annual Report on Form 10-K.
(ii) The following financial statement schedule should be read in conjunction with the consolidated financial statements set forth in Part II, Item 8 of this Annual Report on Form 10-K:
Schedule II -- Valuation and Qualifying Accounts
(iii) The exhibits required by Item 601 of Regulation S-K are included under Item 15(b) of this Annual Report on Form 10-K.

(b) Exhibits required by Item 601 of Regulation S-K:

A list of the Exhibits which are required by Item 601 of Regulation S-K and filed with this Report is set forth in the Index to Exhibits immediately preceding the signature page, which Index to Exhibits is incorporated herein by reference.

Item 16. FORM 10-K SUMMARY

None.

Index to Exhibits

Exhibit Number	Description of Exhibit
2.1	Asset Purchase Agreement among inTEST Corporation, Videology Imaging Corporation, Videology Imaging Solutions, Inc. and Carol Ethier dated October 28, 2021. (1)(+)
2.2	Asset Purchase Agreement among Ambrell B.V., Videology Imaging Solutions Europe B.V. and Carol Ethier dated October 28, 2021. (1)(+)
2.3	Securities Purchase Agreement, by and among inTEST Corporation, inTEST Canada Incorporated and Saeed Taheri, dated December 9, 2021. (2)(+)
3.1	Certificate of Incorporation. (3)
3.2	Bylaws as amended and restated on April 23, 2018. (4)
4.1	Description of Securities. (3)
10.1	Lease Agreement between Exeter 804 East Gate, LLC and the Company dated May 10, 2010. (5)
10.2	First Amendment to Lease Agreement, dated September 22, 2020, by and between inTEST Corporation and Exeter 804 East Gate 2018, LLC. (6)
10.3	Second Amendment to Lease Agreement, dated April 7, 2021, by and between inTEST Corporation and Exeter 804 East Gate 2018, LLC. (7)
10.4	Lease Agreement between AMB-SGP Seattle/Boston, LLC and Temptronic Corporation (a subsidiary of the Company), dated October 25, 2010. (8)
10.5	Second Amendment to Lease between James Campbell Company, LLC and Temptronic Corporation dated April 8, 2019. (9)
10.6	Lease Agreement between Columbia California Warm Springs Industrial, LLC and inTEST Silicon Valley Corporation dated January 9, 2012. (10)
10.7	First Amendment to Lease Agreement between Columbia California Warm Springs Industrial, LLC and inTEST Silicon Valley Corporation dated November 18, 2016. (11)
10.8	Second Amendment to Standard Lease Agreement, dated January 23, 2020, by and between inTEST Silicon Valley Corporation and Fremont Business Center, LLC. (12)
10.9	Guaranty Agreements between Columbia California Warm Springs Industrial, LLC and inTEST Corporation dated January 9, 2012. (10)
10.10	Lease Agreement between Maguire Family Properties, Inc. and Ambrell Corporation dated December 19, 2017. (13)
10.11	Guaranty of Lease between Maguire Family Properties, Inc. and Ambrell Corporation dated December 19, 2017. (13)
10.12	Lease Agreement between Apple Creek Properties Limited and Acculogic Inc. dated November 30, 2022. (24)
10.13	Amended and Restated Loan and Security Agreement dated October 15, 2021, among inTEST Corporation, Ambrell Corporation, inTEST Silicon Valley Corporation, inTEST EMS, LLC, Temptronic Corporation and M&T Bank. (25)
10.14	Joinder and Second Amendment to Amended and Restated Loan and Security Agreement, dated December 30, 2021, among inTEST Corporation, Ambrell Corporation, inTEST Silicon Valley Corporation, inTEST EMS, LLC, Temptronic Corporation, Videology Imaging Corporation, Acculogic Ltd., Acculogic Inc. and M&T Bank. (14)
10.15	Third Amendment to Amended and Restated Loan and Security Agreement, dated September 20, 2022, among inTEST Corporation, Ambrell Corporation, inTEST Silicon Valley Corporation, inTEST EMS, LLC, Temptronic Corporation, Videology Imaging Corporation, Acculogic Ltd., Acculogic Inc. and M&T Bank. (26)
10.16	Amended and Restated Delayed Draw Term Note 1, dated October 28, 2021. (1)
10.17	Second Amended and Restated Delayed Draw Term Note 1A, dated December 30, 2021. (14)
10.18	Third Amended and Restated Delayed Draw Term Note 1A, dated September 30, 2022. (26)
10.19	Delayed Draw Term Note 1B, dated December 30, 2021. (14)
10.20	Guarantee and Indemnity Agreement, dated December 30, 2021, among inTEST Corporation, Acculogic Inc. and M&T Bank. (14)
10.21	Pledge Agreement, dated December 30, 2021, between inTEST Corporation and M&T Bank. (14)
10.22	General Security Agreement, dated December 30, 2021, among inTEST Corporation, Acculogic Inc. and M&T Bank. (14)
10.23	Second Amended and Restated Patents, Trademarks, Copyrights and Licenses Security Agreement, dated December 30, 2021, among inTEST Corporation, Ambrell Corporation, inTEST Silicon Valley Corporation, inTEST EMS, LLC, Temptronic Corporation, Videology Imaging Corporation, Acculogic Ltd. and M&T Bank. (14)
10.24	Second Amended and Restated Surety Agreement, dated December 30, 2021, among Ambrell Corporation, inTEST Silicon Valley Corporation, inTEST EMS, LLC, Temptronic Corporation, Videology Imaging Corporation, Acculogic Ltd. and M&T Bank. (14)
10.25	Second Amended and Restated Revolver Note, dated October 15, 2021. (15)
10.26	Form of Indemnification Agreement (16)(*)
10.27	inTEST Corporation Fourth Amended and Restated 2014 Stock Plan (19)(*)
10.28	inTEST Corporation Employee Stock Purchase Plan. (18)(*)
10.29	Letter Agreement between the Company and Richard N. Grant, Jr. dated July 24, 2020 (20)(*)
10.30	Letter Agreement between the Company and Duncan Gilmour dated June 10, 2021(21)
10.31	Change of Control Agreement dated August 11, 2020 between the Company and Richard N. Grant, Jr. (17)(*)

10.32	Change of Control Agreement dated June 10, 2021 between the Company and Duncan Gilmour. (27)(*)
10.33	2021 Executive Compensation Plan. (22)(*)
10.34	2022 Executive Officer Compensation Plan. (23)(*)(+)
10.35	Form of Restricted Stock Award Agreement for Employees. (17)(*)
10.36	Form of Restricted Stock Award Agreement for Directors. (17)(*)
10.37	Form of Non-Qualified Stock Option Agreement. (22)(*)
10.38	Form of Incentive Stock Option Agreement. (22)(*)
10.39	Compensatory Arrangements of Directors. (*)
21	Subsidiaries of the Company.
23	Consent of RSM US LLP.
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a).
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a).
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	Inline XBRL Taxonomy Instance Document
101.SCH	Inline XBRL Taxonomy Extension Schema Document
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (the cover page interactive data file does not appear in Exhibit 104 because its Inline XBRL tags are embedded within the Inline XBRL document).

(1) Previously filed by the Company as an exhibit to the Company’s Current Report on Form 8-K dated October 28, 2021, File No. 001-36117, filed November 2, 2021, and incorporated herein by reference.

(2) Previously filed by the Company as an exhibit to the Company’s Current Report on Form 8-K dated December 9, 2021, File No. 001-36117, filed December 13, 2021, and incorporated herein by reference.

(3) Previously filed by the Company as an exhibit to the Company’s Form 10-K for the year ended December 31, 2019, File No. 001-36117, filed March 23, 2020, and incorporated herein by reference.

(4) Previously filed by the Company as an exhibit to the Company’s Current Report on Form 8-K dated April 23, 2018, File No. 001-36117, filed April 25, 2018, and incorporated herein by reference.

(5) Previously filed by the Company as an exhibit to the Company’s Current Report on Form 8-K dated May 10, 2010, File No. 000-22529, filed May 13, 2010, and incorporated herein by reference.

(6) Previously filed by the Company as an exhibit to the Company’s Current Report on Form 8-K dated September 22, 2020, File No. 001-36117, filed September 24, 2020, and incorporated herein by reference.

(7) Previously filed by the Company as an exhibit to the Company’s Current Report on Form 8-K dated April 7, 2021, File No. 001-36117, filed April 13, 2021, and incorporated herein by reference.

(8) Previously filed by the Company as an exhibit to the Company’s Current Report on Form 8-K dated October 27, 2010, File No. 000-22529, filed October 29, 2010, and incorporated herein by reference.

(9) Previously filed by the Company as an exhibit to the Company’s Current Report on Form 8-K dated April 8, 2019, File No. 001-36117, filed April 12, 2019, and incorporated herein by reference.

(10) Previously filed by the Company as an exhibit to the Company’s Form 10-Q Amendment No. 1 for the quarter ended March 31, 2012, File No. 000-22529, filed May 15, 2012, and incorporated herein by reference.

(11) Previously filed by the Company as an exhibit to the Company’s Current Report on Form 8-K dated November 18, 2016, File No. 001-36117, filed November 22, 2016, and incorporated herein by reference.

(12) Previously filed by the Company as an exhibit to the Company’s Current Report on Form 8-K dated January 23, 2020, File No. 001-36117, filed January 28, 2020, and incorporated herein by reference.

(13) Previously filed by the Company as an exhibit to the Company’s Current Report on Form 8-K dated December 19, 2017, File No. 001-36117, filed December 22, 2017, and incorporated herein by reference.

(14) Previously filed by the Company as an exhibit to the Company’s Current Report on Form 8-K dated December 30, 2021, File No. 001-36117, filed January 6, 2022, and incorporated herein by reference.

(15) Previously filed by the Company as an exhibit to the Company’s Current Report on Form 8-K dated October 15, 2021, File No. 001-36117, filed October 20, 2021, and incorporated herein by reference.

(16) Previously filed by the Company as an exhibit to the Company’s Current Report on Form 8-K dated June 24, 2020, File No. 001-36117, filed June 29, 2020, and incorporated herein by reference.

(17) Previously filed by the Company as an exhibit to the Company’s Form 10-Q for the quarter ended September 30, 2020, File No. 001-36117, filed November 12, 2020, and incorporated herein by reference.

(18) Previously filed by the Company as an exhibit to the Company’s Form 10-Q for the quarter ended June 30, 2021, File No. 001-36117, filed August 12, 2021, and incorporated herein by reference.

(19) Previously filed by the Company as an exhibit to the Company’s Current Report on Form 8-K dated June 22, 2022, File No. 001-36117, filed June 27, 2022, and incorporated herein by reference.

(20) Previously filed by the Company as an exhibit to the Company’s Current Report on Form 8-K dated August 6, 2020, File No. 001-36117, filed August 11, 2020, and incorporated herein by reference.

(21) Previously filed by the Company as an exhibit to the Company’s Current Report on Form 8-K dated June 10, 2021, File No. 001-36117, filed June 14, 2021, and incorporated herein by reference.

(22) Previously filed by the Company as an exhibit to the Company’s Current Report on Form 8-K dated March 10, 2021, File No. 001-36117, filed March 16, 2021, and incorporated herein by reference.

(23) Previously filed by the Company as an exhibit to the Company’s Current Report on Form 8-K dated March 9, 2022, File No. 001-36117, filed March 15, 2022, and incorporated herein by reference.

(24) Previously filed by the Company as an exhibit to the Company’s Current Report on Form 8-K dated November 30, 2022, File No. 001-36117, filed December 6, 2022, and incorporated herein by reference.

(25) Previously filed by the Company as an exhibit to the Company’s Current Report on Form 8-K dated October 15, 2021, File No. 001-36117, filed October 20, 2021, and incorporated herein by reference.

(26) Previously filed by the Company as an exhibit to the Company’s Current Report on Form 8-K dated September 20, 2022, File No. 001-36117, filed September 26, 2022, and incorporated herein by reference

(27) Previously filed by the Company as an exhibit to the Company’s Annual Report on Form 10-K for the year ended December 31, 2021, File No. 001-36117, filed March 23, 2022, and incorporated herein by reference.

(*) Indicates a management contract or compensatory plan, contract or arrangement in which directors or executive officers participate.

(+) This filing omits exhibits and schedules pursuant to Item 601(a)(5) of Regulation S-K, which the registrant agrees to furnish supplementary to the Securities and Exchange Commission upon request.

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.

inTEST Corporation

By: /s/ Richard N. Grant, Jr. March 22, 2023
Richard N. Grant, Jr.
President and Chief Executive Officer

Pursuant to the requirements of 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.

/s/ Richard N. Grant, Jr. Richard N. Grant, Jr., President, Chief Executive Officer and Director (Principal Executive Officer)	March 22, 2023
/s/ Duncan Gilmour. Duncan Gilmour, Chief Financial Officer, Treasurer and Secretary (Principal Financial Officer and Principal Accounting Officer)	March 22, 2023
/s/ Joseph W. Dews IV Joseph W. Dews IV, Chairman	March 22, 2023
/s/ Steven J. Abrams Steven J. Abrams, Esq., Director	March 22, 2023
/s/ Jeffrey A. Beck Jeffrey A. Beck, Director	March 22, 2023
/s/ Gerald J. Maginnis Gerald J. Maginnis, Director	March 22, 2023

inTEST CORPORATION

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS AND FINANCIAL STATEMENT SCHEDULE

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of inTEST Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of inTEST Corporation and its subsidiaries (the Company) as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive earnings, stockholders' equity and cash flows for the years then ended, and the related notes to the consolidated financial statements and schedule (collectively, 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, 2022 and 2021, and the results of its operations and its cash flows for the years then ended, 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 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 Matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of the critical audit matter 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 matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Valuation of Goodwill

As disclosed in Notes 2 and 6 to the Company’s consolidated financial statements, during 2022 the Company had three operating segments which are also its reporting units – Electronic Test, Environmental Technologies, and Process Technologies. As of December 31, 2022, the Company’s goodwill balance of approximately $21.6 million was allocated across the three reporting units as follows: $3.4 million to Electronic Test, $1.8 million to Environmental Technologies and $16.4 million to Process Technologies. The Company performed an annual goodwill impairment test as of October 1, 2022 using a quantitative evaluation for each of its reporting units. The Company determines the fair value of its reporting units using the income approach, based on a discounted cash flow valuation model. To test for goodwill impairment, the Company compares the fair value of each reporting unit to its carrying value.

Given the significant estimates and assumptions management makes to determine the fair value of the reporting units, we identified management's assumptions related to revenue growth rates, projected operating margins, and discount rates utilized in the valuation of the reporting units quantitatively tested for goodwill impairment as a critical audit matter. Auditing the reasonableness of management's estimates and assumptions required a high degree of auditor judgment and an increased extent of effort, including the need to involve our fair value specialists.

Our audit procedures related to the assessment of the valuation of goodwill included, among other procedures, the following:

- We obtained an understanding of management's process for developing the fair value estimate.
- We tested the completeness, accuracy, and relevance of certain underlying data used in the discounted cash flow model.
- We compared and assessed the historical accuracy of management's estimates, including forecasted revenue streams and margins, to identify, understand, and evaluate the reasonableness of the forecasts as compared to the Company's historical results.
- We evaluated the reasonableness of management's forecasts of revenue and margins by comparing the forecasts to (1) the historical results, (2) external market and industry data and (3) internal communications to management and the Board of Directors.
- With the assistance of our valuation specialists, we evaluated the reasonableness of management's valuation methodology and significant assumptions by:
    - Evaluating the reasonableness of the discount rate by comparing the underlying source information to publicly available market data and verifying the accuracy of the calculations.
    - Evaluating the control premiums utilized within the reconciliation to the Company's market capitalization.
    - Evaluating the appropriateness of the valuation methods used by management and testing their mathematical accuracy.

/s/ RSM US LLP

We have served as the Company's auditor since 2008.

Blue Bell, Pennsylvania
March 22, 2023

inTEST CORPORATION
CONSOLIDATED BALANCE SHEETS
(In thousands, except share and per share data)

	December 31, 2022	December 31, 2021
ASSETS		
Current assets:		
Cash and cash equivalents	$ 13,434	$ 21,195
Restricted cash	1,142	-
Trade accounts receivable, net of allowance for doubtful accounts of $496 and $213, respectively	21,215	16,536
Inventories	22,565	12,863
Prepaid expenses and other current assets	1,695	1,483
Total current assets	60,051	52,077
Property and equipment:		
Machinery and equipment	6,625	5,733
Leasehold improvements	3,242	3,001
Gross property and equipment	9,867	8,734
Less: accumulated depreciation	(6,735)	(6,046)
Net property and equipment	3,132	2,688
Right-of-use assets, net	5,770	5,919
Goodwill	21,605	21,448
Intangible assets, net	18,559	21,634
Deferred tax assets	280	-
Restricted certificates of deposit	100	100
Other assets	569	39
Total assets	$ 110,066	$ 103,905
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Current portion of Term Note	$ 4,100	$ 4,100
Current portion of operating lease liabilities	1,645	1,371
Accounts payable	7,394	4,281
Accrued wages and benefits	3,907	4,080
Accrued professional fees	884	1,048
Customer deposits and deferred revenue	4,498	6,038
Accrued sales commission	1,468	863
Domestic and foreign income taxes payable	1,409	2,024
Other current liabilities	1,564	1,267
Total current liabilities	26,869	25,072
Operating lease liabilities, net of current portion	4,705	5,248
Term Note, net of current portion	12,042	16,000
Deferred tax liabilities	-	1,379
Contingent consideration	1,039	930
Other liabilities	455	453
Total liabilities	45,110	49,082
Commitments and Contingencies (Note 14)		
Stockholders' equity:		
Preferred stock, $0.01 par value; 5,000,000 shares authorized; no shares issued or outstanding	-	-
Common stock, $0.01 par value; 20,000,000 shares authorized; 11,063,271 and 10,910,460 shares issued, respectively	111	109
Additional paid-in capital	31,987	29,931
Retained earnings	32,854	24,393
Accumulated other comprehensive earnings	218	594
Treasury stock, at cost; 34,308 and 33,077 shares, respectively	(214)	(204)
Total stockholders' equity	64,956	54,823
Total liabilities and stockholders' equity	$ 110,066	$ 103,905

See accompanying Notes to Consolidated Financial Statements.

inTEST CORPORATION
CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except share and per share data)

	Years Ended December 31,	
	2022	**2021**
Revenue	$ 116,828	$ 84,878
Cost of revenue	63,388	43,654
Gross profit	53,440	41,224
Operating expenses:		
Selling expense	15,903	11,083
Engineering and product development expense	7,529	5,531
General and administrative expense	19,287	15,865
Restructuring and other charges	-	286
Total operating expenses	42,719	32,765
Operating income	10,721	8,459
Interest expense	(635)	(89)
Other income	59	32
Earnings before income tax expense	10,145	8,402
Income tax expense	1,684	1,119
Net earnings	$ 8,461	$ 7,283
Earnings per common share – basic	$ 0.79	$ 0.70
Weighted average common shares outstanding – basic	10,673,017	10,462,246
Earnings per common share – diluted	$ 0.78	$ 0.68
Weighted average common shares and common share equivalents outstanding – diluted	10,862,538	10,729,862

See accompanying Notes to Consolidated Financial Statements.

inTEST CORPORATION
CONSOLIDATED STATEMENTS OF COMPREHENSIVE EARNINGS
(In thousands)

	Years Ended December 31,	
	2022	**2021**
Net earnings	$ 8,461	$ 7,283
Unrealized gain (loss) on interest rate swap agreement	549	(21)
Foreign currency translation adjustments	(925)	(274)
Comprehensive earnings	$ 8,085	$ 6,988

See accompanying Notes to Consolidated Financial Statements

inTEST CORPORATION
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands, except share data)

	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Earnings	Treasury Stock	Total Stockholders' Equity
Balance, January 1, 2021	10,562,200	$ 106	$ 26,851	$ 17,110	$ 889	$ (204)	$ 44,752
Net earnings	-	-	-	7,283	-	-	7,283
Other comprehensive loss	-	-	-	-	(295)	-	(295)
Amortization of deferred compensation related to stock-based awards	-	-	1,450	-	-	-	1,450
Issuance of unvested shares of restricted stock	131,209	1	(1)	-	-	-	-
Forfeiture of unvested shares of restricted stock	(18,125)	-	-	-	-	-	-
Stock options exercised	231,185	2	1,581	-			1,583
Shares issued under Employee Stock Purchase Plan	3,991	-	50	-	-	-	50
Balance, December 31, 2021	10,910,460	$ 109	$ 29,931	$ 24,393	$ 594	$ (204)	$ 54,823
Net earnings	-	-	-	8,461	-	-	8,461
Other comprehensive loss	-	-	-	-	(376)	-	(376)
Amortization of deferred compensation related to stock-based awards	-	-	1,787	-	-	-	1,787
Issuance of unvested shares of restricted stock	123,533	1	(1)	-	-	-	-
Forfeiture of unvested shares of restricted stock	(5,944)	-	-	-	-	-	-
Stock options exercised	8,060	-	38	-	-	-	38
Shares issued under Employee Stock Purchase Plan	27,162	1	232	-	-	-	233
Shares surrendered to satisfy tax liability at vesting of stock-based awards	-	-	-	-	-	(10)	(10)
Balance, December 31, 2022	11,063,271	$ 111	$ 31,987	$ 32,854	$ 218	$ (214)	$ 64,956

See accompanying Notes to Consolidated Financial Statements

inTEST CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Years Ended December 31, 2022	Years Ended December 31, 2021
CASH FLOWS FROM OPERATING ACTIVITIES		
Net earnings	$ 8,461	$ 7,283
Adjustments to reconcile net earnings to net cash provided by (used in) operating activities:		
Depreciation and amortization	4,734	3,145
Provision for excess and obsolete inventory	771	203
Foreign exchange loss	109	34
Amortization of deferred compensation related to stock-based awards	1,787	1,450
Discount on shares sold under Employee Stock Purchase Plan	36	8
Proceeds from sale of demonstration equipment, net of gain	68	145
Loss on disposal of property and equipment	-	50
Deferred income tax benefit	(1,659)	(489)
Changes in assets and liabilities:		
Trade accounts receivable	(4,886)	(4,775)
Inventories	(10,631)	(2,544)
Prepaid expenses and other current assets	(243)	(416)
Restricted certificates of deposit	-	40
Other assets	(2)	(9)
Operating lease liabilities	(1,363)	(1,218)
Accounts payable	2,875	1,177
Accrued wages and benefits	(118)	1,220
Accrued professional fees	(157)	267
Customer deposits and deferred revenue	(1,464)	4,755
Accrued sales commission	621	280
Domestic and foreign income taxes payable	(573)	301
Other current liabilities	184	(59)
Other liabilities	61	(6)
Net cash provided by (used in) operating activities	(1,389)	10,842
CASH FLOWS FROM INVESTING ACTIVITIES		
Acquisitions of businesses, net of cash acquired	-	(20,378)
Payment of contingent consideration related to Z-Sciences acquisition	(179)	-
Refund of final working capital adjustment related to Acculogic	371	-
Purchase of property and equipment	(1,365)	(994)
Purchase of short term investments	(3,494)	-
Sales of short term investments	3,494	-
Net cash used in investing activities	(1,173)	(21,372)
CASH FLOWS FROM FINANCING ACTIVITIES		
Proceeds from Term Note	-	20,500
Repayments of Term Note	(3,958)	(400)
Proceeds from stock options exercised	38	1,582
Proceeds from shares sold under Employee Stock Purchase Plan	197	43
Acquisition of treasury stock-shares surrendered by employees to satisfy tax liability	(10)	-
Net cash provided by (used in) financing activities	(3,733)	21,725
Effects of exchange rates on cash	(324)	(277)
Net cash provided by (used in) all activities	(6,619)	10,918
Cash, cash equivalents and restricted cash at beginning of period	21,195	10,277
Cash, cash equivalents and restricted cash at end of period	$ 14,576	$ 21,195
Cash payments for:		
Domestic and foreign income taxes	$ 3,924	$ 1,322
SUPPLEMENTAL DISCLOSURE OF NON-CASH INVESTING AND FINANCING ACTIVITIES:		
Issuance of unvested shares of restricted stock	$ 1,138	$ 1,541
Forfeiture of unvested shares of restricted stock	(54)	(164)
Details of acquisitions (Note 3):		
Fair value of assets acquired, net of cash	$ (49)	$ 17,717
Liabilities assumed	-	(3,849)
Contingent consideration	500	(1,109)
Goodwill resulting from acquisitions	(451)	7,619
Net cash paid for acquisitions	$ -	$ 20,378

See accompanying Notes to Consolidated Financial Statements.

(1) NATURE OF OPERATIONS

We are a global supplier of innovative test and process solutions for use in manufacturing and testing across a wide range of markets including automotive, defense/aerospace, industrial, life sciences, security and semiconductor. During the year ended December 31, 2021, we managed our business as two operating segments which were also our reportable segments and reporting units: Thermal Products ("Thermal") and Electromechanical Solutions ("EMS"). As discussed further in Note 19, effective January 1, 2022, we reorganized our operating segments. Accordingly, for 2022, we have three operating segments which are also our reportable segments and reporting units: Electronic Test, Environmental Technologies and Process Technologies. Prior period information has been reclassified to be comparable to the current period's presentation.

The consolidated entity is comprised of inTEST Corporation and our wholly-owned subsidiaries. We manufacture our products in the U.S., Canada and the Netherlands. Marketing and support activities are conducted worldwide from our facilities in the U.S., Canada, Germany, Singapore, the Netherlands and the U.K. We operate our business worldwide and sell our products both domestically and internationally.

All of our operating segments have multiple products that we design, manufacture and market to our customers. Due to a number of factors, our products have varying levels of gross margin. The mix of products we sell in any period is ultimately determined by our customers' needs. Therefore, the mix of products sold in any given period can change significantly from the prior period. In addition, we sell our products to a variety of different types of customers with varying levels of discounts and commission expense. As a result of changes in both the mix of products sold as well as customer mix in any given period, our consolidated gross margin can vary significantly from period to period.

The semiconductor market ("semi" or the "semi market") which includes both the broader semiconductor market, as well as the more specialized automated test equipment ("ATE") and wafer production sectors within the broader semiconductor market, has historically been the largest single market in which we operate. The semi market is characterized by rapid technological change, competitive pricing pressures and cyclical as well as seasonal market patterns. The semi market is also subject to periods of significant expansion or contraction in demand. In addition to the semi market, we sell into a variety of other markets. Our intention is to continue diversifying our markets, our product offerings within the markets we serve and our customer base across all of our markets with the goal of reducing our dependence on any one market, product or customer. In particular, we are seeking to reduce the impact of volatility in the semi market on our results of operations.

Our Electronic Test segment sells its products to semiconductor manufacturers and third-party test and assembly houses (end user sales) and to ATE manufacturers (original equipment manufacturer ("OEM") sales), who ultimately resell our equipment with theirs to both semiconductor manufacturers and third-party test and assembly houses. These sales all fall within the ATE sector of the semi market. With the acquisition of Acculogic in December 2021, our Electronic Test segment also sells its products to customers in markets outside the semi market including the automotive, defense/aerospace, industrial and life sciences markets. Our Environmental Technologies segment sells its products to end users and OEMs within the ATE sector of the semi market. It also sells its products to customers in a variety of other markets other than the semi market, including the automotive, defense/aerospace, industrial and life sciences markets. Our Process Technologies segment sells its products to customers in the wafer production sector within the semi market. It also sells its products to customers in a variety of other markets other than the semi market, including the automotive, defense/aerospace, industrial, life sciences and security markets.

Our financial results are affected by a wide variety of factors, including, but not limited to, general economic conditions worldwide and in the markets in which we operate, economic conditions specific to the semi market and the other markets we serve, downward pricing pressures from customers, our reliance on a relatively few number of customers for a significant portion of our sales and our ability to safeguard patented technology and intellectual property in a rapidly evolving market. In addition, we are exposed to the risk of obsolescence of our inventory depending on the mix of future business and technological changes within the markets that we serve. Part of our strategy for growth includes potential acquisitions that may cause us to incur substantial expense in reviewing and evaluating potential transactions. We may or may not be successful in locating suitable businesses to acquire and in closing acquisitions of businesses we pursue. In addition, we may not be able to successfully integrate any business we do acquire with our existing business and we may not be able to operate the acquired business profitably. As a result of these or other factors, we may experience significant period-to-period fluctuations in future operating results.

COVID-19 Pandemic

We are following the guidance of the Centers for Disease Control and Prevention (the “CDC”) and the local regulatory authorities in regions outside the U.S. While we are no longer requiring employees to wear masks indoors in our domestic locations or conducting temperature screenings, we are encouraging all employees to receive COVID-19 vaccinations and boosters, if possible, and to stay home if they feel sick. We are continuing to allow employees to work remotely either part-time or full-time in circumstances when possible. We continue to monitor the situation closely in the regions in which we operate in the U.S. and abroad and will adjust our operations as necessary to protect the health and well-being of our employees. To the extent that further governmental mandates or restrictions are implemented in the future, we currently expect to be able to continue to operate our business in a manner similar to how we have operated over the past three years.

(2) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation and Use of Estimates

The accompanying consolidated financial statements include our accounts and those of our wholly owned subsidiaries. All significant intercompany accounts and transactions have been eliminated upon consolidation. The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP") requires us 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 financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. Certain of our accounts, including inventories, long-lived assets, goodwill, identifiable intangibles and deferred tax assets and liabilities including related valuation allowances, are particularly impacted by estimates.

Reclassifications

Certain prior year amounts have been reclassified to be comparable with the current year's presentation.

Subsequent Events

We have made an assessment of our operations and determined that there were no material subsequent events requiring adjustment to, or disclosure in, our consolidated financial statements for the year ended December 31, 2022.

Business Combinations

Acquired businesses are accounted for using the purchase method of accounting, which requires that the purchase price be allocated to the net assets acquired at their respective fair values. Any excess of the purchase price over the estimated fair values of the net assets acquired is recorded as goodwill. Fair values of intangible assets are estimated by valuation models prepared by our management and third-party advisors. The assets purchased and liabilities assumed have been reflected in our consolidated balance sheets, and the operating results are included in the consolidated statements of operations and consolidated statements of cash flows from the date of acquisition. Any change in the fair value of acquisition-related contingent consideration subsequent to the acquisition date, including changes from events after the acquisition date, will be recognized in the consolidated statement of operations in the period of the estimated fair value change. Acquisition-related transaction costs, including legal and accounting fees and other external costs directly related to the acquisition, are recognized separately from the acquisition and expensed as incurred in general and administrative expense in the consolidated statements of operations.

Restructuring and Other Charges

In accordance with the guidance in Accounting Standards Codification (“ASC”) Topic 420 (Exit or Disposal Cost Obligations), we recognize a liability for restructuring costs at fair value only when the liability is incurred. Workforce-related charges are accrued when it is determined that a liability has been incurred, which is generally after individuals have been notified of their termination dates and expected severance benefits. Depending on the timing of the termination dates, these charges may be recognized upon notification or ratably over the remaining required service period of the employees. Plans to consolidate excess facilities may result in lease termination fees and impairment charges related to our right-of-use (“ROU”) assets that are associated with the leases for these facilities. Other long-lived assets that may be impaired as a result of restructuring consist of property and equipment, goodwill and intangible assets. Asset impairment charges included in restructuring and other charges are based on an estimate of the amounts and timing of future cash flows related to the expected future remaining use and ultimate sale or disposal of the asset, and, in the case of our ROU assets, would include expected future sublease rental income, if applicable. These estimates are derived using the guidance in ASC Topic 842 (Leases), ASC Topic 360 (Property, Plant and Equipment) and ASC Topic 350 (Intangibles - Goodwill and Other).

Cash, Cash Equivalents and Restricted Cash

Short-term investments that have maturities of three months or less when purchased are considered to be cash equivalents and are carried at cost, which approximates fair value. Our cash balances, which are deposited with highly reputable financial institutions, at times may exceed the federally insured limits. We have not experienced any losses related to these cash balances and believe the credit risk to be minimal.

Restricted cash represents amounts deposited at our bank in the Netherlands to support a bank guarantee which one of the customers of our induction heating products required as a condition of paying a deposit on a large order they placed with us in 2022. The amount of the deposit, and, accordingly, the guarantee, was EUR 1,160. At December 31, 2022 this amount was $1,142. The related order is Euro denominated.

The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported within the consolidated balance sheets and the consolidated statements of cash flows:

	December 31, 2022	December 31, 2021
Cash and cash equivalents	$ 13,434	$ 21,195
Restricted cash	1,142	-
Total cash, cash equivalents and restricted cash	$ 14,576	$ 21,195

Trade Accounts Receivable and Allowance for Doubtful Accounts

Trade accounts receivable are recorded at the invoiced amount and do not bear interest. We grant credit to customers and generally require no collateral. To minimize our risk, we perform ongoing credit evaluations of our customers' financial condition. The allowance for doubtful accounts is 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 the aging of such receivables, among other factors. Account balances are charged off against the allowance after all means of collection have been exhausted and the potential for recovery is considered remote. We do not have any significant off-balance sheet credit exposure related to our customers. Bad debt recoveries totaled $470 for the year ended December 31, 2022. These amounts had all been fully written off in a prior period or pre-acquisition, in the case of recently acquired businesses, and were no longer in our accounts receivable balance. Bad debt expense to reserve for items currently in our accounts receivable balance which we do not expect to collect totaled $286k for the year. There was no bad debt expense (recovery) recorded for the year ended December 31, 2021. Cash flows from accounts receivable are recorded in operating cash flows.

Fair Value of Financial Instruments

Our financial instruments include cash and cash equivalents, accounts receivable, accounts payable, accrued expenses, our credit facility, interest rate swaps and our liabilities for contingent consideration. Our cash and cash equivalents, accounts receivable, accounts payable and accrued expenses are carried at cost which approximates fair value, due to the short maturities of the accounts. Our credit facility and our interest rate swap are discussed further below and in Note 12. Our liabilities for contingent consideration are accounted for in accordance with the guidance in Accounting Standards Codification ASC 820 (Fair Value Measurement). ASC 820 establishes a fair value hierarchy for instruments measured at fair value that distinguishes between assumptions based on market data (observable inputs) and our own assumptions (unobservable inputs). Our contingent consideration liabilities are measured at fair value on a recurring basis using Level 3 inputs which are inputs that are unobservable and significant to the overall fair value measurement. These unobservable inputs reflect our assumptions about the inputs that market participants would use in pricing the asset or liability and are developed based on the best information available in the circumstances. See Note 4 for further disclosures related to the fair value of our liabilities for contingent consideration.

Goodwill, Intangible and Long-Lived Assets

As discussed in Notes 1 and 19, during the year ended December 31, 2021, we managed our business as two operating segments which were also our reportable segments and reporting units: Thermal and EMS. Effective January 1, 2022, we reorganized our operating segments. Accordingly, for 2022, we have three operating segments which are also our reportable segments and reporting units: Electronic Test, Environmental Technologies and Process Technologies.

We account for goodwill and intangible assets in accordance with Accounting Standards Codification ("ASC") Topic 350 (Intangibles - Goodwill and Other). Finite-lived intangible assets are amortized over their estimated useful economic life and are carried at cost less accumulated amortization. Goodwill is assessed for impairment annually at the beginning of the fourth quarter on a reporting unit basis, or more frequently when events and circumstances occur indicating that the recorded goodwill may be impaired. Goodwill is considered to be impaired if the fair value of a reporting unit is less than its carrying amount. As a part of the goodwill impairment assessment, we have the option to perform a qualitative assessment to determine whether it is more-likely-than-not that the fair value of a reporting unit is less than its carrying amount. If, as a result of our qualitative assessment, we determine that it is more-likely-than-not that the fair value of the reporting unit is greater than its carrying amount, a quantitative goodwill impairment test is not required. However, if, as a result of our qualitative assessment, we determine it is more-likely-than-not that the fair value of a reporting unit is less than its carrying amount, or, if we choose not to perform a qualitative assessment, we are required to perform a quantitative goodwill impairment test to identify potential goodwill impairment and measure the amount of goodwill impairment loss to be recognized.

The quantitative goodwill impairment test compares the fair value of a reporting unit with its carrying amount, including goodwill. If the fair value of a reporting unit exceeds its carrying amount, goodwill of the reporting unit is considered not impaired. If the carrying amount of a reporting unit exceeds its fair value, an impairment loss will be recognized in an amount equal to that excess, limited to the total amount of goodwill allocated to that reporting unit. The goodwill impairment assessment is based upon the income approach, which estimates the fair value of our reporting units based upon a discounted cash flow approach. This fair value is then reconciled to our market capitalization at year end with an appropriate control premium. The determination of the fair value of our reporting units requires management to make significant estimates and assumptions including the selection of control premiums, discount rates, terminal growth rates, forecasts of revenue and expense growth rates, income tax rates, changes in working capital, depreciation, amortization and capital expenditures. Changes in assumptions concerning future financial results or other underlying assumptions could have a significant impact on either the fair value of the reporting unit or the amount of the goodwill impairment charge.

Indefinite-lived intangible assets are assessed for impairment annually at the beginning of the fourth quarter, or more frequently if events or changes in circumstances indicate that the asset might be impaired. As a part of the impairment assessment, we have the option to perform a qualitative assessment to determine whether it is more likely than not that an indefinite-lived intangible asset is impaired. If, as a result of our qualitative assessment, we determine that it is more-likely-than-not that the fair value of the indefinite-lived intangible asset is less than its carrying amount, the quantitative impairment test is required; otherwise, no further testing is required. The quantitative impairment test consists of a comparison of the fair value of the intangible asset with its carrying amount. If the carrying amount of the intangible asset exceeds its fair value, an impairment loss is recognized in an amount equal to that excess.

Long-lived assets, which consist of finite-lived intangible assets, property and equipment and right-of-use ("ROU") assets, are assessed for impairment whenever events or changes in business circumstances indicate that the carrying amount of the assets may not be fully recoverable or that the useful lives of these assets are no longer appropriate. Each impairment test is based on a comparison of the estimated undiscounted cash flows to the recorded value of the asset. If impairment is indicated, the asset is written down to its estimated fair value. The cash flow estimates used to determine the impairment, if any, contain management's best estimates using appropriate assumptions and projections at that time.

Revenue Recognition

We recognize revenue in accordance with the guidance in ASC Topic 606 (Revenue from Contracts with Customers). We recognize revenue for the sale of products or services when our performance obligations under the terms of a contract with a customer are satisfied and control of the product or service has been transferred to the customer. Generally, this occurs when we ship a product or perform a service. In certain cases, recognition of revenue is deferred until the product is received by the customer or at some other point in the future when we have determined that we have satisfied our performance obligations under the contract. Our contracts with customers may include a combination of products and services, which are generally capable of being distinct and accounted for as separate performance obligations. In addition to the sale of products and services, we also lease certain of our equipment to customers under short-term lease agreements. We recognize revenue from equipment leases on a straight-line basis over the lease term.

Revenue is recorded in an amount that reflects the consideration we expect to receive in exchange for those products or services. We do not have any material variable consideration arrangements, or any material payment terms with our customers other than standard payment terms which generally range from net 30 to net 90 days. We generally do not provide a right of return to our customers. Revenue is recognized net of any taxes collected from customers, which are subsequently remitted to governmental authorities.

Nature of Products and Services

We are a global supplier of innovative test and process solutions for use in manufacturing and testing in targeted markets including automotive, defense/aerospace, industrial, life sciences, security and semiconductor. We sell thermal management products including ThermoStreams, ThermoChambers, process chillers, refrigerators and freezers, which we sell under our Temptronic, Sigma, Thermonics and North Sciences (formerly Z-Sciences) product lines, and Ambrell Corporation's ("Ambrell") precision induction heating systems, including EKOHEAT and EASYHEAT products. As a result of the acquisition of Videology, we sell industrial-grade circuit board mounted video digital cameras and related devices, systems and software. We sell semiconductor ATE interface solutions which include manipulators, docking hardware and electrical interface products. As a result of the acquisition of Acculogic, we sell robotics-based electronic production test equipment. We provide post-warranty service and support for the equipment we sell. We sell semiconductor ATE interface solutions and certain thermal management products to the semi market. We also sell many of our products to various other markets including the automotive, defense/aerospace, industrial, life sciences and security markets.

We lease certain of our equipment under short-term leasing agreements with original lease terms of six months or less. Our lease agreements do not contain purchase options.

Types of Contracts with Customers

Our contracts with customers are generally structured as individual purchase orders which specify the exact products or services being sold or equipment being leased along with the selling price, service fee or monthly lease amount for each individual item on the purchase order. Payment terms and any other customer-specific acceptance criteria are also specified on the purchase order. We generally do not have any customer-specific acceptance criteria, other than that the product performs within the agreed upon specifications. We test substantially all products manufactured as part of our quality assurance process to determine that they comply with specifications prior to shipment to a customer.

Contract Balances

We record accounts receivable at the time of invoicing. Accounts receivable, net of the allowance for doubtful accounts, is included in current assets on our balance sheet. To the extent that we do not recognize revenue at the same time as we invoice, we record a liability for deferred revenue. In certain instances, we also receive customer deposits in advance of invoicing and recording of accounts receivable. Deferred revenue and customer deposits are included in current liabilities on our consolidated balance sheets.

The allowance for doubtful accounts reflects our best estimate of probable losses inherent in the accounts receivable balance. We determine the allowance based on known troubled accounts, if any, historical experience, and other currently available evidence.

Costs to Obtain a Contract with a Customer

The only costs we incur associated with obtaining contracts with customers are sales commissions that we pay to our internal sales personnel or third-party sales representatives. These costs are calculated based on set percentages of the selling price of each product or service sold. Commissions are considered earned by our internal sales personnel at the time we recognize revenue for a particular transaction. Commissions are considered earned by third-party sales representatives at the time that revenue is recognized for a particular transaction. We record commission expense in our consolidated statements of operations at the time the commission is earned. Commissions earned but not yet paid are included in current liabilities on our balance sheets.

Product Warranties

In connection with the sale of our products, we generally provide standard one- or two-year product warranties which are detailed in our terms and conditions and communicated to our customers. Our standard warranties are not offered for sale separately from our products; therefore, there is not a separate performance obligation related to our standard warranties. We record estimated warranty expense for our standard warranties at the time of sale based upon historical claims experience. We offer customers an option to separately purchase an extended warranty on certain products. In the case of extended warranties, we recognize revenue in the amount of the sale price for the extended warranty on a straight-line basis over the extended warranty period. We record costs incurred to provide service under an extended warranty at the time the service is provided. Warranty expense is included in selling expense in our consolidated statements of operations.

See Notes 7 and 19 for further information about our revenue from contracts with customers.

Inventories

Inventories are valued at cost on a first-in, first-out basis, not in excess of market value. Cash flows from the sale of inventories are recorded in operating cash flows. On a quarterly basis, we review our inventories and record excess and obsolete inventory charges based upon our established objective excess and obsolete inventory criteria. Our criteria identify excess material as the quantity of material on hand that is greater than the average annual usage of that material over the prior three years. Our criteria identify obsolete material as material that has not been used in a work order during the prior twenty-four months. In certain cases, additional excess and obsolete inventory charges are recorded based upon current market conditions, anticipated product life cycles, new product introductions and expected future use of the inventory. The excess and obsolete inventory charges we record establish a new cost basis for the related inventories. We incurred excess and obsolete inventory charges of $771 and $203 for the years ended December 31, 2022 and 2021, respectively.

Property and Equipment

Machinery and equipment are stated at cost, except for machinery and equipment acquired in a business combination, which are stated at fair value at the time of acquisition. As previously discussed above under "Goodwill, Intangible and Long-Lived Assets," machinery and equipment that has been determined to be impaired is written down to its fair value at the time of the impairment. Depreciation is based upon the estimated useful life of the assets using the straight-line method. The estimated useful lives range from one to ten years. Leasehold improvements are recorded at cost and amortized over the shorter of the lease term or the estimated useful life of the asset. Total depreciation expense was $809 and $666 for the years ended December 31, 2022 and 2021, respectively.

Leases

We account for leases in accordance with ASC Topic 842 (Leases). We determine if an arrangement is a lease at inception. A lease contract is within scope if the contract has an identified asset (property, plant or equipment) and grants the lessee the right to control the use of the asset during the lease term. The identified asset may be either explicitly or implicitly specified in the contract. In addition, the supplier must not have any practical ability to substitute a different asset and would not economically benefit from doing so for the lease contract to be in scope. The lessee’s right to control the use of the asset during the term of the lease must include the ability to obtain substantially all of the economic benefits from the use of the asset as well as decision-making authority over how the asset will be used. Leases are classified as either operating leases or finance leases based on the guidance in ASC Topic 842. Operating leases are included in operating lease ROU assets and operating lease liabilities in our consolidated balance sheets. Finance leases are included in property and equipment and financing lease liabilities. We do not currently have any financing leases.

ROU assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. None of our leases provide an implicit rate; therefore, we use our incremental borrowing rate based on the information available at commencement date in determining the present value of lease payments. The operating lease ROU asset also includes any lease payments made and excludes lease incentives. Our lease terms may include options to extend or terminate the lease. We include these options in the determination of the amount of the ROU asset and lease liability when it is reasonably certain that we will exercise that option. Lease expense for lease payments is recognized on a straight-line basis over the lease term. Certain of our operating leases contain predetermined fixed escalations of minimum rentals and rent holidays during the original lease terms. Rent holidays are periods during which we have control of the leased facility but are not obligated to pay rent. For these leases, our ROU asset and lease liability are calculated including any rent holiday in the determination of the life of the lease.

We have lease agreements which contain both lease and non-lease components, which are generally accounted for separately. In addition to the monthly rental payments due, most of our leases for our offices and warehouse facilities include non-lease components representing our portion of the common area maintenance, property taxes and insurance charges incurred by the landlord for the facilities which we occupy. These amounts are not included in the calculation of the ROU assets and lease liabilities as they are based on actual charges incurred in the periods to which they apply.

Operating lease payments are included in cash outflows from operating activities on our consolidated statements of cash flows. Amortization of ROU assets is presented separately from the change in operating lease liabilities and is included in Depreciation and Amortization on our consolidated statements of cash flows.

We have made an accounting policy election not to apply the recognition requirements of ASC Topic 842 to short-term leases (leases with a term of one year or less at the commencement date of the lease). Lease expense for short-term lease payments is recognized on a straight-line basis over the lease term.

See Note 10 for further disclosures regarding our leases.

Interest Rate Swap Agreement

We are exposed to interest rate risk on our floating-rate debt. We have entered into an interest rate swap agreement to effectively convert our floating-rate debt to a fixed-rate basis for a portion of our floating rate debt, as discussed further in Notes 4 and 12. The principal objective of this agreement is to eliminate the variability of the cash flows for interest payments associated with our floating-rate debt, thus reducing the impact of interest rate changes on future interest payment cash flows. We have elected to apply the hedge accounting rules in accordance with ASC Topic 815 (Derivatives and Hedging). Further, we have determined that this agreement qualifies for the shortcut method of hedge accounting. Changes in the fair value of interest rate swap agreements designated as cash flow hedges are recorded as a component of accumulated other comprehensive income (loss) within stockholders’ equity and are amortized to interest expense over the term of the related debt.

Contingent Liability for Repayment of State and Local Grant Funds Received

In connection with leasing a facility in Rochester, New York, which our subsidiary, Ambrell, occupied in May 2018, we entered into agreements with the city of Rochester and the state of New York under which we received grants totaling $550 to help offset a portion of the cost of the leasehold improvements we made to this facility. The final payment of $87 was received during the three months ended March 31, 2022. In exchange for the funds we received under these agreements, we are required to create and maintain specified levels of employment in this location through various dates ending in 2024. If we fail to meet these employment targets, we may be required to repay a proportionate share of the proceeds. At December 31, 2022, $285 of the total proceeds received could still be required to be repaid if we do not meet the targets. We have recorded this amount as a contingent liability which is included in other liabilities on our consolidated balance sheet. Those portions of the proceeds which are no longer subject to repayment are reclassified to deferred grant proceeds and amortized to income on a straight-line basis over the remaining lease term for the Rochester facility. Deferred grant proceeds are included in other current liabilities and other liabilities on our balance sheet and totaled $208 at December 31, 2022. At December 31, 2022, we were in compliance with the employment targets as specified in the grant agreement with the city of Rochester.

Stock-Based Compensation

We account for stock-based compensation in accordance with ASC Topic 718 (Compensation - Stock Compensation) which requires that employee share-based equity awards be accounted for under the fair value method and requires the use of an option pricing model for estimating fair value of stock options, which is then amortized to expense over the service periods. See further disclosures related to our stock-based compensation plans in Note 15.

Engineering and Product Development

Engineering and product development costs, which consist primarily of the salary and related benefits costs of our technical staff, as well as the cost of materials used in product development, are expensed as incurred.

Foreign Currency

For our foreign subsidiaries whose functional currencies are not the U.S. dollar, assets and liabilities are translated using the exchange rate in effect at the balance sheet date. The results of operations are translated using an average exchange rate for the period. The effects of rate fluctuations in translating assets and liabilities of these international operations into U.S. dollars are included in accumulated other comprehensive earnings in stockholders' equity. Transaction gains or losses are included in net earnings. For the years ended December 31, 2022 and 2021, foreign currency transaction losses were $109 and $34, respectively.

Income Taxes

The asset and liability method is used in accounting for income taxes. Under this method, deferred tax assets and liabilities are recognized for operating loss and tax credit carryforwards and for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in the results of operations in the period that includes the enactment date. A valuation allowance is recorded to reduce the carrying amounts of deferred tax assets if it is more likely than not that such assets will not be realized. See Note 13 for additional information regarding income taxes.

Net Earnings (Loss) Per Common Share

Net earnings (loss) per common share - basic is computed by dividing net earnings (loss) by the weighted average number of common shares outstanding during each period. Net earnings (loss) per common share - diluted is computed by dividing net earnings (loss) by the weighted average number of common shares and common share equivalents outstanding during each period. Common share equivalents represent unvested shares of restricted stock and stock options and are calculated using the treasury stock method. Common share equivalents are excluded from the calculation if their effect is anti-dilutive.

The table below sets forth, for the periods indicated, a reconciliation of weighted average common shares outstanding - basic to weighted average common shares and common share equivalents outstanding - diluted and the average number of potentially dilutive securities that were excluded from the calculation of diluted earnings (loss) per share because their effect was anti-dilutive:

	Years Ended December 31,	
	2022	**2021**
Weighted average common shares outstanding–basic	10,673,017	10,462,246
Potentially dilutive securities:		
Unvested shares of restricted stock and employee stock options	189,521	267,616
Weighted average common shares and common share equivalents outstanding–diluted	10,862,538	10,729,862
Average number of potentially dilutive securities excluded from calculation	478,024	231,938

Effect of Recently Issued Amendments to Authoritative Accounting Guidance

In June 2016, the Financial Accounting Standards Board ("FASB") issued amendments to the guidance for accounting for credit losses. In November 2019, the FASB deferred the effective date of these amendments for certain companies, including smaller reporting companies. As a result of the deferral, the amendments are effective for us for reporting periods beginning after December 15, 2022. The amendments replace the incurred loss impairment methodology under current GAAP with a methodology that reflects expected credit losses and requires the use of a forward-looking expected credit loss model for accounts receivables, loans, and other financial instruments. The amendments require a modified retrospective approach through a cumulative-effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is effective. We plan to adopt the amendments when they become effective for us on January 1, 2023. The adoption of these amendments will not have a material impact on our consolidated financial statements.

(3) ACQUISITIONS

Z-Sciences

On October 6, 2021, we acquired substantially all of the assets of Z-Sciences, a developer of ultra-cold storage solutions for the medical cold chain market. The acquisition of this technology enhanced our medical offerings and increases our presence in the life sciences market which is a key target market for us. Z-Sciences was founded in 2004. Its founder joined us as a consultant and is expected to become an employee in 2023. The purchase price for Z-Sciences was $500 in cash, subject to a customary post-closing working capital adjustment, $300 of which was paid at closing. The remaining balance of the purchase price was paid on the one-year anniversary of closing. In addition to his salary, in connection with his prospective employment, the Z-Sciences founder will receive a multi-year restricted stock award with vesting provisions which would be contingent upon achieving future performance milestones related to sales growth and profitability of products related to the Z-Sciences business for the fiscal years from 2022 through 2026. The award will be valued at a maximum of $1,800. The actual numbers of shares to be awarded will be based on the stock price on the date of grant with a cap of 200,000 shares at the 100% attainment level of the vesting provisions that are defined in the restricted stock award agreement. The value of the award will be recorded as compensation expense in our statement of operations on a straight-line basis over the period in which the shares vest. Total acquisition costs incurred to complete this transaction were $82. Acquisition costs were expensed as incurred and included in general and administrative expense in 2021.

The acquisition of Z-Sciences has been accounted for as a business combination using purchase accounting, and, accordingly, the results of Z-Sciences have been included in our consolidated results of operations from the date of acquisition. The allocation of the Z-Sciences' purchase price was based on estimated fair values at October 6, 2021.

The excess of the purchase price over the identifiable intangible and net tangible assets was allocated to goodwill and is deductible for tax purposes. Goodwill is attributed to synergies that are expected to result from the operations of the combined businesses.

The total purchase price of $479, which includes $179 for the estimated fair value of contingent consideration, has been allocated as follows:

Goodwill	$	111
Identifiable intangible asset – Customer Relationships		389
Tangible assets acquired and liabilities assumed:		
Trade accounts receivable		24
Inventories		4
Accounts payable		(21)
Accrued expenses		(28)
Total purchase price	$	479

We estimated the fair value of Z-Sciences identifiable intangible asset, which represents customer relationships, using an income approach. The weighted average estimated useful life of this asset is fourteen years. We are amortizing this asset over its estimated useful life based on the pattern in which the economic benefits of the asset are expected to be consumed.

For the period from October 6, 2021 to December 31, 2021, Z-Sciences contributed $15 of revenue. Subsequent to the date of acquisition, Z-Sciences was re-branded as North Sciences and is being operated as a product line of our iTS subsidiary. As such, net earnings are not separately tracked.

Unaudited pro forma information which would give effect to the acquisition of Z-Sciences as if the acquisition occurred on January 1, 2020 is not presented because the financial results for Z-Sciences prior to our acquisition are considered immaterial.

Videology

On October 28, 2021, we acquired substantially all of the assets of Videology, a global designer, developer and manufacturer of OEM digital streaming and image capturing solutions. The acquisition of Videology expanded our process technology solutions, diversified our reach into key targeted markets and broadened our customer base. It also builds on our process technology platforms by expanding our automation capabilities to add future product solutions with imaging data and analytical tools. The purchase price for Videology was $12,000 paid in cash at closing subject to a customary post-closing working capital adjustment. Total acquisition costs incurred to complete this transaction were $288. Acquisition costs were expensed as incurred and included in general and administrative expense in 2021.

The acquisition of Videology has been accounted for as a business combination using purchase accounting, and, accordingly, the results of Videology have been included in our consolidated results of operations from the date of acquisition. The allocation of the Videology purchase price was based on estimated fair values at October 27, 2021.

The excess of the purchase price over the identifiable intangible and net tangible assets was allocated to goodwill and is deductible for tax purposes. Goodwill is attributed to synergies that are expected to result from the operations of the combined businesses.

The total purchase price of $12,094 has been allocated as follows:

Goodwill	$	4,596
Identifiable intangible assets		5,246
Tangible assets acquired and liabilities assumed:		
Cash		71
Trade accounts receivable		771
Inventories		1,726
Other current assets		57
Property and equipment		70
Accounts payable		(281)
Accrued expenses		(162)
Total purchase price	$	12,094

We estimated the fair value of identifiable intangible assets acquired using the income approach. Identifiable intangible assets acquired include customer relationships, customer backlog, technology and a tradename. We are amortizing the finite-lived intangible assets acquired over their estimated useful lives based on the pattern in which the economic benefits of the intangible asset are expected to be consumed.

The following table summarizes the estimated fair value of Videology's identifiable intangible assets and their estimated useful lives as of the acquisition date:

	Fair Value	Weighted Average Estimated Useful Life (in years)
Finite-lived intangible assets:		
Customer relationships	$ 2,960	14.0
Technology	1,050	9.0
Customer backlog	386	0.8
Total finite-lived intangible assets	4,396	11.6
Indefinite-lived intangible assets:		
Tradename	850	
Total intangible assets	$ 5,246	

For the period from October 27, 2021 to December 31, 2021, Videology contributed $1,434 of revenue and had a net loss of $146.

The following unaudited pro forma information gives effect to the acquisition of Videology as if the acquisition occurred on January 1, 2021. These proforma results do not reflect any operating efficiencies or costs savings that may be achieved by the combined businesses. These pro forma results reflect the impact on general and administrative expense of investment advisory costs, legal costs and other costs of $288 incurred by us as a direct result of the transaction as those costs were actually incurred. No adjustment to the timing or amount of these costs have been made in these proforma results. These proforma results are presented for informational purposes only and are not necessarily indicative of what the actual results of operations would have been had the acquisition taken place as of that date, nor are they indicative of future consolidated results of operations:

	Year Ended December 31, 2021
Revenue	$ 92,591
Net earnings	$ 9,024
Diluted earnings per share	$ 0.84

Acculogic

On December 21, 2021, we completed our acquisition of Acculogic, a global manufacturer of robotics-based electronic production test equipment and application support services. The Acculogic acquisition added electronics test capabilities with new technologies and services as well as broadened our customer base, furthered our end market diversification and expanded our international footprint. The purchase price for Acculogic was approximately $8,500 paid in cash at closing subject to a customary post-closing working capital adjustment. During the quarter ended June 30, 2022, the post-closing working capital adjustment was finalized and resulted in a reduction in the purchase price of $371 as a result of a reduction in the estimated fair value of accounts receivable acquired. In addition, we may pay the seller up to an additional CAD $5,000 in the five-year period from 2022 through 2026. The additional payments will be based on a percent of net invoices for which payments have been received on systems sold to EV or battery customers in excess of CAD $2,500 per year in each of the five years. The maximum payment is capped at CAD $5,000, which equates to approximately $3,700 at December 31, 2022. There was no payment due to the seller for the year ended December 31, 2022. To estimate the fair value of the contingent consideration at the acquisition date, an option-based income approach using a Monte Carlo simulation model was utilized due to the non-linear payout structure. As of the acquisition date, this resulted in an estimated fair value of $1,430. This amount was recorded as a contingent consideration liability and included in the purchase price as of the acquisition date. We reassess the estimated fair value of this liability annually using this same approach, or more frequently, if we determine that there have been material changes to the assumptions used in the calculation of the probable payout. Changes in the amount of the estimated fair value of the earnouts since the acquisition date will be recorded as operating expenses in our consolidated statement of operations in the quarter in which they occur. At December 31, 2022, there has been no material change in the estimated fair value of the contingent consideration since the date of acquisition. Changes in the fair value represent the impact of changes in foreign exchange rates. The acquisition was completed by acquiring all of the outstanding capital stock of Acculogic. Total acquisition costs incurred to complete this transaction were $1,297. Acquisition costs were expensed as incurred and included in general and administrative expense in 2021.

The acquisition of Acculogic has been accounted for as a business combination using purchase accounting, and, accordingly, the results of Acculogic have been included in our consolidated results of operations from the date of acquisition. The allocation of the Acculogic purchase price was based on estimated fair values at December 21, 2021.

The excess of the purchase price over the identifiable intangible and net tangible assets was allocated to goodwill and is not deductible for tax purposes. Goodwill is attributed to synergies that are expected to result from the operations of the combined businesses.

The total purchase price of $9,426, which includes $1,430 for the estimated fair value of contingent consideration, has been allocated as follows:

Goodwill	$	3,363
Identifiable intangible assets		5,123
Tangible assets acquired and liabilities assumed:		
Cash		312
Trade accounts receivable		2,259
Inventories		1,329
Other current assets		240
Property and equipment		156
Accounts payable		(406)
Accrued expenses		(2,950)
Total purchase price	$	9,426

We estimated the fair value of identifiable intangible assets acquired using the income approach. Identifiable intangible assets acquired include customer relationships, customer backlog, technology and a tradename. We are amortizing the finite-lived intangible assets acquired over their estimated useful lives based on the pattern in which the economic benefits of the intangible asset are expected to be consumed.

The following table summarizes the estimated fair value of Acculogic's identifiable intangible assets and their estimated useful lives as of the acquisition date:

		Fair Value	**Weighted Average Estimated Useful Life**
			(in years)
Finite-lived intangible assets:			
Customer relationships	$	2,769	14.0
Technology		1,329	9.0
Customer backlog		127	0.5
Total finite-lived intangible assets		4,225	12.0
Indefinite-lived intangible assets:			
Tradename		898	
Total intangible assets	$	5,123	

For the period from December 21, 2021 to December 31, 2021, Acculogic contributed $48 of revenue and had a net loss of $131.

The following unaudited pro forma information gives effect to the acquisition of Acculogic as if the acquisition occurred on January 1, 2021. These proforma results do not reflect any operating efficiencies or costs savings that may be achieved by the combined businesses. These pro forma results reflect the impact on general and administrative expense of investment advisory costs, legal costs and other costs of $1,297 incurred by us as a direct result of the transaction as those costs were actually incurred. No adjustment to the timing or amount of these costs have been made in these proforma results. These proforma results are presented for informational purposes only and are not necessarily indicative of what the actual results of operations would have been had the acquisition taken place as of that date, nor are they indicative of future consolidated results of operations:

		Year Ended December 31, 2021
Revenue	$	95,490
Net earnings	$	7,180
Diluted earnings per share	$	0.67

(4) FAIR VALUE MEASUREMENTS

ASC Topic 820 (Fair Value Measurement) establishes a fair value hierarchy for instruments measured at fair value that distinguishes between assumptions based on market data (observable inputs) and our own assumptions (unobservable inputs). Observable inputs are inputs that market participants would use in pricing the asset or liability based on market data obtained from sources independent of us. Unobservable inputs are inputs that reflect our assumptions about the inputs that market participants would use in pricing the asset or liability and are developed based on the best information available in the circumstances.

ASC 820 identifies fair value as the exchange price, or exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As a basis for considering market participant assumptions in fair value measurements, ASC 820 establishes a three-tier fair value hierarchy that distinguishes among the following:

Level 1 Valuations based on unadjusted quoted prices in active markets for identical assets or liabilities that we have the ability to access.

Level 2 Valuations based on quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active and models for which all significant inputs are observable, either directly or indirectly.

Level 3 Valuations based on inputs that are unobservable and significant to the overall fair value measurement.

To the extent that the valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires more judgment. Accordingly, the degree of judgment exercised by us in determining fair value is greatest for instruments categorized in Level 3. A financial instrument's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement.

Recurring Fair Value Measurements

The interest rate swap agreement we entered into in connection with our Term Note, as discussed further in Notes 2 and 12 is measured at fair value on a recurring basis using Level 2 inputs. The contingent consideration liabilities on our balance sheet are measured at fair value on a recurring basis using Level 3 inputs. Our contingent consideration liabilities are a result of our acquisitions of Z-Sciences on October 6, 2021 and Acculogic on December 21, 2021. The contingent consideration liability for Z-Sciences represents the estimated fair value of the additional cash consideration payable that is contingent upon the continued employment with us of the Z-Sciences founder as discussed more fully in Note 3. It is included in Other Current Liabilities on our balance sheet at December 31, 2021. This payment was made in October 2022. The contingent consideration liability for Acculogic represents the estimated fair value of the additional cash consideration payable that is contingent upon sales to EV or battery customers as described further in Note 3.

The following fair value hierarchy table presents information about assets and (liabilities) measured at fair value on a recurring basis:

	Amounts at Fair Value	Fair Value Measurement Using		
		Level 1	Level 2	Level 3
At December 31, 2022				
Contingent consideration liability – Acculogic	$ (1,363)	$ -	$ -	$ (1,363)
Interest rate swap	$ 528	$ -	$ 528	$ -

	Amounts at Fair Value	Fair Value Measurement Using		
		Level 1	Level 2	Level 3
At December 31, 2021				
Contingent consideration liability – Z-Sciences	$ (179)	$ -	$ -	$ (179)
Contingent consideration liability – Acculogic	$ (930)	$ -	$ -	$ (930)
Interest rate swap	$ (21)	$ -	$ (21)	$ -

Changes in the fair value of our Level 3 contingent consideration liabilities for the year ended December 31, 2021 were as follows:

Balance - January 1, 2021	$	-
Contingent consideration liability established in connection with the acquisition of Z-Sciences		179
Contingent consideration liability established in connection with the acquisition of Acculogic		930
Balance - December 31, 2021		1,109
Payout of contingent consideration related to the acquisition of Z-Sciences		(179)
Adjustment to contingent consideration liability in connection with the acquisition of Acculogic		500
Impact of foreign currency translation adjustments		(67)
Balance - December 31, 2022	$	1,363

(5) RESTRUCTURING AND OTHER CHARGES

EMS Segment Restructuring and Facility Consolidation

During the year ended December 31, 2021, we incurred $183 of charges associated with finalizing the consolidation of the manufacturing operations for certain of our Electronic Test segment's products. The consolidation was announced in September 2020 and the majority of the costs were recognized in 2020. All of the charges were cash charges and are included in restructuring and other charges in our consolidated statement of operations. The integration of our EMS manufacturing operations took longer than originally anticipated, primarily as a result of the significant increase in our business activity during the first half of 2021 as we delayed some final integration activities and instead allocated our resources to meet customer demand for shipments of our products during this time. We completed the integration of the EMS manufacturing operations in the third quarter of 2021.

At the time of the consolidation of manufacturing operations, we intended to try to sublease the facility in Fremont, but we did not expect to sublet the facility for the full remaining term of the lease. On July 19, 2021, we executed a sublease for our facility in Fremont. The sublease commenced in August 2021 and ends November 30, 2025, which is the termination date of our lease for this facility. We entered into this sublease approximately 14 months earlier than we had estimated in December 2020. As a result, we will record approximately $350 of incremental sublease income above the level that we had estimated at the time that we recorded the impairment charge in December 2020. This income will be recorded ratably over the term of the sublease and will be included in other income in our consolidated statements of operations.

Executive Management Changes

Chief Financial Officer

On June 10, 2021, our Board of Directors (the "Board") accepted the retirement of Hugh T. Regan, Jr. from the positions of Chief Financial Officer, Treasurer, and Secretary (the "Retirement"). In connection with the Retirement, we entered into a Separation and Consulting Agreement (the "Separation and Consulting Agreement") with Mr. Regan effective June 11, 2021 pursuant to which Mr. Regan agreed to provide consulting services for three months, subject to an extension of up to an additional three months at our option. We did not extend the consulting services beyond the original three months. The Separation and Consulting Agreement also provided that Mr. Regan was entitled to a severance benefit of $120. In connection with the Retirement, we also agreed that certain options issued to Mr. Regan in March 2020 to purchase shares of our common stock that remained unvested on the date of the Retirement would continue to vest after the Retirement and expire one year from their respective vesting dates.

On June 10, 2021, the Board approved, effective as of June 14, 2021, the appointment of Duncan Gilmour to the position of Chief Financial Officer, Treasurer, and Secretary. Mr. Gilmour entered into a letter agreement, dated June 10, 2021, subject to his appointment as our Chief Financial Officer, Treasurer, and Secretary, which appointments were approved on June 10, 2021 and were effective as of June 14, 2021.

Total costs incurred during 2021 related to these executive management changes were $370, which consisted of $159 for consulting and legal fees related to the transition, $120 for severance paid to our former Chief Financial Officer ("CFO") and $91 of stock-based compensation expense, primarily as a result of the modification of the March 2020 option awards issued to our former CFO, as discussed above. The $120 of severance is included in restructuring and other charges in our consolidated statement of operations. The balance of the costs is included in general and administrative expense in our consolidated statement of operations.

Other actions

During the year ended December 31, 2020, in connection with the transition of our Chief Executive Officer (which is discussed more fully in our Form 10-K for the year ended December 31, 2021 filed with the Securities and Exchange Commission on March 23, 2022), we reduced the administrative footprint in our Mansfield, Massachusetts corporate office. At January 1, 2021, there was an accrual of $70 on our balance sheet related to this action.

Accrued Restructuring

The liability for accrued restructuring charges is included in other current liabilities on our consolidated balance sheet. Changes in the amount of the liability for accrued restructuring for the years ended December 31, 2022 and 2021 are as follows:

	Electronic Test Facility Consolidation	Executive Management Changes	Total
Balance - January 1, 2021	$ 233	$ 107	$ 340
Accruals for severance and other one-time termination benefits	-	120	120
Accruals for other associated costs	183	-	183
Cash payments	(416)	(157)	(573)
Balance - December 31, 2021	-	70	70
Adjustments to accruals for other associated costs	-	(63)	(63)
Cash payments	-	(7)	(7)
Balance - December 31, 2022	$ -	$ -	$ -

(6) GOODWILL AND INTANGIBLE ASSETS

We have three operating segments which are also our reporting units: Electronic Test, Environmental Technologies and Process Technologies. Goodwill and intangible assets on our balance sheets are the result of our acquisitions.

Goodwill

Changes in the amount of the carrying value of goodwill for the years ended December 31, 2022 and 2021 are as follows:

Balance - January 1, 2021	$ 13,738
Acquisition of Z-Sciences	111
Acquisition of Videology	4,596
Acquisition of Acculogic	2,912
Impact of foreign currency translation adjustments	91
Balance - December 31, 2021	21,448
Adjustments to preliminary amounts recorded in the fourth quarter of 2021 (see Note 3)	451
Impact of foreign currency translation adjustments	(294)
Balance - December 31, 2022	$ 21,605

Goodwill was comprised of the following at December 31, 2022 and 2021:

	December 31,	
	2022	2021
Electronic Test	$ 3,369	$ 3,055
Environmental Technologies	1,817	1,817
Process Technologies	16,419	16,576
Total Goodwill	$ 21,605	$ 21,448

Intangible Assets

Changes in the amount of the carrying value of indefinite-lived intangible assets for the year ended December 31, 2022 and 2021 are as follows:

Balance - January 1, 2021	$ 6,710
Acquisition of Videology	850
Acquisition of Acculogic	878
Impact of foreign currency translation adjustments	(10)
Balance - December 31, 2021	8,428
Adjustments to preliminary amounts recorded in the fourth quarter of 2021 (see Note 3)	20
Impact of foreign currency translation adjustments	(79)
Balance - December 31, 2022	8,369

Changes in the amount of the carrying value of finite-lived intangible assets for the years ended December 31, 2022 and 2021 are as follows:

Balance - January 1, 2021	$ 5,711
Acquisition of Z-Sciences	389
Acquisition of Videology	4,396
Acquisition of Acculogic	4,196
Impact of foreign currency translation adjustments	(46)
Amortization	(1,440)
Balance - December 31, 2021	13,206
Adjustments to preliminary amounts recorded in the fourth quarter of 2021 (see Note 3)	29
Impact of foreign currency translation adjustments	(351)
Amortization	(2,694)
Balance - December 31, 2022	$ 10,190

The following tables provide further detail about our intangible assets at December 31, 2022 and 2021:

	December 31, 2022		
	Gross Carrying Amount	**Accumulated Amortization**	**Net Carrying Amount**
Finite-lived intangible assets:			
Customer relationships	$ 16,313	$ 7,990	$ 8,323
Technology	2,855	988	1,867
Patents	590	590	-
Backlog	492	492	-
Software	270	270	-
Trade name	140	140	-
Total finite-lived intangible assets	20,660	10,470	10,190
Indefinite-lived intangible assets:			
Trademarks	8,369	-	8,369
Total intangible assets	$ 29,029	$ 10,470	$ 18,559

	December 31, 2021		
	Gross Carrying Amount	**Accumulated Amortization**	**Net Carrying Amount**
Finite-lived intangible assets:			
Customer relationships	$ 16,544	$ 6,160	$ 10,384
Technology	2,950	569	2,381
Patents	590	585	5
Backlog	521	85	436
Software	270	270	-
Trade name	140	140	-
Total finite-lived intangible assets	21,015	7,809	13,206
Indefinite-lived intangible assets:			
Trademarks	8,428	-	8,428
Total intangible assets	$ 29,443	$ 7,809	$ 21,634

We generally amortize our finite-lived intangible assets over their estimated useful lives based on the pattern in which the economic benefits of the intangible assets are expected to be consumed, or on a straight-line basis, if an alternate amortization method cannot be reliably determined. Any such alternate amortization method would be based on the pattern in which the economic benefits of the intangible asset are expected to be consumed. None of our intangible assets have any residual value.

The following table sets forth the estimated annual amortization expense for each of the next five years:

2023	$	2,090
2024	$	1,968
2025	$	1,759
2026	$	1,150
2027	$	731

Impairment of Goodwill and Indefinite Life Intangible Assets

During October 2022 and 2021, we assessed our goodwill and indefinite life intangible asset for impairment in accordance with the requirements of ASC Topic 350 using a quantitative approach. Our goodwill impairment assessment is based upon the income approach, which estimates the fair value of our reporting units based upon a discounted cash flow approach. This fair value is then reconciled to our market capitalization at year end with an appropriate control premium. The discount rate used in 2022 for the discounted cash flows ranged between 16.5% and 18.0% depending on the reporting unit. The discount rate used in 2021 for the discounted cash flows was 16.0% for all of our reporting units. The selection of the rates in each year was based upon our analysis of market-based estimates of capital costs and discount rates. The determination of the fair value of our reporting units requires management to make significant estimates and assumptions including the selection of control premiums, discount rates, terminal growth rates, forecasts of revenue and expense growth rates, income tax rates, changes in working capital, depreciation, amortization and capital expenditures. Changes in assumptions concerning future financial results or other underlying assumptions could have a significant impact on either the fair value of the reporting unit or the amount of the goodwill impairment charge.

During the goodwill impairment assessment in both 2022 and 2021, we compared the fair value of our reporting units with their carrying values. This assessment indicated no impairment existed as the fair value of the reporting units exceeded their carrying values in both 2022 and 2021.

During the indefinite life intangible asset impairment assessment in both 2022 and 2021, we compared the fair value of our indefinite life intangible assets with their carrying values. This assessment indicated no impairment existed as the fair value of the indefinite life intangible assets exceeded their carrying values in both 2022 and 2021.

Impairment of Long-Lived Assets and Finite-lived Intangible Assets

During 2022 and 2021, we did not review any of our long-lived assets for impairment as there were no events or changes in business circumstances that would indicate an impairment might exist.

(7) REVENUE FROM CONTRACTS WITH CUSTOMERS

The following tables provide additional information about our revenue from contracts with customers, including revenue by customer and product type and revenue by market. The information for the year ended December 31, 2021 has been reclassified to be consistent with how the information for the current year is presented. See also Note 19 for information about revenue by operating segment and geographic region.

	Years Ended December 31,	
	2022	**2021**
Revenue by customer type:		
End user	$ 84,468	$ 62,541
OEM/Integrator	32,360	22,337
	$ 116,828	$ 84,878
Revenue by product type:		
Thermal test	$ 22,246	$ 19,204
Thermal process	38,574	26,260
Semiconductor test	28,529	30,829
Video imaging	9,499	1,434
Flying probe and in-circuit testers	7,414	48
Service/other	10,566	7,103
	$ 116,828	$ 84,878
Revenue by market:		
Semi	$ 68,422	$ 54,937
Industrial	10,038	7,314
Automotive (including Electric Vehicles)	10,776	6,205
Life Sciences	4,589	2,353
Defense/aerospace	7,006	5,043
Security	3,241	699
Other	12,756	8,327
	$ 116,828	$ 84,878

There were no significant changes in the amount of the allowance for doubtful accounts for the years ended December 31, 2022 and 2021.

(8) MAJOR CUSTOMERS

During the year ended December 31, 2022, no customer accounted for 10% or more of our consolidated revenue. During the year ended December 31, 2021, one customer accounted 13% of our consolidated revenue. This revenue was primarily generated by our Electronic Test segment. During the year ended December 31, 2021, no other customer accounted for 10% or more of our consolidated revenue.

(9) INVENTORIES

Inventories held at December 31 were comprised of the following:

	2022	2021
Raw materials	$ 16,888	$ 10,403
Work in process	2,432	1,250
Inventory consigned to others	59	44
Finished goods	3,186	1,166
Total inventories	$ 22,565	$ 12,863

(10) LEASES

As previously discussed in Note 2, we account for our leases in accordance with the guidance in ASC Topic 842. We lease our offices, warehouse facilities and certain equipment under non-cancellable operating leases that expire at various dates through 2031. Total operating lease and short-term lease costs for the years ended December 31, 2022 and 2021, respectively, were as follows:

	Years Ended December 31,	
	2022	2021
Operating lease cost	$ 1,340	$ 1,191
Short-term lease cost	$ 81	$ 82

The following is additional information about our leases at December 31, 2022:

Range of remaining lease terms (in years)	0.3 to 8.3
Weighted average remaining lease term (in years)	5.0
Weighted average discount rate	4.4%

Maturities of lease liabilities at December 31, 2022 were as follows:

2023	$ 1,885
2024	1,834
2025	983
2026	691
2027	696
Thereafter	944
Total lease payments	$ 7,033
Less imputed interest	(683)
Total	$ 6,350

Cash Flow Information

Total amortization of ROU assets for the years ended December 31, 2022 and 2021 was $1,241 and $1,039, respectively.

Lease Modifications and Additions
Supplemental cash flow information related to leases for the years ended December 31, 2022 and 2021 was as follows:

Year ended December 31, 2022

Non-cash increases in operating lease liabilities and ROU assets as a result of acquisitions and the execution of new leases:

	Operating Lease Liabilities	ROU Assets
Extension of facility lease – Singapore	$ 51	$ 51
Addition to automobile leases – Videology	$ 42	$ 42
Addition to facility leases – Acculogic	$ 942	$ 942
Addition to facility leases – Acculogic	$ 127	$ 127

During the first quarter of 2022, we executed an amendment to the lease for our facility in Singapore which extended the term for a period of 24 months commencing on April 1, 2022 and expiring on March 31, 2024. At the effective date of this modification, we recorded a non-cash increase in our ROU assets and operating lease liabilities of approximately $51.

During the third quarter of 2022, we executed a 48-month lease for an automobile for our Videology operation in Europe. At the effective date of this lease, we recorded a non-cash increase in our ROU assets and operating lease liabilities of approximately $42.

During the fourth quarter of 2022, we executed a 62-month lease for a new facility for our Acculogic operation in Canada and a 37-month lease for a new facility for our Acculogic operation in California. At the effective date of these leases, we recorded non-cash increases in our ROU assets and operating lease liabilities of approximately $942 and $127, respectively.

Year ended December 31, 2021

Non-cash increases in operating lease liabilities and ROU assets as a result of acquisitions and the execution of new leases:

	Operating Lease Liabilities	ROU Assets
Addition to facility leases – Fremont, CA	$ 202	$ 202
Addition to facility leases – Videology	$ 252	$ 252
Addition to automobile leases – Videology	$ 54	$ 54
Addition to facility leases – Acquisition of Acculogic	$ 78	$ 76

During the third quarter of 2021, we executed a lease for office space for the engineering and sales staff located in Fremont, California. This lease has a 38.5 month term. At the effective date of this lease, we recorded an increase in our ROU assets and operating lease liabilities of approximately $202.

On October 27, 2021, we acquired Videology as discussed further in Note 3. In November 2021, we executed a new lease for a facility for Videology's operations in the Netherlands. This lease has a 37 month term. At the effective date of this lease, we recorded an increase in our operating lease liabilities and ROU assets of approximately $252. In addition, in December 2021, we executed a 48 month lease for an automobile for this same operation. At the effective date of this lease, we recorded an increase in our operating lease liabilities and ROU assets of approximately $54.

On December 21, 2021, we acquired Acculogic as discussed further in Note 3. As a result of this acquisition, we recorded an increase in our lease liabilities and ROU assets of $78 and $76, respectively, related to a facility lease we acquired as a part of this transaction.

(11) OTHER CURRENT LIABILITIES

Other current liabilities at December 31 were comprised of the following:

	2022	2021
Accrued warranty	$ 673	$ 531
Current portion of contingent consideration	324	179
Accrued taxes	83	113
Accrued restructuring	-	70
Other	484	374
Total other current liabilities	$ 1,564	$ 1,267

(12) DEBT

Letters of Credit

We have issued letters of credit as the security deposits for certain of our domestic leases. These letters of credit are secured by pledged certificates of deposit which are classified as Restricted Certificates of Deposit on our balance sheets. The terms of our leases require us to renew these letters of credit at least 30 days prior to their expiration dates for successive terms of not less than one year until lease expiration. Our outstanding letters of credit at December 31, 2022 and 2021 consisted of the following:

				Letters of Credit Amount Outstanding	
Facility	**Original L/C Issue Date**	**L/C Expiration Date**	**Lease Expiration Date**	**Dec. 31 2022**	**Dec. 31 2021**
Mt. Laurel, NJ	3/29/2010	4/30/2024	4/30/2031	$ 50	$ 50
Mansfield, MA	10/27/2010	12/31/2024	12/31/2024	50	50
				$ 100	$ 100

Credit Facility

On October 15, 2021 (the “Closing Date”), we entered into an Amended and Restated Loan and Security Agreement with M&T Bank (“M&T”) which, on October 28, 2021, was amended by the Joinder and Amendment to Amended and Restated Loan and Security Agreement and which, on December 30, 2021, was further amended by the Joinder and Second Amendment to Amended and Restated Loan and Security Agreement (as amended, the “Loan Agreement”).

The Loan Agreement included a $25,000 non-revolving delayed draw term note (the “Term Note”) and a $10,000 revolving credit facility (the “Revolving Facility” and together with the Term Note, the “Credit Facility”). The Credit Facility had a five year contract period that began on the Closing Date and expired on October 15, 2026, and draws under the Term Note were permissible for two years.

On September 20, 2022, we further amended the Loan Agreement by entering into a Third Amendment to Amended and Restated Loan and Security Agreement (the Loan Agreement, as amended by the Third Amendment, the “Amended Loan Agreement”) and the Third Amended and Restated Delayed Draw Term Note. Under the Amended Loan Agreement, the maximum loan amount that we may borrow under the Term Note increased from $25,000 to $50,500, which raises the available funding at December 31, 2022 to $30,000. Under the Amended Loan Agreement, the maturity date of the Term Note and Revolving Facility were also extended to September 19, 2027 (the “Contract Period”). At December 31, 2022, we had not borrowed any amounts under the $10 million Revolving Facility. Our borrowings under the Term Note are discussed below and occurred prior to entering into the Amended Loan Agreement. Interest expense for the years ended December 31, 2022 and 2021 was $635 and $89, respectively.

The principal balance of the Revolving Facility and the principal balance of any amount drawn under the Term Note accrues interest based on the secured overnight financing rate for U.S. government securities ("SOFR") or a bank-defined base rate plus an applicable margin, depending on leverage. Each draw under the Term Note will have an option for us of either (i) up to a five year amortizing term loan with a balloon due at maturity, or (ii) up to a five year term with up to seven years amortization with a balloon due at maturity. Any amortization greater than five years will be subject to an excess cash flow recapture. The Amended Loan Agreement also allows us to enter into hedging contracts with M&T, including interest rate swap agreements, interest rate cap agreements, interest rate collar agreements, or any other agreements or that are designed to protect us against fluctuations in interest rates or currency exchange rates.

The Amended Loan Agreement contains customary default provisions, including but not limited to the failure by us to repay obligations when due, violation of provisions or representations provided in the Amended Loan Agreement, bankruptcy by us, suspension of our business or any of our subsidiaries and certain material judgments. After expiration of the Contract Period or if a continued event of default occurs, interest will accrue on the principal balance at a rate of 2% in excess of the then applicable non-default interest rate. The Amended Loan Agreement includes customary affirmative, negative and financial covenants, including a maximum ratio of consolidated funded debt to consolidated EBITDA and a fixed charge coverage ratio. Our obligations under the Amended Loan Agreement are secured by liens on substantially all of our tangible and intangible assets that are owned as of the Closing Date or acquired thereafter.

On October 28, 2021, we drew $12,000 under the Term Note to finance the acquisition of Videology as discussed above. We also entered into an interest rate swap agreement with M&T as of this date which is designed to protect us against fluctuations in interest rates during the five year repayment and amortization period. As a result, the annual interest rate we expect to pay for this draw under the Term Note is fixed at approximately 3.2% based on current leverage.

On December 29, 2021, we drew $8,500 under the Term Note to finance the acquisition of Acculogic as discussed above. We did not enter into an interest rate swap agreement with M&T related to this draw. The annual interest rate we expect to pay for this draw under the Term Note is variable. At December 31, 2022 it was approximately 4.0% based on current leverage. Effective March 1, 2023, this rate had increased to approximately 6.7%.

The following table sets forth the remaining maturities of long-term debt:

2023	$	4,100
2024		4,100
2025		4,100
2026		3,842
	$	16,142

(13) INCOME TAXES

We are subject to Federal and certain state income taxes. In addition, we are taxed in certain foreign countries.

Earnings before income taxes was as follows:

	Years Ended December 31,			
	2022		2021	
Domestic	$	9,575	$	7,372
Foreign		570		1,030
Total	$	10,145	$	8,402

Income tax expense was as follows:

	Years Ended December 31,			
	2022		2021	
Current				
Domestic – Federal	$	2,892	$	1,208
Domestic – state		263		140
Foreign		267		259
Total	$	3,422	$	1,607
Deferred				
Domestic – Federal	$	(1,344)	$	(387)
Domestic – state		(190)		(31)
Foreign		(204)		(70)
Total		(1,738)		(488)
Income tax expense	$	1,684	$	1,119

Deferred income taxes reflect the net tax effect of net operating loss and tax credit carryforwards as well as temporary differences between the carrying amount of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. The following is a summary of the significant components of our deferred tax assets and liabilities at December 31, 2022 and 2021:

	December 31,	
	2022	**2021**
Deferred tax assets:		
Capitalized research and development costs	$ 1,260	$ -
Operating lease liabilities	1,125	1,407
Inventories	602	387
Accrued vacation pay and stock-based compensation	465	354
Net operating loss (state and foreign)	285	205
Allowance for doubtful accounts	43	45
Accrued warranty	54	31
Acquisition costs	46	9
Tax credit carryforwards	89	17
Other	-	49
Total	3,969	2,504
Valuation allowance	(227)	(64)
Deferred tax assets	3,742	2,440
Deferred tax liabilities:		
Net intangible assets	(1,961)	(2,381)
Right-of-use assets	(996)	(1,245)
Depreciation of property and equipment	(385)	(193)
Other	(120)	-
Deferred tax liabilities	(3,462)	(3,819)
Net deferred tax assets (liabilities)	$ 280	$ (1,379)

The net change in the valuation allowance for the years ended December 31, 2022 and 2021 was an increase of $163 and a decrease of $105, respectively. In assessing the ability to realize the deferred tax assets, we consider whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during periods in which those temporary differences become deductible. We consider the scheduled reversal of deferred tax liabilities, projected future taxable income and tax planning strategies in making this assessment. In order to fully realize the total deferred tax assets, we will need to generate future taxable income prior to the expiration of net operating loss and tax credit carryforwards which expire in various years through 2040.

An analysis of the effective tax rate for the years ended December 31, 2022 and 2021 and a reconciliation from the expected statutory rate of 21% is as follows:

	Years Ended December 31,	
	2022	**2021**
Expected income tax expense at U.S. statutory rate	$ 2,131	$ 1,764
Increase (decrease) in tax from:		
Acquisition costs	-	163
Dividend from foreign subsidiaries	127	146
NOL carryforwards utilized	(80)	56
Restricted stock compensation	77	(126)
Global intangible low taxed income	66	28
Nondeductible expenses	11	8
Current year tax credits (foreign and research)	(465)	(386)
Domestic tax benefit, net of Federal benefit	87	153
Changes in valuation allowance	163	(105)
Foreign income tax rate differences	147	9
Section 250 foreign derived intangible income deduction	(563)	(599)
Other	(17)	8
Income tax expense	$ 1,684	$ 1,119

In accounting for income taxes, we follow the guidance in ASC Topic 740 (Income Taxes) regarding the recognition and measurement of uncertain tax positions in our financial statements. Recognition involves a determination of whether it is more likely than not that a tax position will be sustained upon examination with the presumption that the tax position will be examined by the appropriate taxing authority having full knowledge of all relevant information. Our policy is to record interest and penalties associated with unrecognized tax benefits as additional income taxes in the statement of operations. At December 31, 2022 and 2021, we did not have an accrual for uncertain tax positions.

We file U.S. income tax returns and multiple state and foreign income tax returns. With few exceptions, the U.S. and state income tax returns filed for the tax years ended December 31, 2019 and thereafter are subject to examination by the relevant taxing authorities.

(14) LEGAL PROCEEDINGS

From time to time we may be a party to legal proceedings occurring in the ordinary course of business. We are not currently involved in any legal proceedings the resolution of which we believe could have a material effect on our business, financial position, results of operations or long-term liquidity.

(15) STOCK-BASED COMPENSATION PLAN

At December 31, 2022, we have unvested restricted stock awards and stock options outstanding which were granted under the inTEST Corporation Third Amended and Restated 2014 Stock Plan, as amended (the "2014 Stock Plan"). The 2014 Stock Plan was originally approved at our annual meeting of stockholders held on June 25, 2014 and permitted the granting of stock options, restricted stock, stock appreciation rights or restricted stock units for up to 500,000 shares of our common stock to directors, officers, other key employees and consultants. Increases in the number of shares of common stock that may be delivered pursuant to awards granted under the 2014 Stock Plan have been approved at subsequent annual meetings of stockholders, the most recent of which occurred on June 22, 2022 when our stockholders approved the amendment and restatement of the 2014 Stock Plan to increase the number of shares of common stock that may be delivered pursuant to awards granted under the 2014 Stock Plan from 2,000,000 to 2,500,000 shares. At December 31, 2022, there were 931,119 aggregate shares available to grant under the 2014 Plan.

Our unvested restricted stock awards and stock options are accounted for based on their grant date fair value. At December 31, 2022, total compensation expense to be recognized in future periods is $2,892. The weighted average period over which this expense is expected to be recognized is 2.2 years.

The following table summarizes the compensation expense we recorded during 2022 and 2021 related to unvested shares of restricted stock and stock options:

	Years Ended December 31,	
	2022	**2021**
Cost of revenues	$ 62	$ 26
Selling expense	32	22
Engineering and product development expense	51	62
General and administrative expense	1,642	1,340
	$ 1,787	$ 1,450

There was no compensation expense capitalized in 2022 or 2021.

Stock Options

We record compensation expense for stock options based on the fair market value of the options as of the grant date. No option may be granted with an exercise period in excess of ten years from the date of grant. Generally, stock options will be granted with an exercise price equal to the fair market value of our stock on the date of grant and will vest over four years.

The fair value for stock options granted during 2022 and 2021 was estimated at the date of grant using the Black-Scholes option pricing model with the following weighted average assumptions:

	2022	2021
Risk-free interest rate	2.05%	1.03%
Dividend yield	0.00%	0.00%
Expected common stock market price volatility factor	.55	.50
Weighted average expected life of stock options (years)	6.25	6.25

The per share weighted average fair value of stock options issued during 2022 and 2021 was $4.53 and $5.70, respectively.

The following table summarizes the activity related to stock options for the two years ended December 31, 2022:

	Number of Shares	Weighted Average Exercise Price
Options outstanding, January 1, 2021	438,200	$ 6.25
Granted	282,404	11.77
Exercised	(231,185)	6.85
Canceled	(80,550)	9.55
Options outstanding, December 31, 2021 (59,195 exercisable)	408,869	9.07
Granted	202,540	8.45
Exercised	(8,060)	4.74
Canceled	(22,930)	9.10
Options outstanding, December 31, 2022 (167,886 exercisable)	580,419	8.91

Restricted Stock Awards

We record compensation expense for restricted stock awards based on the quoted market price of our stock at the grant date and amortize the expense over the vesting period. Restricted stock awards generally vest over four years for employees and over one year for our independent directors (25% at each of March 31, June 30, September 30, and December 31 of the year in which they were granted).

Since August 2020, we have increasingly granted performance-based restricted stock awards where the ultimate number of shares that vest can vary between 0% and 150% of the amount of the original award and is based on the achievement of specified performance metrics. Vesting for these awards is generally cliff vesting at the end of the period over which the performance metrics are measured. Compensation expense for these awards is recorded on a straight-line basis over the vesting period and is based on the expected final vesting percentage, which is re-assessed at the end of each reporting period and adjusted with a catch-up adjustment, as needed. Our initial assumption at the grant date of these awards is that the award will vest at the 100% level.

On August 24, 2020, our new President and Chief Executive Officer ("CEO") received two restricted stock awards totaling 141,610 shares valued at $650 as of the date of grant, which was also his hire date. Of the total shares awarded, 66,448 shares vest over 4 years (25% at each anniversary) and 75,162 shares vest on the third anniversary of the grant date at a vesting percentage that could range from 0% to 150% of the number of shares awarded on August 24, 2020. The final vesting percentage will be based on the achievement of certain performance metrics, including revenue compound annual growth rate and diluted earnings per share excluding amortization of intangibles, for specified time periods as determined by the Compensation Committee of our Board of Directors. At December 31, 2022, we have estimated that these shares will vest at 150% of the original amount based on our assessment of the probable achievement against the relevant performance metrics.

On March 10, 2021, we issued restricted stock awards totaling 18,000 shares to members of the senior management within our operating segments. These shares will vest on the third anniversary of the grant date at a vesting percentage that could range from 0% to 150% of the number of shares awarded on March 10, 2021. The final vesting percentage will be based on the achievement of certain performance metrics related to the operating results of the business units for which these members of management are responsible. At December 31, 2022, we have estimated that 12,000 these shares will vest at 100% of the original amount and that the remaining 6,000 will not vest based on our assessment of the probable achievement against the relevant performance metrics.

On June 14, 2021, our new CFO received two restricted stock awards totaling 7,941 shares valued at $133 as of the date of grant, which was also his hire date. Of the total shares awarded, 1,988 shares vest over 4 years (25% at each anniversary) and 5,953 shares vest on August 24, 2023 at a vesting percentage that could range from 0% to 150% of the number of shares awarded on June 14, 2021. The final vesting percentage will be based on the achievement of certain performance metrics, including revenue compound annual growth rate and diluted earnings per share excluding amortization of intangibles, for specified time periods as determined by the Compensation Committee of our Board of Directors. At December 31, 2022, we have estimated that these shares will vest at 150% of the original amount based on our assessment of the probable achievement against the relevant performance metrics.

On October 1, 2021, we issued restricted stock awards totaling 5,000 shares to a member of senior management. These shares will vest on January 1, 2025 at a vesting percentage that could range from 0% to 150% of the number of shares awarded on October 1, 2021. The final vesting percentage will be based on the achievement of certain performance metrics related to our consolidated operating results. At December 31, 2022, we have estimated that these shares will vest at 100% of the original amount based on our assessment of the probable achievement against the relevant performance metrics.

On March 9, 2022, our CEO and CFO received restricted stock awards totaling 20,493 shares valued at $200 as of the date of grant. These shares vest on the third anniversary of the grant date at a vesting percentage that could range from 0% to 150% of the number of shares awarded on March 9, 2022. The final vesting percentage will be based on the achievement of certain performance metrics, including revenue compound annual growth rate and diluted earnings per share excluding amortization of intangibles, for specified time periods as determined by the Compensation Committee of our Board of Directors. At December 31, 2022, we have estimated that these shares will vest at 100% of the original amount based on our assessment of the probable achievement against the relevant performance metrics.

The following table summarizes the activity related to unvested restricted stock awards for the two years ended December 31, 2022:

	Number of Shares	Weighted Average Grant Date Fair Value
Unvested shares outstanding, January 1, 2021	237,155	$ 4.93
Granted	131,209	11.74
Vested	(87,706)	7.59
Forfeited	(18,125)	9.02
Unvested shares outstanding, December 31, 2021	262,533	7.16
Granted	123,533	9.21
Vested	(91,672)	8.04
Forfeited	(5,944)	9.16
Unvested shares outstanding, December 31, 2022	288,450	7.80

The total fair value of the restricted stock awards that vested during the years ended December 31, 2022 and 2021 was $643 and $1,101, respectively, as of the vesting dates of these awards.

(16) STOCK REPURCHASE PLANS

On July 31, 2019, our Board of Directors authorized the repurchase of up to $3,000 of our common stock from time to time on the open market, in compliance with Rule 10b-18 under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), or in privately negotiated transactions pursuant to a newly authorized stock repurchase plan (the “2019 Repurchase Plan”). Repurchases are to be made under a Rule 10b5-1 plan entered into with RW Baird & Co., which permits shares to be repurchased when we might otherwise be precluded from doing so under insider trading laws and our internal trading windows. The 2019 Repurchase Plan does not obligate us to purchase any particular amount of common stock and can be suspended or discontinued at any time without prior notice. The 2019 Repurchase Plan is funded using our operating cash flow or available cash. Purchases began on September 18, 2019 under this plan. On March 2, 2020, we suspended repurchases under the 2019 Repurchase Plan. From the adoption of the 2019 Repurchase Plan through the suspension of the plan, we repurchased a total of 243,075 shares at a cost of $1,216, which includes fees paid to our broker of $6. All of the repurchased shares were retired.

(17) EMPLOYEE STOCK PURCHASE PLAN

The inTEST Corporation Employee Stock Purchase Plan (the “ESPP”) was adopted by the Board in April 2021 subject to approval by our stockholders, which occurred on June 23, 2021 at our Annual Meeting of Stockholders. The ESPP provides our eligible employees with an opportunity to purchase common stock through accumulated payroll deductions at a discounted purchase price. The ESPP became effective on October 1, 2021.

The ESPP provides that an aggregate of up to 250,000 shares of our common stock will be available for issuance under the ESPP. The shares of our common stock purchasable under the ESPP will be shares of authorized but unissued or reacquired shares, including shares repurchased by us on the open market.

During the year ended December 31, 2022, employees purchased 27,162 shares of our stock through the ESPP at a cost of $197. The closing market price on the dates of purchase were $10.73, $6.82, $7.63 and $10.30, respectively. The prices paid by employees were $9.12, $5.80, $6.49 and $8.76, respectively, which represented a 15% discount. The total amount of the discount of $36 was recorded as compensation expense in our consolidated statements of operations.

From the effective date of the ESPP through December 31, 2021, employees purchased 3,991 shares of our stock through the ESPP at a cost of $43. The closing market price on the date of the purchase was $12.72. The price paid by employees was $10.81 which represented a 15% discount. The total amount of the discount of $8 was recorded as compensation expense in our consolidated statements of operations.

(18) EMPLOYEE BENEFIT PLANS

We have defined contribution 401(k) plans for our employees who work in the U.S. All permanent employees of inTEST Corporation, EMS LLC, Temptronic and, effective January 1, 2022, Videology, who are at least 18 years of age are eligible to participate in the inTEST Corporation Incentive Savings Plan. We match employee contributions dollar for dollar up to 10% of the employee's annual compensation, with a maximum limit of $5. Employer contributions vest ratably over four years. Matching contributions are discretionary. For the years ended December 31, 2022 and 2021 we recorded $479 and $347 of expense for matching contributions, respectively.

All permanent employees of Ambrell are immediately eligible to participate in the Ambrell Corporation Savings & Profit Sharing Plan (the "Ambrell Plan") upon employment and are eligible for employer matching contributions after completing six months of service, as defined in the Ambrell Plan. The Ambrell Plan allows eligible employees to make voluntary contributions up to 100% of compensation, up to the federal government contribution limits. We will make a matching contribution of 50% of each employee's contributions up to a maximum of 10% of the employee's deferral with a maximum limit of $5. For the years ended December 31, 2022 and 2021 we recorded $268 and $165 of expense for matching contributions, respectively.

Prior to January 1, 2022, Videology had a Savings Incentive Match plan (the “Videology Plan”) for its employees who work in the U.S., which qualified as a SIMPLE-IRA plan under Section 401(p) of the Internal Revenue Code. Eligible employees could contribute up to $13 of their salary to the Videology Plan. Employees age 50 or over could also make a catch-up contribution up to $3. Videology made a non-elective contribution up to a maximum of 2% of compensation for eligible employees. Non-elective contributions of $3 were made to the Videology Plan from the acquisition date of Videology through December 31, 2021. Effective January 1, 2022, the Videology Plan was terminated and employees were eligible to participate in the inTEST Corporation Incentive Savings Plan.

(19) SEGMENT INFORMATION

During the year ended December 31, 2021, we managed our business as two operating segments which were also our reportable segments and reporting units: Thermal and EMS. As previously discussed in Note 1, effective January 1, 2022, we reorganized our segments to better align with our plan to manage and report our business going forward. This change in our operating and reporting structure reflects the evolution of our business, particularly as a result of the broadening of our product portfolio through the acquisitions we completed in the fourth quarter of 2021, which are discussed more fully in Note 3. Accordingly, for 2022, we have three operating segments which are also our reportable segments and reporting units: Electronic Test (which includes our semiconductor test equipment, flying probe and in-circuit testers), Environmental Technologies (which includes our thermal test, process and storage products) and Process Technologies (which includes our induction heating and video imaging products). Prior year information has been reclassified to be comparable to the current period’s presentation.

Our management team, including our CEO who is also our Chief Operating Decision Maker as defined under U.S. GAAP, evaluates the performance of our operating segments primarily on division operating income which represents the operating segments’ earnings before income tax expense and excludes other income (expense), corporate expenses and acquired intangible amortization.

We operate our business worldwide and sell our products both domestically and internationally. All of our segments sell to semiconductor manufacturers, third-party test and assembly houses and ATE manufacturers and to a variety of markets outside of the semi market, including the automotive, defense/aerospace, industrial, life sciences, security and other markets.

	Years Ended December 31, 2022	2021
Revenue:		
Electronic Test	$ 40,219	$ 32,509
Environmental Technologies	30,172	26,896
Process Technologies	46,437	25,473
Total Revenue	$ 116,828	$ 84,878
Division operating income:		
Electronic Test	$ 9,931	$ 10,926
Environmental Technologies	3,817	4,236
Process Technologies	8,230	3,819
Total division operating income	21,978	18,981
Corporate expenses	(8,563)	(9,082)
Acquired intangible amortization	(2,694)	(1,440)
Other income (expense)	(576)	(57)
Earnings before income tax expense	$ 10,145	$ 8,402

	December 31, 2022	2021
Identifiable assets:		
Electronic Test	$ 31,143	$ 26,251
Environmental Technologies	18,040	15,411
Process Technologies	56,866	52,120
Corporate	4,017	10,123
	$ 110,066	$ 103,905
Capital expenditures:		
Electronic Test	$ 80	$ 423
Environmental Technologies	368	313
Process Technologies	543	206
Corporate	374	52
	$ 1,365	$ 994

The following table provides information about our geographic areas of operation. Revenue is based on the location to which the goods are shipped.

	Years Ended December 31, 2022	2021
Revenue:		
U.S.	$ 49,096	$ 26,802
Foreign	67,732	58,076
	$ 116,828	$ 84,878

	December 31, 2022	2021
Property and equipment:		
U.S.	$ 2,658	$ 2,346
Foreign	474	342
	$ 3,132	$ 2,688

(20) QUARTERLY CONSOLIDATED FINANCIAL DATA (Unaudited)

The following tables present certain unaudited consolidated quarterly financial information for each of the eight quarters ended December 31, 2022. In our opinion, this quarterly information has been prepared on the same basis as the consolidated financial statements and includes all adjustments (consisting only of normal recurring adjustments) necessary to present fairly the information for the periods presented. The results of operations for any quarter are not necessarily indicative of results for the full year or for any future period.

Year-over-year quarterly comparisons of our results of operations may not be as meaningful as the sequential quarterly comparisons set forth below that tend to reflect the cyclical and seasonal activity of the semi market. Quarterly fluctuations in expenses are related directly to sales activity and volume and may also reflect the timing of operating expenses incurred throughout the year.

	Quarters Ended				
	3/31/22	**6/30/22**	**9/30/22**	**12/31/22**	**Total**
Revenue	$ 24,081	$ 29,571	$ 30,771	$ 32,405	$ 116,828
Gross margin	11,013	13,548	13,898	14,981	53,440
Earnings before income tax expense	655	2,570	3,039	3,881	10,145
Income tax expense	78	454	515	637	1,684
Net earnings	577	2,116	2,524	3,244	8,461
Net earnings per common share – basic	$ 0.05	$ 0.20	$ 0.24	$ 0.30	$ 0.79
Weighted average common shares outstanding – basic	10,617,271	10,653,268	10,695,867	10,725,662	10,673,017
Net earnings per common share – diluted	$ 0.05	$ 0.20	$ 0.23	$ 0.30	$ 0.78
Weighted average common shares outstanding – diluted	10,842,592	10,814,799	10,864,540	10,928,220	10,862,538

	Quarters Ended				
	3/31/21(1)	**6/30/21(2)**	**9/30/21(3)**	**12/31/21(4)**	**Total**
Revenue	$ 19,556	$ 21,820	$ 21,144	$ 22,358	$ 84,878
Gross margin	9,521	10,962	10,395	10,346	41,224
Earnings before income tax expense (benefit)	2,578	3,056	2,532	236	8,402
Income tax expense (benefit)	366	447	357	(51)	1,119
Net earnings	2,212	2,609	2,175	287	7,283
Net earnings per common share – basic	$ 0.21	$ 0.25	$ 0.21	$ 0.03	$ 0.70
Weighted average common shares outstanding – basic	10,329,449	10,442,916	10,496,188	10,580,431	10,462,246
Net earnings per common share – diluted	$ 0.21	$ 0.24	$ 0.20	$ 0.03	$ 0.68
Weighted average common shares outstanding – diluted	10,525,826	10,764,936	10,792,290	10,836,396	10,729,862

(1) The quarter ended March 31, 2021 includes $55 of restructuring and other charges which are discussed in Note 5.
(2) The quarter ended June 30, 2021 includes $197 of restructuring and other charges which are discussed in Note 5.
(3) The quarter ended September 30, 2021 includes $51 of restructuring and other charges which are discussed in Note 5.
(4) The quarter ended December 31, 2021 includes a recovery of $17 of restructuring and other charges which are discussed in Note 5.

inTEST CORPORATION
SCHEDULE II -- VALUATION AND QUALIFYING ACCOUNTS
(in thousands)

	Balance at Beginning of Period	Expense (Recovery)(1)	Additions (Deductions)	Reserve Amounts Acquired through Business Combinations	Foreign Currency Translation Adjustments	Balance at End of Period
Year Ended December 31, 2022						
Allowance for doubtful accounts	$ 213	$ 5	$ 281	$ -	$ (3)	$ 496
Warranty reserve	531	473	(315)	-	(16)	673
Year Ended December 31, 2021						
Allowance for doubtful accounts	$ 212	$ -	$ -	$ -	$ 1	$ 213
Warranty reserve	235	249	(156)	203	-	531

(1) Bad debt recoveries in the table above do not include $470 that relate to receivables acquired in 2021 that were valued at $0 at the time of acquisition but were subsequently recovered.

EXHIBIT 10.39

COMPENSATORY ARRANGEMENTS OF DIRECTORS

Directors who are not also our officers (each a "non-employee director") currently receive an annual retainer of $25,000. The Board Chairman is paid an additional annual retainer of $40,000. The Chair of each of the committees of the Board are paid an additional annual fee as follows: the Chair of the Audit Committee is paid an additional annual fee of $20,000; the Chair of the Compensation Committee is paid an additional annual fee of $10,000; and the Chair of the Nominating and Corporate Governance Committee is paid an additional annual fee of $10,000. The members of the committees, other than the Chair, are paid additional annual fees as follows: members of the Audit Committee are paid an additional annual fee of $10,000, members of the Compensation Committee are paid an additional annual fee of $5,000, and members of the Nominating and Corporate Governance Committee are paid an additional annual fee of $5,000. Non-employee directors also receive an annual award of restricted stock under our Fourth Amended and Restated 2014 Stock Plan. In addition, we reimburse non-employee directors' travel expenses and other costs associated with attending Board or committee meetings. We do not pay compensation to our executive officers for their service as directors.

EXHIBIT 21

Subsidiaries of the Registrant

Name of Subsidiaries	**Jurisdiction of Incorporation**
Acculogic Ltd	Delaware
Ambrell Corporation	Delaware
inTEST EMS LLC (a)	Delaware
inTEST Silicon Valley Corporation (a)	Delaware
Temptronic Corporation (b)	Delaware
Videology Imaging Corporation	Delaware
Acculogic Inc.	Ontario
Acculogic GmbH	Germany
Ambrell B.V.	Netherlands
Ambrell Limited	U.K.
inTEST PTE, Ltd.	Singapore
inTEST Thermal Solutions GmbH	Germany

(a) Doing business as inTEST EMS.
(b) Doing business as inTEST Thermal Solutions Corp.

EXHIBIT 23

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statements (Nos. 333-145176, 333-197858, 333-226815, 333-233297, 333-258791, and 333-266834) on Form S-8 and the Registration Statement (No. 333-250047) on Form S-3 of inTEST Corporation of our report dated March 22, 2023, relating to the consolidated financial statements and the financial statement schedule of inTEST Corporation, appearing in this Annual Report on Form 10-K of inTEST Corporation for the year ended December 31, 2022.

/s/ RSM US LLP

Blue Bell, Pennsylvania
March 22, 2023

EXHIBIT 31.1

CERTIFICATION

I, Richard N. Grant, Jr., certify that:

1. I have reviewed this annual report on Form 10-K of inTEST Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 22, 2023

/s/Richard N. Grant, Jr.
Richard N. Grant, Jr.
President and Chief Executive Officer

EXHIBIT 31.2

CERTIFICATION

I, Duncan Gilmour, certify that:

1. I have reviewed this annual report on Form 10-K of inTEST Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 22, 2023

/s/ Duncan Gilmour
Duncan Gilmour
Chief Financial Officer, Treasurer and Secretary

EXHIBIT 32.1

inTEST CORPORATION

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of inTEST Corporation (the "Company") on Form 10-K for the year ended December 31, 2022 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Richard N. Grant, Jr., President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 22, 2023

/s/ Richard N. Grant, Jr.
Richard N. Grant, Jr.
President and Chief Executive Officer

EXHIBIT 32.2

inTEST CORPORATION

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of inTEST Corporation (the "Company") on Form 10-K for the year ended December 31, 2022 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Duncan Gilmour, Chief Financial Officer, Treasurer and Secretary of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 22, 2023

/s/ Duncan Gilmour
Duncan Gilmour
Chief Financial Officer, Treasurer and
Secretary