UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

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

For the fiscal year ended January 1, 2024

Or

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

For the transition period from _____________ to _____________

Commission file number 000-31285

TTM TECHNOLOGIES, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware	**91-1033443**
(State or Other Jurisdiction of Incorporation or Organization)	*(I.R.S. Employer Identification No.)*
200 East Sandpointe, Suite 400 Santa Ana, California	**92707**
(Address of Principal Executive Offices)	*(Zip Code)*

(714) 327-3000

(Registrant's telephone number, including area code)

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

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common Stock, $0.001 par value	TTMI	Nasdaq Global Select Market

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 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 (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☑ No ☐

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

Large accelerated filer	☑	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☐

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

Indicate by check mark whether the registrant 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 Common Stock held by non-affiliates of the registrant (based on the closing price of the registrant's Common Stock as reported on the Nasdaq Global Select Market on July 3, 2023, the last business day of the most recently completed second fiscal quarter), was $1,420,444,578. For purposes of this computation, all officers, directors, and 10% beneficial owners of the registrant are deemed to be affiliates of the registrant. Such determination should not be deemed to be an admission that such officers, directors, or 10% beneficial owners are, in fact, affiliates of the registrant.

As of February 22, 2024, there were outstanding 101,908,287 shares of the registrant's Common Stock, $0.001 par value.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive Proxy Statement for its 2024 Annual Meeting of Stockholders will be incorporated by reference into Part III of this Annual Report on Form 10-K. Such Proxy Statement, or an amendment to this Report, will be filed with the Securities and Exchange Commission within 120 days after the end of the fiscal year to which this Report relates.

Auditor Firm Id:	185	Auditor Name:	KPMG LLP	Auditor Location:	Irvine, CA

TTM TECHNOLOGIES, INC.

ANNUAL REPORT ON FORM 10-K

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PART I

Statement Regarding Forward-Looking Statements

This Annual Report on Form 10-K (Report) contains forward-looking statements regarding future events or our future financial and operational performance. Forward-looking statements include statements regarding markets for our products; trends in net sales, gross profits and estimated expense levels; liquidity and anticipated cash needs and availability; and any statement that contains the words "anticipate," "believe," "plan," "forecast," "foresee," "estimate," "project," "expect," "seek," "target," "intend," "goal" and other similar expressions. The forward-looking statements included in this Report reflect our current expectations and beliefs, and we do not undertake publicly to update or revise these statements, even if experience or future changes make it clear that any projected results expressed in this Report or future quarterly reports to stockholders, press releases or company statements will not be realized. In addition, the inclusion of any statement in this Report does not constitute an admission by us that the events or circumstances described in such statement are material. Furthermore, we wish to caution and advise readers that these statements are based on assumptions that may not materialize and may involve risks and uncertainties, many of which are beyond our control, that could cause actual events or performance to differ materially from those contained or implied in these forward-looking statements. These risks and uncertainties include the business and economic risks described in "Item 1A — Risk Factors".

Unless otherwise indicated or unless the context requires otherwise, all references to time periods refer to our fiscal year, and all reference to "TTM," "the Company," "we," "us," "our," and similar names refer to TTM Technologies, Inc. and its subsidiaries.

ITEM 1. *BUSINESS*

General

We are a leading global manufacturer of technology solutions, including mission systems, radio frequency (RF) components/RF microwave/microelectronic assemblies, quick-turn and technologically advanced printed circuit boards (PCB). According to a November 2023 report by Prismark Partners, we are one of the largest PCB manufacturers in the world based on 2022 revenue. In 2023, we generated approximately $2.2 billion in net sales and ended the year with approximately 15,800 employees worldwide. We currently operate a total of 24 specialized facilities in North America and Asia. We focus on providing time-to-market and volume production of advanced technology products and offer a one-stop design, engineering and manufacturing solution to our customers. This solution allows us to align technology development with the diverse needs of our customers and to enable them to reduce the time required to develop new products and bring them to market. We serve a diversified customer base consisting of approximately 1,500 customers in various markets throughout the world, including aerospace and defense, data center computing, automotive, medical, industrial and instrumentation, and networking. Our customers include original equipment manufacturers (OEMs), electronic manufacturing services (EMS) providers, original design manufacturers (ODMs), distributors and government agencies (both domestic and allied foreign governments).

We report our worldwide operations based on two reportable segments: (1) *PCB*, which consists of 16 domestic system, sub-system, and PCB plants; four PCB fabrication plants in China; one in Malaysia; and one in Canada; and (2) *RF and Specialty Components (RF&S Components)*, which consists of one domestic RF component plant and one RF component plant in China. Each segment operates predominantly in the same industries with facilities that produce customized products for our customers and use similar means of product distribution.

Additional information on our reportable segments and product information is contained in Note 17 of the Notes to Consolidated Financial Statements.

Industry Overview

TTM provides a variety of hardware technology solutions, including completely designed and engineered systems, RF microwave/microelectronic assemblies, product lines of RF components, and technologically advanced PCBs.

TTM's engineered systems are sold primarily to the aerospace and defense market, generally tier one subcontractors but also directly to government agencies (both domestic and allied foreign governments). Due, in part, to an increasing global threat environment, according to the United States Department of Defense Fiscal Year 2024 Budget Request Overview Book, the President's U.S. Department of Defense budget request grew by nearly $100 billion, or 13.4% over the two-year period, from the FY22 request to the FY24 request. Finally, due to modernization priorities, an increased proportion of defense budgets is geared towards defense electronics such as radar, communications, and surveillance. These are the key markets for our engineered systems products.

TTM's RF microwave/microelectronic assemblies are also used in complete defense electronic systems and sold to tier one subcontractors. They benefit from increasing electronics in defense programs as well as increased focus on solid state active electronically scanned array (AESA) radar systems. Based on our internal market intelligence, we expect this market to grow faster than the overall defense market as well.

TTM also offers a variety of high-volume commercial RF components product lines. These components are utilized by TTM's customers to achieve advance signal conditioning in transceiver applications for 5G and other communication systems. Examples of RF components offered are: Hybrid and Directional Couplers, Baluns, Power Dividers, and RF Resistors. All of these products are highly

engineered to meet the customers' critical high performance and size requirements. The growth of the 5G transceiver market is expected to exceed overall telecommunications market growth over the next several years.

PCBs are manufactured in panels from sheets of laminated material. Each panel is typically subdivided into multiple PCBs, each consisting of a pattern of electrical circuitry etched from copper to provide an electrical connection between the components mounted to it. PCBs serve as the foundation for virtually all electronic products, including the electronic components integrated into automobiles, high-end commercial electronic equipment (such as medical equipment, data communications routers, switches and servers) and aerospace and defense electronic systems.

Products designed to offer faster data transmission, thinner and more lightweight packaging, and reduced power consumption generally require increasingly complex PCBs to meet these criteria. By using advanced technology PCB product solutions such as High Density Interconnect (HDI) and Substrate-like PCB (SLP) technologies, circuit densities can be increased, thereby providing for smaller products with higher packaging densities. Furthermore, rigid-flex circuits can be found in small and lightweight end products and other space-challenged electronics packaging applications across all end markets. Some PCB manufacturers also manufacture high performance substrates that serve as the interconnect between integrated circuits (ICs) and the PCB in many advanced electronic products serving a wide variety of end markets. Combined with the engineered systems and assemblies described earlier, we collectively refer to all of these technologies as “advanced technologies", and they generally have growth rates which are higher than conventional technologies. In addition, most of our markets have low volume requirements during the prototype stage that demand a highly flexible manufacturing environment which later transitions to a higher volume requirement during product ramp.

According to estimates in a November 2023 report by Prismark Partners, worldwide demand for PCBs was expected to be $69.5 billion for 2023. Of this worldwide demand for production in 2023, Prismark Partners reports that PCB production in the Americas accounted for approximately 5% (approximately $3.3 billion), PCB production in China accounted for approximately 54% (approximately $37.6 billion), and PCB production in the rest of the world accounted for approximately 41% (approximately $28.6 billion). According to the same report by Prismark Partners, worldwide demand for PCBs is forecast to grow at a 2% compound annual growth rate (CAGR) from 2022 to 2027 driven by the 2023 market downturn, a weak global economic outlook for 2024, the long-term impact of price erosion, and a limited number of high-volume growth drivers.

Industry Trends

We believe that several trends impacting the advanced hardware technology design and manufacturing industry will benefit us in the future. These trends include:

Increasing complexity of electronic products, which requires technologically complex PCBs that can accommodate higher speeds and component densities, including HDI, flexible, and substrate-like PCBs as well as intricately engineered RF components and subsystems as well as completely designed engineered systems.

Higher demand for reliable products manufactured in the U.S. and South East Asia, stemming from better oversight of sub-tier supply chain materials and controls. In addition, trade tensions between the U.S. and China as well as the conflicts between Russia and Ukraine, and the conflict in Israel and the Gaza Strip have increased the importance of supply chain partners with strong domestic capabilities and manufacturing footprints.

Increasing use of hardware technology solutions in diverse end markets as advanced electronics enable new capabilities. Many end markets that TTM serves have generally seen or are otherwise seeing a renaissance of growth opportunities due to the implementation of sophisticated electronics. In the defense market, solid-state radar systems referred to as AESA are being adopted in key new defense programs, replacing legacy mechanical systems. Also, the proliferation of sensors, data, data processing, and communications within the operational environment is driving significant growth in sophisticated electronic components as well as integrated systems. In the medical end market, remote diagnostic systems and robotics are seeing increasing adoption. In data center computing and networking, investments in generative artificial intelligence (AI) and advanced networking are leading to demand for more advanced PCBs, supporting an ever connected world. Finally, in the automotive market, an increasing trend toward sophisticated safety systems, automated driving, electric/hybrid vehicles, connectivity and miniaturization of electronic devices is driving increasing electronic content and higher PCB usage in automobiles, particularly with regard to the increased demand for advanced technologies like HDI, and RF PCBs for radar and sensor applications.

Supply chain consolidation by commercial OEMs. We believe that technology solution providers that can offer one-stop manufacturing capabilities — from prototype to volume production — with a globally diverse manufacturing footprint and integration capabilities have a competitive advantage in the market.

Our Strategy

Our vision is to inspire innovation as a global preeminent technology solutions company. Our core strategy includes the following elements:

Provide differentiated capabilities by incorporating advanced design-to-specification engineering support, testing, components and specialized assembly into the value-added solution provided to customers. With our acquisition of Anaren in 2018, we moved beyond build-to-print manufacturing and assembly capabilities to engage with customers in designing a more complete RF solution to meet their technology needs. As a result of the additional design capabilities that stemmed from the acquisition, we are more capable of providing cost effective, ready for manufacture, enabling technologies to the customer. With our acquisition of Telephonics in June 2022, we built on the Anaren acquisition to expand into integrated systems, and deepen our RF and radar related engagement with key aerospace and defense customers.

Maintain our customer-driven culture and provide superior service to our customers in our core markets of aerospace and defense, automotive, data center computing, medical/industrial/instrumentation, and networking. Our customer-oriented culture is designed to achieve extraordinary service, competitive differentiation, and superior execution. Our customer-oriented strategies include engaging in co-development of new products, capturing new technology products for next generation equipment, and continuing investments to enhance our broad offering of PCB and RF/microwave technologies from components through integrated mission systems. We have invested in and employ a diverse group of design engineers and field application engineers (FAEs) to provide technical expertise to our customers with the goal of designing the best product and service solutions for their needs, and to provide ongoing technical support. We believe our ability to anticipate and meet customers' needs is critical to retaining existing customers and attracting leading companies as new customers.

Drive operational efficiency and productivity. We are highly focused on improving our operational execution to increase efficiency, productivity and yields. We strongly believe in the benefits of sharing best practices across our extensive manufacturing footprint and rely on stringent goals for throughput, quality and customer satisfaction to measure our effectiveness. The fast-paced nature of our business requires a disciplined approach to manufacturing that is rooted in continuous improvement.

Accelerate customer, end-market, and technology diversification through strategic mergers and acquisitions. We have a history of executing successful acquisitions that have been key to our growth and profitability. Historically, we focused on strategic opportunities that could facilitate our efforts to further diversify into other growing end markets. Now that we have a more diversified end market mix, our focus is to expand our presence in our existing end markets, particularly aerospace and defense which has longer product and program lifetimes. We will also look for strategic opportunities that further strengthen our leading-edge technology capabilities. For example, the acquisition of Anaren in 2018 added critical RF engineering, simulation and integration capabilities, the acquisition of certain assets of i3 Electronics, Inc. (i3) in 2019 allowed us to broaden our technology portfolio for high mix, low volume advanced technology PCBs, and we believe the most recent acquisition of Telephonics in 2022 significantly broadens our aerospace and defense product offering vertically into highly engineered integrated mission system solutions and horizontally into surveillance and communications markets, while strengthening our position in radar systems.

Accelerate our expansion into growing markets using our advanced technology as a key point of differentiation. With rising requirements for faster data transmission, shrinking features (i.e., lightweight and thin), and lower power consumption, many PCB designs have migrated to more complex HDI PCBs from conventional multi-layer PCB technologies. This trend began with PCBs used in portable devices such as smartphones and other mobile devices but has become an increasing trend in other end markets, such as automotive, networking, medical, and aerospace and defense. As our customers consolidate their supply chains, our objective is to differentiate ourselves as a strategic supplier with the technology breadth to meet most, if not all, of our customers' PCB and RF related requirements. In the defense industry, there is growing use of electronics, particularly RF/Microwave technologies to develop AESA radars and other integrated mission systems that demonstrate significant performance improvement over traditional systems.

Address customer needs in all stages of the product life cycle. By aiming to provide a one-stop solution, we work to service our customers' needs from the earliest stages of product design and development through volume production. We believe that by servicing our customers early in the development process, we are able to demonstrate our capabilities and establish an incumbent position early in the product development cycle, which translates into additional opportunities as our customers move into volume production. We believe our expertise is enhanced by our ability to deliver highly complex PCBs to customers in significantly compressed lead times. This rapid delivery service enables OEMs to develop sophisticated electronic products more quickly and reduce their time to market. We believe we will be able to continue to increase customer engagement with customized RF solutions from the concept stage through volume production, which typically results in intensified customer engagement. Further, by providing complete engineered systems, we are working more closely with the end customer, providing them with a more complete final product which also enhances our early engagement.

Deliver consistently strong financial performance and execute on our balance sheet strategy. We aspire to deliver industry-leading financial performance. We expect to achieve this by servicing our customers' needs in higher-growth end markets in a cost-efficient and effective manner. We believe that this strategy will allow us to generate strong cash flows, which we expect will provide us with the financial flexibility for continued investments for growth and return of capital to shareholders.

Continuously enhance the elements that make TTM an appealing employer. We aim to attract the right employees who are aligned with our values and desire growth in their professional careers. We believe our employee engagement model, emphasis on communications and inclusion, commitment to career development and talent, and collaborative culture are the top reasons employees embrace us. Our ability to retain valued talent while attracting the right candidates is paramount to our continued human capital strategy.

Products and Services

We offer a wide range of engineered systems, RF and microwave assemblies, HDI PCBs, flexible PCBs, rigid-flex PCBs, custom assemblies and system integration, IC substrates, passive RF components, advanced ceramic RF components, hi-reliability multi-chip modules, beamforming and switching networks, PCB products, RF components, and backplane/custom assembly solutions, including conventional PCBs. We also offer certain value-added services to support our customers' needs. These include design-for-manufacturability (DFM), PCB layout design, simulation and testing services, and quick turnaround (QTA) production. For our RF sub-assemblies and components, we provide specialized assembly and RF testing to offer value-added solutions to our customers. By offering this wide range of engineered systems, RF components and sub-systems, PCB products, and complementary value-added services, we aim to provide our customers with a "one-stop" manufacturing solution for their hardware technology and integration requirements. We believe this differentiates us from our competition and enhances our customer relationships. Below we describe our product lines in more detail.

Radar Systems

We provide a wide range of high-performing, lightweight and cost-effective maritime surveillance and weather avoidance radar systems for fixed- and rotary-wing aircraft, Unmanned Aerial Vehicles (UAVs) and shipboard platforms to the U.S. government, tier one OEMs, and numerous international defense agencies. At this time, we are also the sole provider of the U.S. Navy's AN/APS-153 multi-mode radar on the MH-60R helicopter, and the communications suite within the MH-60R/S multi-mission helicopters. Our maritime surveillance radars offer advanced features such as Ground Moving Target Indicator (GMTI), Synthetic Aperture Radar (SAR), Inverse Synthetic Aperture Radar (ISAR), Automatic Identification System (AIS) and weather avoidance. We are in the process of developing the next generation multi-mode maritime and over-land surveillance AESA radar known as MOSAIC®.

Surveillance

We are a global leader in Identification Friend or Foe (IFF), Monopulse Secondary Surveillance Radars (MSSR) and Air Traffic Control (ATC) systems enabling military and civilian air traffic controllers to effectively identify aircraft and vehicles as friendly. We provide both equipment and supporting services required to safely and reliably control flight operations. These systems are used by the U.S. Army, U.S. Navy, U.S. Air Force, U.S. Marines, Federal Aviation Administration (FAA), NATO and numerous international defense agencies including those of Japan and South Korea. These systems have been fielded globally in a wide range of ground, air and sea-based applications.

Communications Systems

Our advanced wired and wireless communication systems provide the digital backbone for numerous defense and civil platforms worldwide, including fixed- and rotary-wing aircraft and ground control shelters. These systems are designed to meet stringent customer requirements to support adaptability to special missions and communications protocol requirements. Our vehicle-based intercommunications systems deliver traditional intercom system capabilities while incorporating software-defined features, including an open architecture for integration into vehicle C4 (command, control, communications and computing) systems, networked communications gateways and combat vehicles. Commercial audio products and headsets are utilized worldwide in a wide range of military and civilian applications, including audiometric testing. Our communications systems are fielded within the U.S. Army, U.S. Navy, U.S. Air Force, U.S. Marines and numerous international defense agencies. These systems are also sold to aerospace manufacturers, commercial airlines and audiometric original equipment manufacturers.

RF and Microwave Assemblies

We design, produce, and test specialized circuits and components used in radio-frequency or microwave emission and collection applications. These products are typically used for radar, transmit/receive antennas and similar wireless applications. Markets for these products include defense, avionics, satellite, and commercial applications including telecommunications, networking and automotive. The manufacture of these products requires advanced materials, equipment, and methods that are highly specialized and distinct from conventional printed circuit manufacturing techniques. We also offer specialized radio-frequency assembly and test services. We have developed integrated solutions across our facilities and capabilities to provide sophisticated integrated electronics for numerous platforms, ranging from digital RF memory (DRFM) to frequency up/down converters (UDC) and channelized amplifiers for military and space applications.

Passive RF Components

Our line of products consists of off-the-shelf surface mount microwave components which provide passive microwave signal distribution functions. These products were developed to provide a lower-cost high performance signal distribution component, which

could be placed on standard printed circuit boards with automated production equipment. The primary applications of these products are currently in equipment for cellular base stations and in WLAN, Bluetooth, and satellite television. In cellular base stations, our surface mount products are utilized in RF power amplifiers, and are also found in low-noise amplifiers, radios, and antennas. 5G advancements and the continued proliferation of wireless technology may create new applications for these products across other end markets.

Advanced Ceramic RF Components

Our ceramic offerings include standard and etched thick-film ceramic substrates. Etched thick-film ceramic circuits compete favorably with thin-film ceramic circuits in cost while providing comparable performance. These products are generally customer designed in close collaboration with our engineering staff to ensure the highest possible performance and manufacturability. These capabilities are aimed at high performance applications in the medical, industrial, and defense markets.

Hi-Reliability Multi-Chip Modules

We offer custom hybrid and multi-chip modules, high-performance radiation-hardened and space-qualified micro-electronics and power management and control electronics.

Beamforming and Switching Networks

Our beamforming technologies are used in military and aerospace applications, offering a variety of active and passive high-performance RF assemblies, including L-band/LEO and L- and S-band/GEO space beamformers, UHF thru Ka-band radar AESA RF networks, Butler matrices, multi-octave, and more.

Custom Designed Application Specific Integrated Circuits (ASICs)

Our Telephonics Large Scale Integration (TLSI) group has designed nearly 400 mixed-signal custom Application Specific Integrated Circuits (ASICs) for customers in the automotive, industrial, defense/avionics and smart energy markets. The TLSI organization works with our customers' technical teams, taking complete responsibility for the ASIC development process, from the initial ASIC specification definition through qualification and volume production, to meet the most stringent customer program requirements. Recently, over 10 million of our ASICs have shipped annually.

Conventional PCBs

A conventional PCB is made from a composite laminate that is metalized with a conductive material such as copper. The PCB is the basic platform used to interconnect components in most electronic products including computers, communications equipment, high-end consumer electronics, automotive controls, commercial aerospace and defense systems and medical and industrial equipment. Conventional PCBs can be classified as single-sided, double-sided and multi-layer boards.

We focus on higher layer count conventional PCBs. A multi-layer PCB can accommodate more complex circuitry than a single-sided or double-sided PCB and as such requires more sophisticated production techniques. The number of layers comprising a PCB often increases with the complexity of the end product. For example, a simple consumer device such as a garage door controller may use a single-sided or double-sided PCB, while a high-end network router or computer server may use a PCB with 30 or more layers.

High density interconnect or HDI PCBs

Our facilities in North America and Asia also produce high density interconnect (HDI) PCBs, which are PCBs with higher interconnect density per unit area requiring more sophisticated technology and manufacturing processes for their production than conventional PCB products. HDI PCBs are boards with high-density characteristics including micro-sized holes, or microvias (diameter at or less than 0.15 mm), and fine line circuitry (circuit line width and spacing at or less than 0.075 mm) and are fabricated with thin high-performance materials, thereby enabling more interconnection functions per unit area. HDI PCBs generally are manufactured using a sequential build-up process in which circuitry is formed in the PCB one layer at a time through successive drilling, plating and lamination cycles. In general, a board’s complexity is a function of interconnect and circuit density, layer count, laminate material type and surface finishes. As electronic devices have become smaller and more portable with higher functionality, demand for advanced HDI PCB products has increased dramatically. We define advanced HDI PCBs as those having more than one layer of microvia interconnection structure.

Substrate-like PCBs or SLPs

Substrate-like PCBs (SLPs) represent the next evolution of high end HDI PCBs. SLPs are PCBs with even higher interconnect density per unit area than the traditional advanced HDI PCBs described above requiring an even more sophisticated manufacturing technology adapted from IC substrate fabrication with enhancements to the subtractive and additive techniques of traditional PCBs. This enables fine line circuitry (circuit line width and spacing at or less than 0.03 mm). Demand for this type of high-density circuit is continuing to penetrate the markets of more traditional PCBs. In addition, we now offer an alternative approach to building SLP technology in the United States for lower volume, higher mix commercial and aerospace and defense applications.

Flexible PCBs

Flexible PCBs are printed circuits produced on flexible films, allowing them to be folded or bent to fit the available space or allowing for application movement. We manufacture circuits on flexible substrates that can be installed in three-dimensional applications for electronic packaging systems. Use of flexible circuitry can enable improved reliability and electrical performance, reduced weight and reduced assembly costs when compared with traditional wire harness or ribbon cable packaging. Flexible PCBs can provide for flexible electronic connectivity of an electrical device's apparatus such as printer heads, cameras, TVs, mobile handsets, and tablets. For some of our flexible PCB customers, we also assemble components onto the flexible PCBs we manufacture.

Rigid-flex PCBs

Rigid-flex circuitry provides a simple means to integrate multiple PCB assemblies and other elements such as display, input or storage devices without wires, cables or connectors, replacing them with thin, light composites that integrate wiring in ultra-thin, flexible ribbons between rigid sections. In rigid-flex packaging, a flexible circuit substrate provides a backbone of wiring with rigid multilayer circuit sections built up as modules where needed.

Since the ribbons can be bent or folded, rigid-flex provides a means to compactly package electronics in three dimensions with dynamic or static bending functions as required, enabling miniaturization and thinness of product design. The simplicity of rigid-flex integration also generally reduces the number of parts and interconnections required, which can improve reliability.

Rigid-flex technology is essential to a broad range of applications including aerospace and defense, industrial and transportation systems requiring high reliability; hand-held and wearable electronics, such as video cameras and music players, where thinness and mechanical articulation are essential; and ultra-miniaturized products such as headsets, medical implants and semiconductor packaging where size and reliability are paramount.

Custom assemblies

Our assembly facilities produce custom electronic assemblies. Custom electronic assemblies refers to a variety of PCB assemblies such as backplane and mid-plane assemblies, flexible and rigid-flex assemblies and RF assemblies. Each of these assemblies involves mounting electronic components to a printed circuit board and then testing the assembly for electrical continuity.

IC substrates

IC substrates provide the mechanical support and electrical interconnect used to package ICs (integrated circuits or semiconductors) either in single chip packages or multi-chip modules. IC substrates, also known as chip carriers, are highly miniaturized circuits manufactured by a process largely similar to that for PCBs but requiring the use of ultra-thin materials and including micron-scale features, because they must bridge the gap between sub-micron IC features and millimeter scale PCBs. Consequently, IC substrates are generally manufactured in a clean room environment to ensure products are free of defects and contamination and employ advanced HDI processes and manufacturing approaches used in SLP technology.

Quick turnaround services

We refer to our rapid delivery services as "quick turnaround" or "QTA", because we provide custom-fabricated PCBs to our customers within as little as 24 hours to ten days. As a result of our ability to rapidly and reliably respond to the critical time requirements of our customers, we generally receive premium pricing for our QTA services as compared to standard lead time prices.

- *Prototype production.* In the design, testing, and launch phase of a new electronic product, our customers typically require limited quantities of PCBs in a very short period of time. We satisfy this need by manufacturing prototype PCBs in small quantities, with delivery times ranging from as little as 24 hours to ten days.
- *Ramp-to-volume production.* After a product has successfully completed the prototype phase, our customers introduce the product to the market and require larger quantities of PCBs in a short period of time. This transition stage between low-volume prototype production and volume production is known as ramp-to-volume. Our ramp-to-volume services typically include manufacturing up to several hundred PCBs per order with delivery times ranging from five to 15 days.

Thermal management

Increased component density on circuit boards often requires improved thermal dissipation to reduce operating temperatures. We produce printed circuits with heavy copper cores and both embedded and press-fit coins. In addition, we produce PCBs with electrically passive heat sinks laminated externally on a circuit board or between two circuit boards, as well as PCBs with electrically active thermal cores.

Manufacturing Technologies

The market for our products is characterized by rapidly evolving technology. The trend in the electronic products industry continues to be to implement and develop means to increase the speed, complexity, and performance of components while reducing their size. We believe our technological capabilities allow us to address the needs of manufacturers to bring complicated electronic products to market faster.

To manufacture PCBs, we generally receive circuit designs directly from our customers in the form of computer data files, which we review to ensure data accuracy and product manufacturability. Processing these data files with computer aided manufacturing (CAM) technology, we generate images of the circuit patterns that we then physically develop on individual layers, using advanced photographic and direct imaging processes. Through a variety of plating and etching processes, we selectively add and remove conductive materials to form horizontal layers of thin circuitry, which are separated by electrical insulating material. A multilayer circuit board is produced by laminating together multiple layers of circuitry, using intense heat and pressure under vacuum. Vertical connections between layers are achieved by drilling and plating through small holes, called vias. Vias are made by highly specialized drilling equipment capable of achieving extremely fine tolerances with high accuracy. We specialize in high layer count PCBs with extremely fine geometries and tolerances. Because of the tolerances involved, we employ clean rooms in certain manufacturing processes where tiny particles might otherwise create defects on the circuit patterns. We also use automated optical inspection systems and electrical testing systems to ensure consistent quality of the circuits we produce.

We believe that our highly specialized equipment and advanced manufacturing processes enable us to reliably produce PCBs with the following characteristics:

- *High layer count.* Manufacturing PCBs with a large number of layers is difficult to accomplish due to the accumulation of manufacturing tolerances and registration systems required. In our PCB reportable segment, we regularly manufacture PCBs with more than 30 layers on a quick-turn and volume basis.
- *Blind and buried vias*. Vias are drilled holes that provide electrical connectivity between layers of circuitry in a PCB. Blind vias connect the surface layer of the PCB to an internal layer and terminate at the internal layer. Buried vias are holes that do not reach either surface of the PCB but allow inner layers to be interconnected. Products with blind and buried vias can be made thinner, smaller, lighter and with higher component density and more functionality than products with traditional vias.
- *Microvias*. HDI technology utilizes microvias, which are small vias with diameters generally less than 0.15 mm after plating. Advanced HDI products may also require the microvias to be fully filled using a specialized plating process so that additional microvia structures can be stacked to form more complex interconnections. These microvias consume much less space on the layers they connect, thereby providing for greater wiring densities and flexibility, and also providing closer spacing of components and their attachment pads. The fabrication of PCBs with microvias requires specialized equipment, such as laser drills, and highly developed process knowledge. Higher end applications in both defense and commercial markets employ microvias to obtain a higher degree of functionality from a given surface area.
- *Embedded passives.* Embedded passive technology involves embedding either capacitive or resistive elements inside the PCB, which allows for removal of passive components from the surface of the PCB and thereby leaves more surface area for active components. Use of this technology provides greater surface area for surface-mounted ICs and better signal performance, as well as increased functionality of products with higher component density.
- *Fine line traces and spaces.* Traces are the connecting copper lines between the different components of the PCB, and spaces are the distances between traces. The smaller the traces and the tighter the spaces, the higher the density of the PCB and the greater the expertise required to achieve a desired final yield performance level. We are able to manufacture PCBs with traces and spaces less than 0.030 mm.
- *High aspect ratios.* The aspect ratio is the ratio between the thickness of the PCB and the diameter of a drilled hole. As the aspect ratio increases, it becomes increasingly difficult to consistently and reliably form, electroplate and finish all the holes on a PCB. In production, we are able to provide aspect ratios of up to 30:1.
- *Thin core processing.* A core is the basic inner-layer building block material from which PCBs are constructed. A core consists of a flat sheet of material comprised of glass-reinforced resin with copper foil laminated on either side. The thickness of inner-layer cores is typically determined by the overall thickness of the PCB and the number of layers required. The demand for thinner cores derives from the requirements for thinner PCBs, higher layer counts and various electrical parameters. Core thickness in our PCBs ranges from as little as 0.025 mm up to 1.57 mm.
- *Advanced hole fill processes.* Our advanced hole fill processes provide designers the opportunity to increase the density of component placements by reducing the surface area required to place many types of components. In traditional design, components are routed from their surface interfaces through via connections in order to access power and ground connections and the internal circuitry used to connect to other discrete components. Our advanced hole fill processes provide methods to allow for vias to be placed inside their respective surface mount pads by filling the vias with a thermoset epoxy and plating flat copper surface mount pads directly over the filled hole.

- *Advanced materials*. We manufacture circuit boards using a wide variety of advanced dielectric materials. These high-performance materials offer electrical, thermal, and long-term reliability advantages over conventional materials but are more difficult to manufacture. We are certified by Underwriters Laboratories to manufacture PCBs using many types and combinations of these specialty materials. This broad offering allows us to manufacture PCBs for a wide array of end-use applications, including highly complex PCBs for niche and high-end commercial and aerospace and defense markets.
- *Quick-turn manufacturing*. In addition, in circumstances where our customers require time critical engineering and manufacturing services, we are able to react to our customers' needs with our quick-turn manufacturing capabilities.

Our Integrated Electronics manufacturing organization principally designs and manufactures state-of-the-art microwave-based hardware for use in advanced radar systems, advanced jamming systems, missiles and decoys, electronic surveillance systems and satellite and ground-based communication systems. Several core manufacturing technology areas include:

- *Electronic Systems Integration.* Assembly and Testing of Radar, Surveillance and Communications Systems, which are composed of Low/High Power, High Reliability modules that interconnect via cables and harnesses, Circuit cards, Flexprint assemblies, backplanes, Illuminated Panels for the purpose of IFF, Intercommunications and Maritime/Overland surveillance. Material is stored using automated retrieval and storage systems. Product is built using both manual and robotic processes including automation for Conformal Coating of CCA's. Product is tested using Functional Acceptance Testing of Hardware and Software using both Commercial and designed equipment; Environmental Thermal and Stress Screening using both Conventional and Highly Accelerated chambers with profiles typically +70°C/-55°C; Vibration at X/Y/Z axis, DITMCO and Cirrus Chassis Harness Point-to-Point Validation; and Spectrum/Teredyne Functional Circuit card and Module test sets.
- *Microwave Assembly Technology.* Our Microwave product capabilities include simple isolator components for large scale phased array radars to very complex highly integrated Electronic Warfare Line Replaceable Units. All products are designed internally to customer specifications using the latest versions of microwave design and simulation software, coupled with an extensive internal design library. Our radar beamforming solutions are realized through internal design, manufacturing and highly automated test processes for circulators, RF distribution and manifold assemblies. Automated pick-and-place, surface mount reflow, fully automated visual inspection and automated test stands ensure highly repeatable integrated microwave assembly performance. Our environmental lab test capability is used for product qualification and Highly Accelerated Life Testing when required.
- *Analog Hybrid Module Technology.* Analog Hybrid Modules are assembled in our Microelectronics Center of Excellence, which is certified to MIL-PRF-38534 and -38535 Class H and Class K. We continue to invest in state-of-the-art equipment for precision microelectronic assembly processes including custom ceramic substrate manufacturing, eutectic die attach, automated epoxy dispense, wire bonding, lid attach and lead forming. All parts are electrically tested for performance and subjected to environmental testing as required.
- *Ceramic Technology.* We believe Low Temperature Co-fired Ceramic (LTCC) circuits are well-suited for high performance RF packages for multi-function applications such as transmit-receive modules or other RF integrated modules. We have developed proprietary processes to allow for the use of less expensive conductors (silver vs. traditional gold) in the LTCC product thus providing significantly lower cost options to our customers. We have also developed a proprietary etched thick film process resulting in thin film performance at a much-reduced cost. We recently deployed customized equipment to support automated test, visual and electrical inspection, and final tape-and-reel for ceramic resistor products significantly reducing cost and enhancing product quality.

Customers and Markets

Our customers include end-users, OEMs, EMS providers, ODMs and distributors that primarily serve the aerospace and defense, automotive, data center computing, medical/industrial/instrumentation, and networking end markets of the electronics industry. Included in the end markets that our OEM and EMS customers serve is the U.S. federal government. As a result, we are a supplier, primarily as a subcontractor, to the U.S. federal government. In addition, we also sell directly to government agencies (both domestic and allied foreign governments).

See table in Item 7, *Management's Discussion and Analysis of Financial Condition and Results of Operations* for the percentage of our net sales in each of the principal end markets we serve.

Sales attributed to OEMs include sales made through EMS providers and ODMs. Although our contractual relationships are often with the EMS or ODM companies, we typically negotiate price and volume requirements directly with the OEMs. In addition, we are on the approved vendor lists of several of our EMS providers. This positions us to participate in business that is awarded at the discretion of the EMS provider.

Our sales and marketing strategy focuses on building long-term relationships with our customers' engineering and new product introduction personnel early in the product development phase, frequently through strategic account management teams. Traditional build-to-print opportunities involve TTM engineering providing design for manufacture reviews and making recommendations for both manufacturability and cost reductions without impacting specifications. Prototype builds to verify design ensue, along with the early

stages of production. As the product then matures from the prototype stage to volume production, we shift our focus to the customers' procurement departments in order to capture sales at each point in the product's life cycle. Our design-to-specification capabilities allow us to engage at the onset in the engineering cycle at critical aerospace and defense customers as they begin the process of specifying system requirements. At that stage, we support our customers by designing a solution as well as providing early prototyping and test support for that solution. We will then work to meet the ramp to volume production requirements of our customers. Building upon this strategy and moving further vertically along the customer value chain, we also design and manufacture highly-engineered integrated mission systems for aerospace and defense applications.

Our staff of engineers, sales support personnel, and managers assist our sales representatives in advising customers with respect to manufacturing feasibility, design review, and technological capabilities through direct communication and visits. We combine our sales efforts with customer service personnel at each facility to better serve our customers. Each large customer is typically assigned an account manager to coordinate all of the Company's services across all of our facilities. Additionally, the largest and most strategic customers are also supported by select program management and engineering teams. Our global sales force is comprised of direct sales personnel, complemented by commission-based independent representatives, and supports customers throughout North America, Europe, Asia and the Middle East.

Our North America footprint includes facilities from our PCB and RF&S Components reportable segments with 17 PCB fabrication and engineered system plants located in California, Colorado, Connecticut, New Hampshire, New York, North Carolina, Ohio, Oregon, Utah, Virginia, Wisconsin, and Ontario, Canada; and one RF component plant located in New York.

Our Asia footprint includes facilities from our PCB and RF&S Components reportable segments. We have five PCB fabrication plants located in Huiyang, Dongguan, Guangzhou, and Zhongshan, China and Penang, Malaysia; and one RF component plant located in Suzhou, China.

On November 1, 2023, we announced that we had selected New York State as the location for a proposed advanced technology PCB manufacturing facility. Groundbreaking is anticipated in the first half of 2024, with the project's final scale, scope, and timeline subject to finalizing funding with various stakeholders.

For certain risks attendant to our foreign operations, see Item 1A, *Risk Factors*.

For information regarding credit to customers, see Note 11 of the Notes to Consolidated Financial Statements.

Suppliers

The supply chain for our different product areas is meaningfully diverse. For PCBs, primary raw materials are copper-clad laminates and chemicals, while for engineered systems, RF components and subsystems, primary raw materials are components such as circuit card assemblies, PCBs, semiconductors, and connectors.

The primary raw materials we use in PCB manufacturing include copper-clad laminate, chemical solutions such as copper and gold for plating operations, photographic film, carbide drill bits, and plastic for testing fixtures. Although we have preferred suppliers for some raw materials used in the manufacture of PCBs, most of our raw materials are generally readily available in the open market from numerous other potential suppliers.

The primary raw materials we use in engineered systems, RF components, RF subsystems, backplane assemblies and other PCB assemblies are manufactured components such as PCBs, ceramic and ferrite substrates, connectors, capacitors, resistors, diodes and integrated circuits, many of which are custom made and controlled by our customers' approved vendors. The more complicated RF subsystems may require us to purchase integrated sub-assemblies and super-components such as RF oscillators, frequency converters, power supplies and microprocessors. These components for backplane assemblies and other PCB assemblies in some cases have limited or sole sources of supply. For example, in some instances, our customers will require use of a specific component from a particular supplier or require use of a component provided by the customer itself, in which case we may have a single or limited number of suppliers for these specific components. The backplane assemblies, PCB assemblies and precision metal fabricated chassis and enclosures which we produce are often incorporated into a fully integrated and tested system delivered to our customer. These products often incorporate procured power, thermal, interconnect and mechanical components sourced from either customer directed or our selected suppliers.

Radar, Communication and Surveillance systems use highly sophisticated electronic sub-assemblies including Transmitter and Receiver CCA's/Modules, Travelling Wave Tube Assemblies, Exciters, Wave Form Generators and Frequency Generators. Many of these systems also require the acquisition of RF antenna arrays, illuminated panel subassemblies, inertial navigation/GPS subassemblies from OEMs or parts specifically designed for certain applications. The material for these systems come from a variety of sources, including OEMs and Contract Manufacturers, and are often defined by the end customer.

We typically use just-in-time procurement practices to maintain our raw materials inventory at low levels and work closely with our suppliers to obtain technologically advanced raw materials. In addition, we periodically seek alternative supply sources with the goal of ensuring that we are receiving competitive pricing and service. Certain raw materials, particularly semiconductors continue to be in short supply and are limiting production of some of our engineered systems while other raw materials for PCBs and subassemblies

are in adequate supply now. Supply for PCB materials can vary over time depending on supply/demand dynamics for key raw materials such as copper clad laminates. See Item 1A, *Risk Factors* for more details.

Competition

For PCBs, our competitors are mostly based in China and Taiwan. For engineered products such as RF sub-assemblies and systems, we compete with a different set of competitors largely based in the U.S. and Europe. The PCB industry remains fragmented and characterized by intense competition. There are several competitive factors our customers consider when choosing their supplier including, but not limited to, technical capabilities, pricing, service, support, reliability, quality and location. Our principal PCB and substrate competitors include AT&S (Austria Technologie & Systemtechnik Aktiengesellschaft), Chin-Poon Industrial Co., Ltd., Gold Circuit Electronics Ltd., ISU Petasys Co., Ltd., Sanmina Corporation, Shennan Circuits Co., Ltd., Suzhou Dongshan Precision Manufacturing Co., Ltd., Tripod Technology Corporation, Unimicron Technology Corporation, WUS Printed Circuit Co., Ltd., and Zhen Ding Technology Holding Ltd. Our competition for RF products and engineered systems include BAE Systems plc, Cobham plc, Crane Aerospace & Electronics, Elta Systems Ltd., Hendsolt AG, Mercury Systems, Inc., RN2 Technologies Co., Selex ES (subsidiary of Leonardo S.p.A.), Smiths Group plc, and Thales Group.

We believe that our key competitive strengths include:

Leading global technology solutions manufacturer. We are one of the largest technology solutions manufacturers in North America, one of the largest suppliers to the aerospace and defense industry and have a global sales and manufacturing presence. Historically, we have focused on manufacturing PCBs, but we have been moving further up our customers' value chain by also designing and manufacturing RF sub-assemblies and engineered systems. According to a November 2023 report by Prismark Partners, we are one of the largest and most diversified PCB manufacturers in the world based on 2022 revenues, and we enjoy significant economies of scale, with net sales of approximately $2.2 billion for fiscal 2023. This scale has helped us invest both organically and inorganically to provide more technology and manufacturing solutions to our customers. The PCB industry is highly fragmented with the top 40 PCB providers comprising approximately 78% of market share based on 2022 revenue, according to Prismark Partners. As our customers consolidate their supply base, we offer the technology breadth and scale to emerge as a preferred partner.

Breadth of technology and products. We offer a wide range of engineered systems, passive RF components, advanced ceramic RF components, hi-reliability multi-chip modules, beamforming and switching networks, integrated circuit (IC) substrates and PCB and RF products, including HDI and Ultra-HDI PCBs, conventional PCBs, flexible PCBs, rigid-flex PCBs, and custom assemblies. We also offer certain value-added services to support our customers' needs. These include RF design to specification capability, design for manufacturability (DFM), PCB layout design, simulation and testing services, and QTA services. By providing these value-added services to customers, we are capable of providing our customers with a "one-stop" technology solution, which we believe enhances our relationships with our customers.

Diversified business model. Our sales are diversified by a well-balanced portfolio of end markets that we serve and by the customers we sell to within those end markets. We believe this diversity reduces our exposure to, and reliance on, any single end market or customer. We believe we enjoy a large and diverse customer base with over 1,500 customers, as well as long-term relationships in excess of ten years with our ten largest customers.

Focused on attractive end markets with a favorable growth outlook and dependence on sophisticated product capabilities. We believe that our global manufacturing footprint and breadth of capabilities enables us to serve multiple key end markets for our technology solutions. The aerospace & defense industry in particular provides an opportunity for us as we combine our traditional market strength in core PCB technology with the advanced technologies and RF capabilities and engineered systems we offer for growing requirements in both traditional and AESA radar systems for defense applications.

One-stop solution for customers. We are capable of providing a one-stop design, manufacturing and test solution to our customers with design services, engineering support and prototype development through final volume production around the globe. This one-stop solution allows us to better serve our customers, many of whom are based in time-critical high growth markets, enabling our customers to reduce the time required to develop new products and bring them to market. We utilize a facility specialization strategy in which each customer is directed to the facility best suited to the customer's product type, delivery time, complexity and volume needs. This enables us to reduce the time from order placement to delivery. As our commercial customers ramp to volume, we are positioned to transition them to one of our volume facilities in China.

Leading aerospace and defense supplier. We have passed OEM and government certification processes, and the administrative requirements associated with participation in government and commercial aerospace programs. When supplying various departments and agencies of the U.S. government, we are required to maintain facility security clearances under the National Industrial Security Program Operating Manual (NISPOM) and International Traffic in Arms Regulations (ITAR). Along with supply of traditional and RF PCBs, we offer a variety of RF components and sub-assemblies, engineered systems, as well as our engineering services and assembly capabilities which allow us to bring additional value to our customers.

Seasonality

We tend to experience modest seasonal softness in the first and third quarters due to holidays and vacation periods in China and North America, respectively, which limit production leading to stronger revenue levels in the second and fourth quarters.

Intellectual Property

Our intellectual property strategy remains deliberate and aimed at protecting the innovations critical to TTM's business and the success of our customers. We now have a total of approximately one hundred fifty (150) patents, with approximately twenty (20) pending patent applications. Many of these patents stem from our 2018 acquisition of Anaren, 2019 asset and technology acquisition from i3, and 2022 acquisition of Telephonics. Our PCB business depends on the effectiveness of our fabrication techniques, proprietary PCB structures, and our ability to continually improve our manufacturing processes. We rely on the collective experience of our employees in the manufacturing process to ensure that we continuously evaluate and adopt new technologies available within our industry. In addition, we depend on robust training, recruiting, and retention of our employees, who are required to be knowledgeable in the operation of advanced equipment and complicated manufacturing processes. In regards to our RF products, the vast majority are proprietary and protected or covered by approximately fifty-three (53) patents and eight (8) currently pending patent applications directed towards products for both the wireless infrastructure and aerospace and defense markets.

National Security Matters

A portion of our business consists of manufacturing defense and defense-related items for various departments and agencies of the U.S. government, including the U.S. Department of Defense (DoD), which requires that we maintain facility security clearances under the NISPOM. The NISPOM requires that a corporation with significant foreign ownership maintaining a facility security clearance take steps to prevent foreign ownership, control or influence, referred to as "FOCI." In February of 2023, our Board of Directors passed a Special Board Resolution (SBR), replacing the Special Security Agreement (SSA) that we entered into with the Defense Counterintelligence and Security Agency (DCSA) in 2010. The replacement of the SSA with the SBR is a result of the significantly reduced foreign ownership of TTM. DCSA has accepted the SBR and the effective date of the SBR is February 2, 2023. The SBR codifies the maintenance of the Government Security Committee of the Board to oversee our compliance and cybersecurity efforts and to put into place best practices in our facilities in the U.S. and overseas to ensure that we maintain robust security practices and policies as we serve the interests of our customers in the Aerospace and Defense market. Our Government Security Committee of our Board of Directors, consists of at least 3 Board members that hold a National Security Clearance. The DCSA will continue to review TTM's compliance with the terms of the SBR annually at each of TTM's sites which operate under a U.S. DoD security clearance. In addition, all of TTM's Board is currently comprised of U.S. citizens and per the terms of the SBR, in the future, no foreign citizen will be allowed to sit on TTM's Board.

Other Governmental Regulations

Our operations, particularly those in North America, are subject to a broad range of regulatory requirements relating to export control, environmental compliance, waste management, and health and safety matters. In particular, we are subject to the following:

- U.S. Department of State regulations, including the Arms Export Control Act (AECA) and ITAR located at 22 CFR Parts 120-130;
- U.S. Department of Commerce regulations, including the Export Administration Regulations (EAR) located at 15 CFR Parts 730-744;
- Office of Foreign Asset Control (OFAC) regulations located at 31 CFR Parts 500-599;
- U.S. Occupational Safety and Health Administration (OSHA), and state OSHA and Department of Labor laws pertaining to health and safety in the workplace;
- U.S. Environmental Protection Agency regulations pertaining to air emissions; waste water discharges; and the use, storage, discharge, and disposal of hazardous chemicals used in the manufacturing processes; the reporting of chemical releases to the environment; and the reporting of chemicals manufactured in by-products that are beneficially recycled;
- Department of Homeland Security regulations regarding the storage of certain chemicals of interest;
- California Climate Corporate Data Accountability Act (SB 253) and the California Climate-Related Financial Risk Act (SB 261);
- corresponding state laws and regulations, including site investigation and remediation;
- corresponding U.S., county and city agencies;
- corresponding regulations and agencies in China for our Chinese facilities;
- material content directives and laws that ban or restrict certain hazardous substances in products sold in member states of the European Union, China, and other countries and jurisdictions;

- SEC rules that require reporting of the use of certain metals (conflict minerals) originating in the Democratic Republic of the Congo and the countries adjacent to it pursuant to Section 1502 of the Dodd-Frank Act; and
- reporting requirements of the California Transparency in Supply Chains Act of 2010 that requires reporting on efforts to eradicate slavery and human trafficking in retailers' and manufacturers' supply chains.

The process to manufacture PCBs and our other products requires adherence to city, county, state, federal, and foreign environmental laws and regulations regarding the storage, use, handling, and disposal of chemicals, solid wastes and other hazardous materials, as well as compliance with wastewater and air quality standards. We believe that our facilities in the United States and Canada comply in all material respects with applicable environmental laws and regulations. In Asia, the government has a history of changing legal requirements with minimal notice. We believe that our facilities in Asia comply in all material respects with current applicable environmental laws and regulations and have resources in place to maintain compliance to them. The capital expenditure costs expected for environmental improvement initiatives are included in our annual capital expenditure projections.

Human Capital

How we manage and leverage our human capital is essential in executing our strategy. At TTM, we believe a key differentiator is our culture, which has been shaped through considerable thought and energy. Our culture has served us well as we integrate acquired companies and optimize our organizational structures and teams to better serve our customers. The following elements underpin our culture:

- Vision – Inspire innovation as a global preeminent technology solutions company.
- Mission – Provide customers with market leading, differentiated solutions and an extraordinary customer experience.
- The "TTM Values" that apply to all employees are: Integrity, Teamwork, Clear Communication and Performance Excellence.
- Our people leaders are guided by our "Leadership Principles" which are: Results, Communications, Collaboration, and Career Development.
- "One TTM" – embodies our collective "team" approach to solving problems, working together, robust collaboration, and proactive communication throughout the organization to better serve our customers.

Commitment to Values and Ethics. The foundation of TTM's strategic vision is its corporate culture and its way of doing business with integrity, teamwork, clear communication, and performance excellence. We seek to demonstrate the importance we place on these values through our goal setting and performance management process as well as providing ethics training to employees every year.

Along with the TTM Values and our Leadership Principles, we discuss and act in accordance with, and provide annual training for, our Code of Conduct, which outlines our expectations and provides guidance for our employees. Our Code of Conduct includes topics such as anti-corruption, discrimination, harassment, privacy, appropriate use of company assets, protecting confidential information, and reporting Code of Conduct violations. Our Code of Conduct reinforces the importance of fostering an open, welcoming environment in which all employees have a voice and a confidential outlet to raise concerns regarding potential violations.

Our commitment to our communities is demonstrated through our volunteer efforts, charitable donations, and sponsorships. As an employer, our local sites choose the organizations to affiliate with that best reflect our values.

In 2021, the TTM Board of Directors established the TTM Chair for Community Service Award to recognize one outstanding team for their contributions to the local community during that year. We host the winning external organization along with the TTM employees and executive leaders in an annual awards ceremony. In 2023, we honored the Rise against Hunger organization with a $20,000 check while dedicating an exclusive day across multiple TTM sites where we packaged over 60,000 meals in a coordinated event.

Talent Acquisition. Our vision is to provide world-class talent acquisition, recognized for our commitment to diverse and robust talent sources, optimized use of technology, and the development of a compelling employment brand. We aspire to create a seamless and candidate-centric experience that not only meets the needs of TTM globally, but also ensures a positive and engaging journey for potential candidates. By continually refining our approach and embracing innovative solutions, we aim to build a workforce that drives the company's success and fosters a culture of growth and diversity.

Talent Development. Talent development is a collective and continuous effort of all of our people managers. We engage in regular talent reviews to calibrate on performance, potential, development gaps and progress, and to evaluate the depth and strength of our integrated succession plans. Our approach to learning is a continuous one, regardless of experience level or tenure. We provide leadership development programs with individually tailored development plans anchored in dedicated coaching and separate internal mentors. To ensure focus on individual development for growth and readiness for career opportunities, we track the completion of development plans of our employees in the management, technical, and professional career tracks, with over 83% documented plans in 2023. We provide recurring instructor-led, blended learning, development programs for different stages of leadership including new

people leaders up to high potential middle and senior leaders. Additionally, we extend competency-based training, sponsor job rotations, and form project teams comprised of emerging talent. We provide tuition reimbursement assistance, as well as a monthly stipend to engineers to pay down student debt. Our global learning management system houses extensive internal content as well as select external materials for all to access.

Diversity, Equity and Inclusion (DEI). Recognizing and respecting our global presence, we strive to maintain a diverse and inclusive workforce that reflects the communities that we serve. Our U.S. workforce is approximately 41% ethnically diverse and comprised of nearly 36% females. In addition, 47% of our U.S. new hires in 2023 identified as underrepresented minorities. As part of our efforts, TTM's Inclusion Council works collaboratively across the organization to drive our DEI strategy and support key initiatives. The Council's 30+ members have formed four committees: Diversity Candidate Pipelines, Employee Experience, Training & Career Development, and Branding. The diversity pipeline team serves as an advisory body to our Manager of Talent Acquisition Programs who is responsible for diversity, military and university hiring. Our sites actively participate in campus hiring and job fairs throughout the year, supporting various events within each region and driving recruitment campaigns that leverage our social media platforms; this is in addition to specific campaigns dedicated to diversity and veteran hiring such as the Howard University's Corporate Takeover Day to engage students and prospective candidates. We have also expanded and continue to develop our existing policies and training to address harassment, bullying and the elimination of bias in the workplace. We delivered valuable Inclusive Leadership learning to all people leaders globally with a 93% completion rate in addition to publishing internal magazines that feature employees and their personal stories. We focus on inclusion to expand our efforts globally with initiatives such as encouraging team members to express through art displays what inclusion and diversity means to them, resulting in a TTM calendar as a DEI reminder throughout the year.

Employee Engagement & Turnover. We periodically survey our employees and benefit from favorable participation rates to identify and act on specific opportunities to enhance our work environment, improve communications, and strengthen the connection between supervisors and employees. In 2022, we deployed a full-scale engagement survey on 14 engagement drivers with 94% participation rate globally. TTM's overall engagement survey results indicated High Performing (compared to benchmark) in all 14 drivers, with Culture and Inclusion registering the highest scores. The voice of our employees provides valuable insights on how we invest in people and prioritize specific actions and programs to attract and retain talent. We have shared the results with our employees and gathered additional insights before completing detailed action plans covering every manufacturing plant and corporate function in 2023.

To further gauge talent attraction and the onboarding experience, we utilize a new hire survey to gather insight into our employee's experience from the moment they first interact with TTM as a candidate to settling into their first couple of months in their new role. Completing the employee life cycle, we implemented an exit survey to gather feedback from employees leaving TTM.

Our two regional change agent networks (Asia and North America) exist to improve communications from the factory and office floor up to the senior management team. We select several employees within each site who are respected, influential and representative of the employee base to serve as change agents. This network discusses and then communicates the key initiatives within the sites in addition to raising employee concerns. Additionally, these teams prioritize site initiatives around community activities, site improvement projects, recognition programs, and new communication methods.

We review employee turnover rates paying particular attention to supervisor and technical retention. We believe the emphasis we place on selecting, training and coaching supervisors positively impacts their ability to lead people. Our leadership principles of results, communications, collaboration and career development are designed to improve the employee experience and strengthen working relationships. Through internal surveys, it is clear our employees value their relationships with their supervisors, career opportunities and the corporate culture.

Compensation and Benefits. We strive to align our compensation and benefit programs with ever changing market conditions. We are committed to reviewing our programs annually and recommend changes to improve our market competitiveness and ability to attract and retain our talent. In 2023, we continued to enhance and mature our global job infrastructure that we developed in 2022. Our goal of this global framework is to invest in our employees' total cash compensation for competitive reasons while outlining career tracks and levels to provide development opportunities. Our people leaders are dedicated to engaging with their employees to explain the career framework, their compensation, and potential for future jobs. We have seen the positive impact of the adjustments we made to base salaries and incentive compensation coupled with the conversations on career opportunities from managers. We believe other benefits of this structure are as follows:

- Globally integrated job architecture that is adaptable for future acquisitions;
- Market competitive guidelines for attracting, retaining and rewarding our employees;
- An improved ability to recruit and hire North America talent through enhanced recruitment advertising strategies. As a result, our applicant flow more than doubled from 2022.
- A disciplined annual performance review cycle based salary review and incentive program, which rewards for both business and/or individual performance.

We also offer comprehensive benefit plans for eligible employees including mental health, employee assistance program (EAP), telemedicine offerings, several medical and dental plans with qualifying employer-funded health savings accounts, life insurance, specialty programs for diabetes and weight loss, wellness challenges, and an on-site health and physical therapy center at one of our largest U.S. facilities.

Employee Data

As of January 1, 2024, we had approximately 15,800 employees. Our employees were distributed by function approximately as follows: 12,600 in manufacturing roles, 1,600 in engineering or technician roles, 500 in sales and marketing roles, and 1,100 in professional, managerial or other administrative roles. Of our 5,591 U.S. employees, 52 are represented by unions. In China, approximately 8,412 employees are members of the All-China Federation of Trade Unions and accordingly are considered to be represented by a labor union. We believe that our relations with both our union and non-union employees are satisfactory.

Availability of Reports Filed with the Securities and Exchange Commission

We are a Delaware corporation founded in 1998, with our principal executive offices located at 200 East Sandpointe, Suite 400, Santa Ana, CA 92707. Our telephone number is (714) 327-3000. Our website address is *www.ttm.com*. We routinely post important information for investors on our website in the “Investor Relations” section. We use this website as a means of disclosing material information in compliance with our disclosure obligations under Regulation FD. Accordingly, investors should monitor the “Investor Relations” section of our website, in addition to following our press releases, SEC filings, public conference calls, presentations and webcasts. Information included on our websites is not incorporated into this Report. Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports are available without charge on our website at https://investors.ttm.com/, as soon as reasonably practicable after they are filed with or furnished electronically to the Securities and Exchange Commission (SEC). Our SEC filings are also available to the public at www.sec.gov. Copies are also available without charge by (i) telephonic request by calling our Investor Relations Department at (714) 327-3000, (ii) e-mail request to investor@ttmtech.com, or (iii) a written request to TTM Technologies, Inc., Attention: Investor Relations, 200 East Sandpointe, Suite 400, Santa Ana, CA 92707.

ITEM 1A. *RISK FACTORS*

Risk Factor Summary

The risk factors summarized below could materially harm our business, operating results and/or financial condition, impair our future prospects and/or cause the price of our common stock to decline. Listed below is a summary of the principal risks, which are discussed more fully immediately following this summary.

- Global economic and market uncertainty may adversely impact our business and operating results.
- We serve customers and have manufacturing facilities throughout the world and are subject to risks caused by local and global pandemics and other similar risks.
- We may encounter risks associated with potential divestitures of assets and acquisitions of other businesses.
- We may not fully realize the anticipated positive impacts to future financial results from our restructuring efforts.
- Uncertainty, volatility and adverse changes in the global economy and financial markets could have an adverse impact on our business and operating results.
- We are subject to the risks characteristic of international operations, including tariffs.
- We are subject to risks from rising labor costs and labor shortages, employee strikes and other labor-related disruptions.
- We may be unable to hire and retain sufficient qualified personnel at all levels of our organization, and we are subject to risks from the loss of any of our key executive officers, or the inability to maintain a sufficient workforce to satisfy production demands.
- Our raw material suppliers or equipment manufacturers may experience disruptions to their supply chain or operations, or otherwise fail to satisfy our product quality standards, or the prices or availability of raw materials may change.
- We are subject to risks of currency fluctuations.
- The worldwide electronics industry is intensely competitive and volatile.
- We may be unable to maintain satisfactory capacity utilization rates.
- If our goodwill or other intangible assets become impaired in the future, we would be required to record a non-cash charge to earnings.
- Our results of operations are often subject to demand fluctuations and seasonality. With a high level of fixed operating costs, even small revenue shortfalls would decrease our gross margins.
- We may fail to meet the strict quality control standards of the industries in which we participate.
- The prominence of EMS companies as our customers could reduce our gross margins, potential sales, and customers.
- A decline in sales to the relatively small number of OEM customers on whom we depend for a large portion of our sales would materially adversely affect our business.
- We depend on the U.S. federal government for a significant portion of our business.
- We are exposed to the credit risk of our customers and to credit exposures in weakened markets.
- Initiatives aimed at addressing potential climate change risks could materially adversely affect our business.
- Competition in the PCB market is intense, and we could lose market share, or our profit margins may decrease, if we are unable to maintain our current competitive position in end markets.
- We may not be able to compete effectively if we are unable to adapt our design and production processes when needed.
- Products we manufacture may contain design or manufacturing defects.
- Infringement of our intellectual property rights could negatively affect us, and we may be exposed to intellectual property infringement claims from third parties.
- Foreign laws may not afford us sufficient protections for our intellectual property.
- Damage to any of our manufacturing facilities could materially adversely affect our business.
- We have substantial outstanding indebtedness, which could adversely impact our liquidity, our flexibility in obtaining additional financing and our ability to fulfill our debt obligations.
- We are subject to interest rate risk, which could cause our debt service obligations to increase significantly.

- Servicing our debt requires a significant amount of cash, and we may be forced to take other actions to satisfy our obligations under our debt.
- Due to periodic power shortages in China, we may have to temporarily close our China operations.
- We are subject to the requirements of the NISPOM for our facility security clearance, which is a prerequisite to our ability to perform on classified contracts for the U.S. government.
- Our operations in Asia subject us to risks and uncertainties relating to the local laws and regulations and adverse effects of political tensions that arise from time to time with China.
- Our failure to comply with the requirements of environmental laws could result in litigation, fines, revocation of necessary permits, or debarment from our participation in federal government contracts.
- Our international sales are subject to laws and regulations relating to corrupt practices, trade, and export controls and economic sanctions. Any non-compliance could have a material adverse effect on our business.
- Outages, computer viruses, cyber-attacks and cybersecurity incidents, and similar events could materially disrupt our operations.
- Privacy, information security, and data protection laws, rules, and regulations could affect or limit how we collect and use personal information, increase our costs, and adversely affect our business opportunities.
- Issues arising during the upgrade of our enterprise resource planning system could affect our operating results and ability to manage our business effectively.
- Our ability to use net operating loss carryforwards to offset future taxable income for U.S. federal, state and foreign income tax purposes is subject to limitations, and future transfers of shares of our common stock could cause us to experience an "ownership change" that could further limit our ability to utilize our net operating losses.

An investment in our common stock involves a high degree of risk. You should carefully consider the factors described below, in addition to those discussed elsewhere in this Report, in analyzing an investment in our common stock. If any of the events described below occurs, our business, financial condition, and results of operations would likely suffer, the trading price of our common stock could fall, and you could lose all or part of the money you paid for our common stock. Risks and uncertainties not known to us currently, or that may appear immaterial, also may have a material adverse effect on our business, financial condition, and results of operations.

In addition, the following risk factors and uncertainties could cause our actual results to differ materially from those projected in our forward-looking statements, whether made in this Report or the other documents we file with the SEC, or our annual or quarterly reports to stockholders, future press releases, or orally, whether in presentations, responses to questions, or otherwise.

Risks Related to our Business

Global economic and market uncertainty may adversely impact our business and operating results.

Uncertain global economic conditions have in the past and may in the future adversely impact our business. The current uncertainty in the worldwide economic environment together with other unfavorable changes in economic conditions, such as higher inflation and interest rate increases currently being experienced or implemented by most developed economies, as well as recessions that have affected major countries, may negatively impact consumer confidence and spending, ultimately causing our customers to postpone purchases and may ultimately impact our profitability. Inflation and rapid fluctuations in inflation rates have had in the past, and may in the future have, negative effects on economies and financial markets. We could experience period-to-period fluctuations in operating results due to general industry or economic conditions and volatile or uncertain economic conditions can adversely impact our sales and profitability and make it difficult for us to accurately forecast and plan our future business activities. Furthermore, inflationary pressure and increases in interest rates may negatively impact revenue, earnings and demand for our products. During challenging economic times, our current or potential future customers may experience cash flow problems and as a result may modify, delay or cancel plans to purchase our products. Additionally, if our customers are not successful in generating sufficient revenue or are unable to secure financing, they may not be able to pay, or may delay payment of, accounts receivable that they owe us. Any inability of our current or potential future customers to pay us for our products may adversely affect our earnings and cash flow. Moreover, our key suppliers may reduce their output or become insolvent, thereby adversely impacting our ability to manufacture our products.

We serve customers and have manufacturing facilities throughout the world and are subject to risks caused by local and global pandemics and other similar risks, which could materially adversely affect our business, financial condition, and results of operations.

Local and global pandemics or other disasters or public health concerns in regions of the world where we have operations or source material or sell products could result in the disruption of our business. Specifically, these pandemics, disasters and health concerns can result in increased travel restrictions and extended shutdowns of certain businesses in the regions in which we operate, as well as social, economic, or labor instability. Disruptions in our product shipments or impacts on our manufacturing in affected regions over a prolonged period could have a material adverse impact on our business and our financial results.

In particular, multiple facets of our business may be negatively impacted by the fear of exposure to or actual effects of disease outbreaks, epidemics, pandemics and similar widespread public health concerns. These impacts include but are not limited to:

- failure of third parties on which we rely, including, without limitation, our suppliers, commercial banks, and other external business partners, to meet their obligations to us, caused by significant disruptions in their ability to do so or their own financial or operational difficulties;
- supply chain risks such as disruptions of supply chains, excess demand on suppliers, and scrutiny or embargoing of goods produced in infected areas;
- reduced workforces and labor shortages at all levels of our organization, which may be caused by, but not limited to, the temporary inability of the workforce to work due to illness, lockdowns, quarantine, or government mandates and incentives;
- temporary business closures due to reduced workforces or government mandates;
- reduced demand for our products and services caused by, but not limited to, the effect of quarantine or other travel restrictions or financial hardship on our workforce or the businesses in the industries we service; or
- restrictions to our business as a result of federal or state laws, regulations, orders or other governmental or regulatory actions, if adopted.

Any of the foregoing factors, or other cascading effects that are not currently foreseeable, could materially increase our costs, negatively impact our sales, or damage the Company’s financial condition, results of operations, cash flows and its liquidity position, possibly to a significant degree. The duration of any such impacts cannot be predicted.

We have pursued and intend to continue to pursue potential divestitures of assets and acquisitions of other businesses and may encounter risks associated with these activities, which could harm our business and operating results. If we are unable to manage our growth effectively, our business, financial condition, and results of operations could be materially adversely affected.

As part of our business strategy, we expect that we will continue to implement and align our strategy by pursuing potential divestitures of assets, such as our sale of Shanghai Backplane Assembly, and acquisitions of businesses, technologies, assets, or product lines that complement or expand our business, such as our acquisition of Gritel Holding Co., Inc. (Gritel) and ISC Farmingdale Corp. in June 2022. Telephonics Corporation is now a wholly-owned subsidiary of TTM by way of our acquisition of Gritel, the Telephonics direct parent company. Risks related to such activities and transactions may include:

- the potential inability to successfully integrate acquired operations and businesses or to realize anticipated synergies, economies of scale, or other expected value;
- diversion of management’s attention from normal daily operations of our existing business to focus on integration of the newly acquired business;
- unforeseen expenses associated with the integration of the newly acquired business or assets;
- difficulties in managing production and coordinating operations at new sites;
- the potential loss of key employees of acquired or divested operations;
- the potential inability to retain existing customers of acquired companies when we desire to do so;
- insufficient revenues to offset increased expenses associated with acquisitions;
- the potential decrease in overall gross margins associated with acquiring a business with a different product mix;
- the inability to identify certain unrecorded liabilities;
- the inability to consummate a potential divestiture due to regulatory constraints or other closing conditions;
- the separation of business infrastructure involved in a potential divestiture may create disruption in our business;
- the tax burden related to the divestiture may be larger than expected;
- the potential divestiture of assets or product lines could create dis-synergies and change our profitability;
- the potential need to restructure, modify, or terminate customer relationships of the acquired or divested assets or company;
- an increased concentration of business from existing or new customers; and
- the potential inability to identify assets best suited to our business plan.

Acquisitions may cause us to:

- enter lines of business and/or markets in which we have limited or no prior experience;
- issue debt and be required to abide by stringent loan covenants;
- assume liabilities;
- record goodwill and intangible assets that will be subject to impairment testing and potential periodic impairment charges;
- become subject to litigation and environmental issues, which include product material content certifications related to conflict minerals;
- incur unanticipated costs and expenses, including with respect to our compliance obligations under U.S. federal securities laws;
- incur large and immediate write-offs; and
- incur substantial transaction-related costs, whether or not a proposed acquisition is consummated.

Acquisitions of high technology companies and assets are inherently risky, and no assurance can be given that our prior or future acquisitions will be successful. Failure to manage and successfully integrate acquisitions we make could have a material adverse effect on our business, financial condition, and results of operations. Even when an acquired company has already developed and marketed products, product enhancements may not be made in a timely fashion. In addition, unforeseen issues might arise with respect to such products after any such acquisition.

As we continue to experience growth in the scope and complexity of our operations, we may be required to implement additional operating and financial controls and hire and train additional personnel. There can be no assurance that we will be able to do so in the future, and failure to do so could jeopardize our expansion plans and seriously harm our operations. In addition, growth in our capacity could result in reduced capacity utilization and a corresponding decrease in gross margins.

We may not fully realize the anticipated positive impacts to future financial results from our restructuring efforts.

In regards to our announcement in the first quarter of 2023 of the consolidation of our manufacturing footprint and the closure of three manufacturing facilities, if economic conditions deteriorate, we may not achieve the expected increase in overall profitability as a result of the consolidation. Our ability to achieve the anticipated cost savings and other benefits from our restructuring efforts within expected time frames is subject to many estimates and assumptions, and may vary materially based on factors such as market conditions and the effect of our restructuring efforts on our work force. These estimates and assumptions are subject to significant economic, competitive and other uncertainties, some of which are beyond our control. There can be no assurance that we will fully realize the anticipated positive impacts to future financial results from our current or future restructuring efforts. If our estimates and assumptions are incorrect or if other unforeseen events occur, we may not achieve the cost savings expected from such restructurings, and our business and results of operations could be adversely affected.

Uncertainty, volatility and adverse changes in the global economy and financial markets, including those resulting from the conflict between Russia and Ukraine and between Israel and the Gaza Strip, could have an adverse impact on our business and operating results.

Uncertainty, volatility or adverse changes in the economy could lead to a significant decline in demand for the end products manufactured by our customers, which, in turn, could result in a decline in the demand for our products and increase pressure to reduce our prices. Any decrease in demand for our products could have an adverse impact on our financial condition, operating results, and cash flows. Uncertainty and adverse changes in the economy could also increase the cost and decrease the availability of potential sources of financing and increase our exposure to losses from bad debts, either of which could have a material adverse effect on our financial condition, operating results, and cash flows.

The conflict between Russia and Ukraine and between Israel and the Gaza Strip has contributed to volatility in the global economy and markets and on-going geopolitical instability and is likely to have further global economic consequences, including on-going disruptions of the global supply chain and energy markets. The effects of the conflict have contributed to significant volatility in credit and capital markets, spikes in energy prices, changes in laws and regulations that may affect our business, sanctions or counter-sanctions and increased cybersecurity threats and concerns. As a result, there is a risk that supplies of our products may be significantly delayed by or may become unavailable as a result of the conflict between Russia and Ukraine and between Israel and the Gaza Strip affecting us or our suppliers. The conflicts may, at times, reduce demand for our products because of reduced global or national economic activity, disruptions and extreme volatility in global financial markets, increased rates of default and bankruptcy, and reduced levels of business and consumer spending. The effects of these conflicts could heighten or exacerbate many of the risk factors described in this Item 1A, *Risk Factors*, and may adversely affect our business, financial condition, and results of operation.

We have manufacturing facilities and serve customers outside the United States and are subject to the risks characteristic of international operations, including tariffs.

We have significant manufacturing operations in China, elsewhere in Asia and Canada and sales offices located in Asia and Europe. We continue to consider additional opportunities to make foreign investments and construct new foreign facilities.

In addition, for the year ended January 1, 2024, we generated approximately 45% of our net sales from non-U.S. operations, and a significant portion of our manufacturing material was provided by international suppliers during this period. The United States' trade policies and those of foreign countries are subject to change which could adversely affect our ability to purchase and sell goods and materials without significant tariffs, taxes or duties that may be imposed on the materials we purchase or the goods we sell, thereby increasing the cost of such materials and potentially decreasing our margins. Further, our revenues could be impacted if our customers' ability to sell their goods is reduced by such tariffs, taxes or duties. Both the U.S. and Chinese governments have included PCBs among items subjected to tariffs imposed on imports from such countries, which may negatively impact our revenue and profitability. In addition, we are subject to risks relating to significant international operations, including but not limited to:

- managing international operations;
- imposition of governmental controls;
- unstable regulatory environments;
- compliance with employment laws;

- implementation of disclosure controls, internal controls, financial reporting systems, and governance standards to comply with U.S. accounting and securities laws and regulations;
- limitations on imports or exports of our product offerings;
- fluctuations in the value of local currencies;
- inflation or changes in political and economic conditions;
- public health crises;
- labor unrest, rising wages, difficulties in staffing, and geographical labor shortages;
- government or political unrest;
- conflict or war between nations over territory that impacts the electronics supply chain leading to potential trade restrictions to and from the nations involved, including Russia, Ukraine, China, Israel and the Gaza Strip;
- longer payment cycles;
- language and communication barriers, as well as time zone differences;
- cultural differences;
- increases in duties and taxation levied on our products;
- other potentially adverse tax consequences;
- imposition of restrictions on currency conversion or the transfer of funds;
- travel restrictions;
- expropriation of private enterprises;
- the potential reversal of current favorable policies encouraging foreign investment and trade;
- the potential for strained trade relationships between the United States and its trading partners, including trade tariffs which could create competitive pricing risk; and
- government imposed sanction laws and regulations.

Further, the conflict between Russia and Ukraine and between Israel and the Gaza Strip described in the previous risk factor, and the effects thereof, may adversely affect our manufacturing facilities and our customers.

Rising labor costs and labor shortages, including due to pandemics and other disasters, employee strikes and other labor-related disruptions may materially adversely affect our business, financial condition, and results of operations.

Our business is labor intensive, utilizing large numbers of engineering and manufacturing personnel. There is uncertainty with respect to rising labor costs and on-going labor shortages. Furthermore, labor disputes and strikes based partly on wages have in the past slowed or stopped production by certain manufacturers in China. In some cases, employers have responded by significantly increasing the wages of workers at such plants. Any increase in labor costs due to minimum wage laws or customer requirements about scheduling and overtime that we are unable to recover in our pricing to our customers could materially adversely affect our business, financial condition, and results of operations. In addition, general labor shortages (which occurred during 2021 and 2022), a high turnover rate and our difficulty in recruiting and retaining qualified employees at any level of our organization could result in a potential for defects in our products, production disruptions or delays, or the inability to ramp production to meet increased customer orders, resulting in order cancellation or imposition of customer penalties if we are unable to deliver products in a timely manner.

To respond to competitive pressures and customer requirements, we may further expand - both domestically and internationally. If we pursue such expansions, we may be required to make additional capital expenditures. For instance, in November 2023, we announced our plans to construct a new proposed advanced technology PCB manufacturing facility in Syracuse, New York. Phase one of the proposed project, including capital for campus-wide improvements, is estimated to be $100.0 million to $130.0 million, and is anticipated to run through 2026. In addition, the cost structure in certain regions or countries that are now considered to be favorable may increase as economies develop, causing local wages to rise. As a result, we may need to continue to seek new locations with lower costs and the employee and infrastructure base to support PCB manufacturing and we may lose business in our existing facilities as a result of such potential shifts in the market. We cannot assure investors that we will realize the anticipated strategic benefits of our new locations, or that such locations will contribute positively to our operating results.

In North America, we are experiencing wage inflation pressures, as a result of labor shortages, and certain pressures which are also mandated by local and state governments. Further, we are experiencing rising health care costs. While we strive to manage these challenges, there can be no assurance that our efforts will succeed which would result in higher costs and lower profits. The competition for talent and labor in North America and in general is currently extremely high. In this competitive environment, our business could be adversely impacted by increases in labor costs, which could include increases in wages and benefits necessary to attract and retain high quality employees with the right skill sets, increases triggered by regulatory actions regarding wages, scheduling, and benefits; and increases in health care and workers' compensation insurance costs. In light of the current challenging labor market conditions, our wages and benefits programs and any steps we take to increase our wages and benefits, may be insufficient to attract and retain talent at all levels of our organization. Existing labor shortages, and our inability to attract employees to maintain a qualified workforce, could adversely affect our production and our overall business and financial performance.

Strikes or labor disputes with our unionized employees, primarily in China, may adversely affect our ability to conduct our business. If we are unable to reach agreement with any of our unionized work groups on future negotiations regarding the terms of their collective bargaining agreements, we may be subject to work interruptions or stoppages. Any of these events could be disruptive to our operations and could result in negative publicity, loss of contracts, and a decrease in revenues. We may also become subject to additional collective bargaining agreements in the future if more employees or segments of our workforce become unionized, including any of our employees in the United States.

We may be unable to hire and retain sufficient qualified personnel at all levels of our organization, and the loss of any of our key executive officers, or the inability to maintain a sufficient workforce to satisfy production demands, could materially adversely affect our business, financial condition, and results of operations.

We believe that our future success will depend in large part on our ability to attract and retain highly skilled, knowledgeable, sophisticated, and qualified managerial and professional personnel. Furthermore, we have limited patent or trade secret protection for our manufacturing processes and rely on the collective experience of our employees involved in our manufacturing processes to ensure that we continuously evaluate and adopt new technologies in our industry. We may not be able to retain our executive officers and key personnel or attract additional qualified management in the future. For example, on August 2, 2023, Todd Schull notified us of his intention to retire as our Executive Vice President & Chief Financial Officer, effective September 11, 2023, and his resignation became effective on December 31, 2023. We can make no assurances that future changes in executive management will not have a material adverse effect on our business, financial condition, or results of operations. Our business also depends on our continuing ability to recruit, train, and retain highly qualified employees, particularly engineering and sales and marketing personnel. The competition for these employees is intense, and the loss of these employees could harm our business.

In addition, our industry continues to experience a shortage of workers, which may prove to be systemic. We rely on maintaining a sufficient workforce at all levels of our organization to design, manufacture and distribute our products. If the labor markets remain tight and we are unable to adequately staff our facilities due to a shortage of qualified workers, our operations and financial performance would likely be adversely affected.

We rely on suppliers and equipment manufacturers for the timely delivery of raw materials, components, equipment, and spare parts used in manufacturing our PCBs. If a raw material supplier or equipment manufacturer goes bankrupt, liquidates, consolidates out of existence, experiences excess demands or other disruptions to their supply chain or operations, or otherwise fails to satisfy our product quality standards, or if the prices or availability of raw materials change, it could harm our ability to purchase new manufacturing equipment, service the equipment we have, or timely produce our products, thereby affecting our customer relationships.

To manufacture PCBs, we use raw materials such as laminated layers of fiberglass, copper foil, chemical solutions, gold, copper, and other commodity products, which we order from our suppliers. For Hybrid Microelectronics and RF components, we use various high-performance materials such as Rad Hard & Space active components, Silicon transistors, insulated-gate bipolar transistors (IGBTs), field-effect transistors (FETs), Signal & Zener diodes, magnets, inductors, coils, beryllium oxide (BeO) and silicon nitride (SiN) substrates, as well as ceramics and printed circuit board materials. In the case of backplane assemblies, components include connectors, sheet metal, capacitors, resistors, and diodes, many of which are custom made and controlled by our customers' approved vendors. For our Radar, Communication and Surveillance systems, we use highly sophisticated electronic assemblies including Transmitter and Receiver CCA's/Modules, Travelling Wave Tube Assemblies, Exciters, Wave Form Generators and Frequency Generators which are specifically designed for their application.

Our success is due in part to our ability to deliver products timely to our customers, which requires successful planning and logistics infrastructure, including, ordering, transportation and receipt processing, and the ability of suppliers to meet our materials requirements.

Consolidations and restructuring in our supplier base and equipment fabricators related to our raw materials purchases or the manufacturing equipment we use to fabricate our products may result in adverse changes in pricing of materials due to reduction in competition among our raw material suppliers or an elimination or shortage of equipment and spare parts from our manufacturing equipment supply base. Suppliers and equipment manufacturers may be impacted by other events outside our control including macro-economic events, financial instability, environmental occurrences, or supplier interruptions due to fire, natural catastrophes, public health crises or otherwise. Several of these factors have contributed to supply chain constraints we continue to experience. As a result, suppliers and equipment manufacturers have extended lead times, limited supplies, and/or increased prices due to capacity constraints and other factors. These have impacted our ability to deliver our products on a timely basis, our inventory levels and cash flow, and could negatively impact our financial results. The severity of the constraints in the supply chain is continuously changing, which creates substantial uncertainties in our business. In addition, in extreme circumstances, the suppliers we purchase from could cease production altogether due to a fire, natural disaster, consolidation or liquidation of their businesses. The supply chain constraints and other factors discussed above may continue to impact our ability to deliver our products on a timely basis, harm our customer relationships and negatively impact our financial results.

In particular, the on-going macroeconomic conditions, including the inflationary environment, have increased the cost of our raw materials and components. If raw material and component prices remain elevated and the cost of the metals that we use to produce our product, especially if the prices of copper, gold, tin, palladium, and other precious metals we use to manufacture our products remain

elevated or otherwise continue to increase, it may reduce our gross margins. Should the supply of materials used in the above manufacturing processes become limited, our ability to obtain the quantities necessary to meet our customers' demand may be impacted which could cause us to encounter reduced revenue levels or price increases which would impact our profit margins. If either of these situations occurs, our financial condition and results of operations could be negatively impacted.

We are subject to risks of currency fluctuations.

A portion of our cash, other current assets and current liabilities is held in currencies other than the U.S. dollar. Changes in exchange rates among other currencies and the U.S. dollar will affect the value of these assets or liabilities as re-measured to U.S. dollars on our balance sheet. To the extent that we ultimately decide to repatriate some portion of these funds to the United States, the actual value transferred could be impacted by movements in exchange rates. Any such type of movement could negatively impact the amount of cash available to fund operations or to repay debt. Additionally, we have revenues and costs denominated in currencies other than the U.S. dollar (primarily the Renminbi (RMB)). Fluctuations in the exchange rates between the U.S. dollar and the RMB could result in increases or decreases in our costs or revenues which could negatively impact our business, financial condition, and results of operations. Significant inflation or disproportionate changes in foreign exchange rates could occur as a result of general economic conditions, acts of war or terrorism, changes in governmental monetary or tax policy, or changes in local interest rates. Further, China's government imposes controls over the convertibility of RMB into foreign currencies, which subjects us to further currency exchange risk.

The worldwide electronics industry is intensely competitive and volatile.

A majority of our revenue is generated from the electronics industry, which is characterized by intense competition, relatively short product life cycles, and significant fluctuations in product demand. The industry is subject to economic cycles and recessionary periods. Due to the uncertainty in the end markets served by most of our customers, we have a low level of visibility with respect to future financial results. Consequently, our past operating results, earnings, and cash flows may not be indicative of our future operating results, earnings, and cash flows.

If we are unable to maintain satisfactory capacity utilization rates, our business, financial condition, and results of operations would be materially adversely affected.

Given the high fixed costs of our operations, decreases in capacity utilization rates can have a significant effect on our business. Accordingly, our ability to maintain or enhance gross margins will continue to depend, in part, on maintaining satisfactory capacity utilization rates. In turn, our ability to maintain satisfactory capacity utilization will depend on the demand for our products, the volume of orders we receive, our ability to maintain a sufficient workforce at our facilities, and our ability to offer products that meet our customers' requirements at competitive prices. If current or future production capacity fails to match current or future customer demands, our facilities would be underutilized, our sales may not fully cover our fixed overhead expenses, and we would be less likely to achieve expected gross margins. If forecasts and assumptions used to support the realizability of our long-lived assets change in the future, significant impairment charges could result that would materially adversely affect our business, financial condition, and results of operations.

In addition, we generally schedule our quick turnaround production facilities at less than full capacity to retain our ability to respond to unexpected additional quick-turn orders. However, if these orders are not received, we may forego some production and could experience continued excess capacity. If we conclude we have significant, long-term excess capacity, we may decide to permanently close one or more of our facilities and lay off some of our employees, such as our decision announced in February 2023 to close certain facilities in Hong Kong and California. Closures or lay-offs could result in our recording of restructuring charges such as severance, other exit costs, and asset impairments, as well as potentially causing disruptions in our ability to supply customers.

We have a significant amount of goodwill and other intangible assets on our consolidated balance sheet. If our goodwill or other intangible assets become impaired in the future, we would be required to record a non-cash charge to earnings, which may be material and would also reduce our stockholders' equity.

As of January 1, 2024, our consolidated balance sheet included $939.4 million of goodwill and definite-lived intangible assets. During the year ended January 1, 2024, we recorded a non-cash goodwill impairment charge of $44.1 million related to our RF&S Components reportable segment. We periodically evaluate whether events and circumstances have occurred, such that the potential for reduced expectations for future cash flows coupled with further decline in the market price of our stock and market capitalization may indicate that the remaining balance of goodwill and definite-lived intangible assets may not be recoverable. If factors indicate that assets are impaired, we would be required to reduce the carrying value of our goodwill and definite-lived intangible assets, which could harm our results during the periods in which such a reduction is recognized.

Our results of operations are often subject to demand fluctuations and seasonality. With a high level of fixed operating costs, even small revenue shortfalls would decrease our operating margins.

Our results of operations fluctuate for a variety of reasons, including:

- timing of orders from and shipments to major customers;
- the levels at which we utilize our manufacturing capacity;
- price competition;

- changes in our mix of revenues generated from quick-turn versus standard delivery time services;
- expenditures, charges, or write-offs, including those related to acquisitions, facility restructurings, or asset impairments; and
- expenses relating to expanding existing manufacturing facilities.

A significant portion of our operating expenses are relatively fixed in nature, and planned expenditures are based in part on anticipated orders. Accordingly, unexpected revenue shortfalls may decrease our operating margins. In addition, we have experienced sales fluctuations due to seasonal patterns in the capital budgeting and purchasing cycles, as well as inventory management practices of our customers and the end markets we serve. These seasonal trends have caused fluctuations in our operating results in the past and may continue to do so in the future. Results of operations in any period should not be considered indicative of the results that may be expected for any future period. In addition, our future quarterly operating results may fluctuate and may not meet the expectations of securities analysts or investors.

We participate in competitive industries, including the automotive industry, which requires strict quality control standards. Failure to meet these standards may adversely affect our business, financial condition, and results of operations.

Our customer base demands the highest customer service, on time delivery and quality standards in a competitive market. Failure to meet these ever-increasing standards may result in a loss of market share for our products and services to our competitors, which may result in a decline in our overall revenue.

In addition, a significant portion of our sales are to customers within the automotive industry. The automotive industry has historically experienced multi-year cycles of growth and decline. If sales of automobiles should decline or go into a cyclical downturn, our sales could decline, and this could have a materially adverse impact on our business, financial condition, and result of operations. For safety reasons, automotive customers have strict quality standards that generally exceed the quality requirements of other customers. If such products do not meet these quality standards, our business, financial condition, and results of operations may be materially adversely affected. These automotive customers may require long periods of time to evaluate whether our manufacturing processes and facilities meet their quality standards. If we were to lose automotive customers due to quality control issues, we might not be able to regain those customers or gain new automotive customers for long periods of time, which could have a material adverse effect on our business, financial condition, and results of operations. Moreover, we may be required under our contracts with automotive industry customers to indemnify them for the cost of warranties and recalls relating to our products.

The prominence of EMS companies as our customers could reduce our gross margins, potential sales, and customers.

Sales to EMS companies represented approximately 31%, 37% and 38% of our net sales for the years ended January 1, 2024, January 2, 2023 and January 3, 2022, respectively. Sales to EMS providers include sales directed by OEMs as well as orders placed with us at the EMS providers' discretion. EMS providers source on a global basis to a greater extent than OEMs. The growth of EMS providers increases the purchasing power of such providers and has in the past, and could in the future, result in increased price competition or the loss of existing OEM customers. In addition, some EMS providers, including some of our customers, have the ability to directly manufacture PCBs and create backplane assemblies. If a significant number of our other EMS customers were to acquire these abilities, our customer base might shrink, and our sales might decline substantially. Moreover, if any of our OEM customers outsource the production of PCBs and creation of backplane assemblies to these EMS providers, our business, financial condition, and results of operations may be materially adversely affected.

We depend upon a relatively small number of OEM customers for a large portion of our sales, and a decline in sales to major customers would materially adversely affect our business, financial condition, and results of operations.

A small number of customers are responsible for a significant portion of our sales. Our five largest OEM customers collectively accounted for approximately 41%, 33% and 30% of our net sales for the years ended January 1, 2024, January 2, 2023 and January 3, 2022, respectively, and one customer represented 13% of our net sales for the year ended January 1, 2024. Furthermore, our business has benefited from OEMs deciding to outsource their PCB manufacturing and backplane assembly needs to us, and our future revenue growth partially depends on new outsourcing opportunities from OEMs. Sales attributed to OEMs include both direct sales as well as sales that the OEMs place through EMS providers. Our customer concentration could fluctuate, depending on future customer requirements, which will depend in large part on market conditions in the electronics industry segments in which our customers participate. The loss of one or more significant customers or a decline in sales to our significant customers would materially adversely affect our business, financial condition, and results of operations. In addition, we generate significant accounts receivable in connection with providing manufacturing services to our customers. If one or more of our significant customers were to become insolvent or were otherwise unable to pay for the manufacturing services provided by us, our business, financial condition, and results of operations would be materially adversely affected.

In addition, during industry downturns, we may need to reduce prices to limit the level of order losses, and we may be unable to collect payments from our customers. There can be no assurance that key customers would not cancel orders, that they would continue to place orders with us in the future at the same levels as experienced by us in prior periods, that they would be able to meet their payment obligations, or that the end-products that use our products would be successful. This concentration of customer base may materially adversely affect our business, financial condition, and results of operations due to the loss or cancellation of business from

any of these key customers, significant changes in scheduled deliveries to any of these customers, or decreases in the prices of the products sold to any of these customers.

We depend on the U.S. federal government for a significant portion of our business, which involves unique risks. Changes in government defense spending or regulations could have a material adverse effect on our business, financial condition, and results of operations.

A significant portion of our revenues is derived from products and services that are ultimately sold to the U.S. federal government by our OEM and EMS customers and is therefore affected by, among other things, the federal government budget process. We supply to defense prime companies, the U.S. federal government and its agencies, as well as foreign governments and agencies. The contracts between our direct customers and the government end user are subject to political and budgetary constraints and processes, changes in short-range and long-range strategic plans, the timing of contract awards, the congressional budget authorization and appropriation processes, the government's ability to terminate contracts for convenience or for default, as well as other risks, such as contractor suspension or debarment in the event of certain violations of legal and regulatory requirements.

For the year ended January 1, 2024, aerospace and defense sales accounted for approximately 45% of our total net sales. The substantial majority of aerospace and defense sales are related to both U.S. and U.S. federal government approved foreign military and defense programs. Consequently, our sales are affected by changes in the defense budgets of the U.S. and foreign governments and may be affected by federal budget sequestration measures.

The domestic and international threat of terrorist activity, emerging nuclear states, and conventional military threats have generally led to an increase in demand for defense products and services and homeland security solutions in the recent past. The termination or failure to fund one or more significant defense programs or contracts by the U.S. federal government could have a material adverse effect on our business, financial condition, and results of operations.

Future changes to the U.S. Munitions List could reduce or eliminate restrictions that currently apply to some of the products we produce. If these regulations or others are changed in a manner that reduces restrictions on products being manufactured overseas, we would likely face an increase in the number of competitors and increased price competition from overseas manufacturers, who are restricted by current import and export laws from manufacturing products for U.S. defense systems.

We are exposed to the credit risk of our customers and to credit exposures in weakened markets.

Most of our sales are on an "open credit" basis, with standard industry payment terms. We monitor individual customer payment capability in granting such open credit arrangements, seek to limit such open credit to amounts we believe the customers can pay, and maintain reserves we believe are adequate to cover exposure for doubtful accounts. During periods of economic downturn in the electronics industry and the global economy, our exposure to credit risks from our customers increases. Although we have programs in place to monitor and mitigate the associated risks, such programs may not be effective in reducing our credit risks.

Additionally, our OEM customers often direct a significant portion of their purchases through a relatively limited number of EMS companies. Sales to EMS companies represented approximately 31%, 37% and 38% of our net sales for the years ended January 1, 2024, January 2, 2023 and January 3, 2022, respectively. Our contractual relationship is often with the EMS companies, who are obligated to pay us for our products. Because we expect our OEM customers to continue to direct our sales to EMS companies, we expect to continue to be subject to this credit risk with a limited number of EMS customers. If one or more of our significant customers were to become insolvent or were otherwise unable to pay us, our business, financial condition, and results of operations would be materially adversely affected.

Our business, financial condition, and results of operations could be materially adversely affected by initiatives aimed at addressing potential climate change risks.

Our manufacturing processes require that we purchase significant quantities of energy from third parties, which results in the generation of greenhouse gases, either directly on-site or indirectly at electric utilities. Both domestic and international legislation to address the risks posed by potential climate change impacts, and the potential required disclosures of those risks, including by reducing greenhouse gas emissions could create increases in energy costs and price volatility. Considerable international attention is now focused on development of an international policy framework to guide international action to address risks posed by projected climate change. We are subject to the reporting requirements of the Exchange Act, and regulators are considering new regulations which are expected to require, among other things, that we report our climate related costs and activities and our customers and suppliers. Such regulations could cause us to incur significant costs to monitor and report, which would have negative impact on our profitability. Proposed and existing legislative efforts to control or limit greenhouse gas emissions could affect our energy sources and supply choices, as well as increase the cost of energy and raw materials that are derived from sources that generate greenhouse gas emissions.

Competition in the PCB market is intense, and we could lose market share, or our profit margins may decrease, if we are unable to maintain our current competitive position in end markets using our quick-turn, high technology, and high-mix manufacturing services.

The PCB industry is intensely competitive, highly fragmented, and rapidly changing. We expect competition to continue, which could result in price reductions, reduced gross margins, and loss of market share. In addition, we increasingly compete on an international basis, and new and emerging technologies may result in new competitors entering our markets.

Some of our competitors and potential competitors have advantages over us, including:

- greater financial and manufacturing resources that can be devoted to the development, production, and sale of their products;
- more established and broader sales and marketing channels;
- more manufacturing facilities worldwide, some of which are closer in proximity to OEMs;
- manufacturing facilities that are located in countries with lower production costs;
- lower capacity utilization, which in peak market conditions can result in shorter lead times to customers;
- ability to add additional capacity faster or more efficiently;
- preferred vendor status with existing and potential customers;
- greater name recognition; and
- larger customer bases.

In addition, these competitors may respond more quickly to new or emerging technologies or adapt more quickly to changes in customer requirements than we do. We must continually develop improved manufacturing processes to meet our customers' needs for complex products, and our manufacturing process technology is generally not subject to significant proprietary protection. During recessionary periods in the electronics industry, our strategy of providing quick-turn services, an integrated manufacturing solution, and responsive customer service may take on reduced importance to our customers. As a result, we may need to compete more on the basis of price, which would cause our gross margins to decline.

We and some of our competitors have reduced average selling prices in the past. In addition, competitors may reduce their average selling prices faster than our ability to reduce costs, which can also accelerate the rate of decline of our selling prices. When prices decline, we may also be required to write down the value of our inventory. In addition, we could yield lower or no profit from the sale of our products if we price our products aggressively in response to market conditions.

If we are unable to adapt our design and production processes in response to rapid technological change and process development, we may not be able to compete effectively.

The markets for our products and manufacturing services are characterized by rapidly changing technology and continual implementation of new designs and production processes. The future success of our business will depend in large part upon our ability to maintain and enhance our technological capabilities, to design and manufacture products that meet changing customer needs, and to successfully anticipate or respond to technological changes on a cost-effective and timely basis. We expect that the investment necessary to maintain our technological position will increase as customers make demands for products and services requiring more advanced technology on a quicker turnaround basis. For example, in 2024 in our PCB segment, we expect to continue to make capital expenditures to expand our HDI, RF technology, and other advanced manufacturing capabilities while in our RF&S Components segment, we are designing products that we hope our customers adopt and incorporate into their products. We may not be able to obtain access to additional sources of funds in order to respond to technological changes as quickly as our competitors. In addition, our failure to adopt and implement technological improvements quickly may cause inefficiencies in our production process as our product yields or quality may decrease, resulting in increased costs, and may lead to customers not adopting our product designs.

We also could encounter competition from new or revised manufacturing, production and design technologies that render existing manufacturing, production, and design technology less competitive or obsolete. We may not respond effectively to the technological requirements of the changing market. If we need new technologies and equipment or if we are not able to design new products acceptable to customers to remain competitive, the development, acquisition, and implementation of those designs, technologies and equipment may require us to make significant capital investments.

New emerging technology trends, such as artificial intelligence (AI), require us to keep pace with evolving regulations and industry standards. In the United States, there are various current and proposed regulatory frameworks relating to the use of AI in products and services. We expect that the legal and regulatory environment relating to emerging technologies such as AI will continue to develop and could increase the cost of doing business, and create compliance risks and potential liability, all which may have a material adverse effect on our financial condition and results of operations. Governments are also considering the new issues in intellectual property law that AI creates, which could result in different intellectual property rights in technology we create with AI and development processes and procedures and could have a material adverse effect on our business.

Products we manufacture may contain design or manufacturing defects, which could result in reduced revenue from the sale of our products or services and may result in liability claims against us.

We manufacture products to our customers' specifications, which are highly complex and may contain design or manufacturing errors or failures, despite our quality control and quality assurance efforts. Defects in the products we manufacture, whether caused by a design, manufacturing, or materials failure or error, may result in delayed shipments, customer dissatisfaction, a reduction or cancellation of purchase orders, or liability claims against us. If these defects occur either in large quantities or too frequently, our business reputation may be impaired, and our customers may decrease the orders for products or services that they purchase from us, thereby decreasing our overall revenue. Since our products are used in products that are integral to our customers' businesses, errors, defects, or other performance problems could result in financial or other damages to our customers beyond the cost of the PCB, for which we may be liable. Although our invoices and sales arrangements generally contain provisions designed to limit our exposure to product liability and related claims, existing or future laws or unfavorable judicial decisions could negate these limitation of liability provisions. In addition, we manufacture products for a range of automotive customers. If any of our products are or are alleged to be defective, we may be required to participate in a recall of such products. As suppliers become more integral to the vehicle design process and assume more of the vehicle assembly functions, vehicle manufacturers are increasingly looking to their suppliers for contributions when faced with product liability claims or recalls. In addition, vehicle manufacturers, which have traditionally borne the costs associated with warranty programs offered on their vehicles, are increasingly requiring suppliers to guarantee or warrant their products and may seek to hold us responsible for some or all of the costs related to the repair and replacement of parts supplied by us to the vehicle manufacturer.

Infringement of our intellectual property rights could negatively affect us, and we may be exposed to intellectual property infringement claims from third parties that could be costly to defend, could divert management's attention and resources, and if successful, could result in liability.

We rely on a combination of copyright, patent, trademark, trade secret laws, confidentiality procedures, contractual provisions, and other measures to establish and protect our proprietary and confidential information. All of these measures afford only limited protection. These measures may be invalidated, circumvented, breached, or challenged, and others may develop intellectual property, technologies or processes that are similar, or superior to, our intellectual property or technology. We may not have adequate controls and procedures in place to protect our proprietary and confidential information. Despite our efforts to protect our intellectual property and proprietary rights, unauthorized parties may attempt to copy and succeed in copying our products or may obtain or use information that we regard as proprietary or confidential. If it becomes necessary for us to resort to litigation to protect our intellectual property rights, any proceedings could be burdensome, costly, and distracting to management, and we may not prevail. Further, adequate remedies may not be available in the event of an unauthorized use or disclosure of our proprietary or confidential information. Failure to successfully establish or enforce our intellectual property rights could materially and adversely affect our business, financial condition, and results of operations. Furthermore, there is a risk that we may infringe on the intellectual property rights of others. As is the case with many other companies in the PCB industry, we from time to time receive communications from third parties asserting patent rights over our products and enter into discussions with such third parties. Irrespective of the validity or the successful assertion of such claims, we could incur costs in either defending or settling any intellectual property disputes alleging infringement. If any claims, regardless of whether they have merit, are brought against our customers for such infringement, we could be required to expend significant resources in defending such claims, developing non-infringing alternatives, or obtaining licenses. We may not be successful in developing such alternatives or in obtaining such licenses on reasonable terms, or at all, and may be required to modify or cease marketing our products or services, which could disrupt the production processes, damage our reputation, and materially and adversely affect our business, financial condition, and results of operations.

Foreign laws may not afford us sufficient protections for our intellectual property, and we may not be able to obtain patent protection outside of the United States.

Certain nations in which we operate may not grant us certain intellectual property rights that are customarily granted in more developed legal systems. Patent law reform in the United States and other countries may also weaken our ability to enforce our patent rights or make such enforcement financially unattractive. For example, despite continuing international pressure on the Chinese government, intellectual property rights protection continues to present significant challenges to foreign investors and, increasingly, Chinese companies. Chinese commercial law is considered by some to be relatively undeveloped compared to the commercial law in our other major markets and only limited protection of intellectual property is available in China as a practical matter. Although we have taken precautions in the operations of our Chinese subsidiaries and in our joint venture agreement to protect our intellectual property, any local design or manufacture of products that we undertake in China could subject us to an increased risk that unauthorized parties will be able to copy or otherwise obtain or use our intellectual property, which could harm our business. We may also have limited legal recourse in the event we encounter patent or trademark infringement. Uncertainties with respect to the Chinese legal system may adversely affect the operations of our Chinese subsidiaries. China has put in place a comprehensive system of intellectual property laws; however, incidents of infringement are relatively common, and enforcement of rights can, in practice, be difficult. If we are unable to manage our intellectual property rights, our business and operating results may be seriously harmed.

Damage to any of our manufacturing facilities due to fire, natural disaster, or other events could materially adversely affect our business, financial condition, and results of operations.

The destruction or closure of any of our facilities for a significant period of time as a result of fire, explosion, blizzard, act of war or terrorism, flood, tornado, earthquake, lightning, other natural disasters, required maintenance, or other events could harm us financially, increasing our costs of doing business and limiting our ability to deliver our manufacturing services on a timely basis.

Our insurance coverage with respect to damages to our facilities or our customers' products caused by natural disasters is limited and is subject to deductibles and coverage limits. Such coverage may not be adequate or continue to be available at commercially reasonable rates and terms.

In the event one or more of our facilities is closed on a temporary or permanent basis as a result of a natural disaster, required maintenance or other event, our operations could be significantly disrupted. Such events could delay or prevent product manufacturing and shipment for the time required to transfer production or repair, rebuild, or replace the affected manufacturing facilities. This time frame could be lengthy and result in significant expenses for repair and related costs. While we have disaster recovery plans in place, there can be no assurance that such plans will be sufficient to allow our operations to continue in the event of every natural or man-made disaster, required repair or other extraordinary event. Any extended inability to continue our operations at unaffected facilities following such an event would reduce our revenue and potentially damage our reputation as a reliable supplier.

Risks Related to our Indebtedness

We have substantial outstanding indebtedness, and our outstanding indebtedness could adversely impact our liquidity and flexibility in obtaining additional financing, our ability to fulfill our debt obligations and our financial condition and results of operations.

We have substantial debt and, as a result, we have significant debt service obligations. As of January 1, 2024, we maintain $500.0 million in aggregate outstanding principal amount of Senior Notes due 2029 (Senior Notes due 2029) at an interest rate of 4.0%, $349.1 million outstanding under our Term Loan Facility due 2030 (Term Loan Facility) at a floating rate of Term Secured Overnight Financing Rate (SOFR) plus 2.75%, and $80.0 million outstanding under a $150.0 million Asia Asset-Based Lending Credit Agreement (Asia ABL). We and a number of our direct and indirect subsidiaries also have various credit facilities and letters of credit. Such agreements also contain certain financial covenants which require us to maintain, under the occurrence of certain events, a consolidated fixed charge coverage ratio.

Subject to the limits contained in the credit agreements governing the Term Loan Facility, the U.S. Asset-Based Lending Credit Agreement (U.S. ABL), the Asia ABL, the indenture governing the Senior Notes due 2029, and our other debt instruments, we may be able to incur substantial additional debt from time to time to finance working capital, capital expenditures, investments, or acquisitions, or for other purposes. If we do so, the risks related to our high level of debt could intensify. Specifically, our high level of debt could have important consequences to us and our shareholders. For example, it could:

- make it more difficult for us to satisfy our obligations with respect to our indebtedness, which could in turn result in an event of default on such indebtedness;
- require us to use a substantial portion of our cash flow from operations for debt service payments, thereby reducing the availability of cash for working capital, capital expenditures, acquisitions and other general corporate purposes;
- impair our ability to obtain additional financing in the future for working capital, capital expenditures, acquisitions and other investments or general corporate purposes, which may limit our ability to execute our business strategy;
- diminish our ability to withstand a downturn in our business, the industry in which we operate or the economy generally and restrict us from exploiting business opportunities or making acquisitions;
- limit our flexibility in planning for, or reacting to, changes in our business and the industry in which we operate or the general economy;
- increase our vulnerability to general adverse economic and industry conditions, including increases in interest rates, that result in increased borrowing costs;
- limit management's discretion in operating our business; and
- place us at a competitive disadvantage as compared to our competitors that have less debt as it could limit our ability to capitalize on future business opportunities and to react to competitive pressures or adverse changes.

In addition, the indenture governing the Senior Notes due 2029 and the credit agreements governing the Term Loan Facility, the U.S. ABL and the Asia ABL contain restrictive covenants that limit our ability to engage in activities that may be in our long-term best interest. Our failure to comply with those covenants could result in an event of default which, if not cured or waived, could result in the acceleration of all our debt.

Furthermore, we and our subsidiaries may decide to incur significant additional indebtedness in the future. Although the indenture governing the Senior Notes due 2029, and the credit agreements governing the Term Loan Facility, the U.S. ABL and the Asia ABL will contain restrictions on the incurrence of additional indebtedness, these restrictions are subject to a number of qualifications and

exceptions, and the additional indebtedness incurred in compliance with these restrictions could be substantial. These restrictions also will not prevent us from incurring obligations that do not constitute indebtedness.

Our variable rate indebtedness subjects us to interest rate risk, which could cause our debt service obligations to increase significantly.

Our Term Loan Facility and our Asia ABL are subject to interest at a floating rate of Term SOFR plus a margin, and as a result, we have exposure to interest rate risk. Certain central banks, such as the U.S. Federal Reserve, effected multiple interest rate increases in 2022 and 2023. Increases in interest rates increase our cost of borrowing and/or potentially make it more difficult to refinance our existing indebtedness, if necessary. We endeavored to mitigate this risk by entering into a four-year pay-fixed, receive floating (1-month CME Term SOFR) interest rate swap arrangement in March 2023. The swap has a notional amount of $250.0 million for the period beginning April 1, 2023 and ending on April 1, 2027. Under the terms of the interest rate swap, we pay a fixed rate of 3.49% against the first interest payments of a portion of our Term SOFR-based debt and receive floating 1-month CME Term SOFR during the swap period. Although we have taken measures to mitigate our risk to interest rate increases, our swap instruments may not be wholly effective in mitigating this risk or otherwise provide an effective hedge against all interest rate volatility. See *Quantitative and Qualitative Disclosures About Market Risk* and *Interest Rate Risks* appearing in Part II, Item 7A of this Report for further information.

Servicing our debt requires a significant amount of cash and we may not be able to generate sufficient cash to service all of our debt and may be forced to take other actions to satisfy our obligations under our debt, which may not be successful.

Based on certain parameters defined in the Term Loan Facility, including a Secured Leverage Ratio, we may be required to make an additional principal payment on an annual basis if our Secured Leverage Ratio is greater than 2.0.

Our ability to make scheduled payments on or to refinance our debt obligations and to fund planned capital expenditures and expansion efforts depends on our ability to generate cash in the future and our financial condition and operating performance, which are subject to prevailing economic and competitive conditions and to certain regulatory, competitive, financial, business, and other factors beyond our control.

If our cash flows and capital resources are insufficient to fund our debt service obligations, we could face substantial liquidity problems and could be forced to reduce or delay investments and capital expenditures or to dispose of material assets or operations, seek additional capital (which could include obtaining additional equity capital on terms that may be onerous or highly dilutive) or restructure or refinance our indebtedness. We may not be able to effect any such alternative measures, if necessary, on commercially reasonable terms or at all and, even if successful, those alternative actions may not allow us to meet our scheduled debt service obligations. The credit agreements governing the Term Loan Facility, the U.S. ABL and the Asia ABL and the indenture governing the Senior Notes due 2029 restrict our ability to dispose of assets and use the proceeds from those dispositions and may also restrict our ability to raise debt or equity capital to be used to repay other indebtedness when it becomes due. We may not be able to consummate those dispositions or to obtain proceeds in an amount sufficient to meet any debt service obligations then due.

In addition, we conduct certain of our operations through our subsidiaries. Accordingly, repayment of our indebtedness may be dependent on the generation of cash flow by our subsidiaries and their ability to make such cash available to us, by dividend, debt repayment or otherwise. Unless they are guarantors of the Senior Notes due 2029 or our other indebtedness, our subsidiaries do not have any obligation to pay amounts due on our indebtedness or to make funds available for that purpose. Our subsidiaries may not be able to, or may not be permitted to, make distributions to enable us to make payments in respect of our indebtedness. Each subsidiary is a distinct legal entity, and under certain circumstances, legal and contractual restrictions may limit our ability to obtain cash from our subsidiaries. While the indenture governing the Senior Notes due 2029 and the credit agreements governing the Term Loan Facility, the U.S. ABL and the Asia ABL limit the ability of our subsidiaries to incur consensual restrictions on their ability to pay dividends or make other intercompany payments to us, these limitations are subject to qualifications and exceptions. In the event that we do not receive distributions from our subsidiaries, we may be unable to make required principal and interest payments on our indebtedness.

Our inability to generate sufficient cash flows to satisfy our debt obligations, or to refinance our indebtedness on commercially reasonable terms or at all, would materially and adversely affect our financial position and results of operations and our ability to satisfy our obligations under our indebtedness.

If we cannot make scheduled payments on our debt, we will be in default and holders of the Senior Notes due 2029 could declare all outstanding principal and interest to be due and payable, the lenders under the Term Loan Facility, the U.S. ABL and the Asia ABL could terminate their commitments to loan money, the lenders could foreclose against the assets securing their borrowings and we could be forced into bankruptcy or liquidation.

Regulatory Risks

Because of periodic power shortages in China, we may have to temporarily close our China operations, which would adversely impact our ability to manufacture our products, meet customer orders, and result in reduced revenues.

China is facing a generally persistent and growing power supply shortage. Instability in electrical supply can cause sporadic outages among residential and commercial consumers. As a result, the Chinese government from time to time has implemented power restrictions to ease the energy shortage. If we are required to make temporary closures of our facilities in China at any time, we may be

unable to manufacture our products, and would then be unable to meet customer orders except from inventory on hand. As a result, we could lose sales, adversely impacting our revenues, and our relationships with our customers could suffer, impacting our ability to generate future sales.

We are subject to the requirements of the National Industrial Security Program Operating Manual (NISPOM) for our facility security clearance, which is a prerequisite to our ability to perform on classified contracts for the U.S. government.

A facility security clearance is required in order to be awarded and perform on classified contracts for the Department of Defense and certain other agencies of the U.S. government. As a cleared entity, we must comply with the requirements of the NISPOM, and any other applicable U.S. government industrial security regulations. Further, our Board has adopted a Special Board Resolution (SBR) that has been approved by the Defense Counterintelligence and Security Agency (DCSA) that requires the Company to adopt certain corporate constructs, policies and procedures.

If we were to violate the terms and requirements of the SBR, the NISPOM, or any other applicable U.S. government industrial security regulations (which may apply to us under the terms of classified contracts), we could lose our security clearance. We cannot be certain that we will be able to maintain our security clearance. If for some reason our security clearance is invalidated or terminated, we may not be able to continue to perform on classified contracts and would not be able to enter into new classified contracts, which could materially adversely affect our business, financial condition, and results of operations.

Our operations in Asia subject us to risks and uncertainties relating to the local laws and regulations and adverse effects of political tensions that arise from time to time with China.

The government of China is adopting evolving policies regarding foreign and domestic trade. No assurance can be given that the government of China will continue to pursue policies that allow for open trade with foreign countries, that such policies will be successful if pursued, or that such policies will not be significantly altered from time to time, particularly in light of the trade and travel restrictions that the United States and China have implemented in recent years. Despite progress in developing its legal system, certain countries in Asia do not have comprehensive and highly developed system of laws, particularly with respect to foreign investment activities and foreign trade. Enforcement of existing and future laws and contracts is uncertain, and implementation and interpretation thereof may be inconsistent. As the legal system develop, the promulgation of new laws, changes to existing laws, and the preemption of local regulations by national laws may adversely affect foreign investors. Further, any litigation may be protracted and may result in substantial costs and diversion of resources and management's attention. Also, the evolving landscape of the interrelation between China and Hong Kong may have an adverse impact on our operations in Hong Kong and may impact our ability to attract and maintain necessary talent in that area. In addition, though changes in government policies and rules are timely published or communicated, there is usually no indication of the duration of any grace period before which full implementation and compliance will be required. As a result, it is possible that we might operate our business in violation of new rules and policies before full compliance can be achieved. These uncertainties could limit the legal protections available to us and adversely impact our results of operations.

Our failure to comply with the requirements of environmental laws could result in litigation, fines, revocation of permits necessary to our manufacturing processes, or debarment from our participation in federal government contracts.

Our operations are regulated under a number of domestic and foreign environmental and safety laws and regulations that govern, among other things, the discharge of hazardous materials into the air and water, as well as the handling, storage, recycling, and disposal of such materials. These laws and regulations include the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, the Superfund Amendment and Reauthorization Act, the Comprehensive Environmental Response, Compensation and Liability Act, the Toxic Substances Control Act, and the Federal Motor Carrier Safety Improvement Act, as well as analogous state, local, and foreign laws. Compliance with these environmental laws is a major consideration for us because our manufacturing processes use and generate materials classified as hazardous. Because we use hazardous materials and generate hazardous wastes in our manufacturing processes, we may be subject to potential financial liability for costs associated with the investigation and remediation of our own sites, or sites at which we have arranged for the disposal of hazardous wastes, if such sites become contaminated. Even if we fully comply with applicable environmental laws and are not directly at fault for the contamination, we may still be liable. The wastes we generate include spent ammoniacal and cupric etching solutions, metal stripping solutions, waste acid solutions, waste alkaline cleaners, waste oil, and waste waters that contain heavy metals such as copper, tin, lead, nickel, gold, silver, cyanide, and fluoride, and both filter cake and spent ion exchange resins from equipment used for on-site waste treatment.

Environmental law violations, including the failure to maintain required environmental permits, could subject us to fines, penalties, and other sanctions, including the revocation of our effluent discharge permits. This could require us to cease or limit production at one or more of our facilities and could have a material adverse effect on our business, financial condition, and results of operations. Even if we ultimately prevail, environmental lawsuits against us would be time consuming and costly to defend.

Environmental laws have generally become more stringent, and we expect this trend to continue over time, especially in developing countries, imposing greater compliance costs, and increasing risks and penalties associated with violation. We operate in environmentally sensitive locations, and we are subject to potentially conflicting and changing regulatory agendas of political, business, and environmental groups. Changes or restrictions on discharge limits, emissions levels, material storage, handling, or disposal might require a high level of unplanned capital investment or relocation to another global location where prohibitive regulations do not exist.

It is possible that environmental compliance costs and penalties from new or existing regulations may materially adversely affect our business, financial condition, and results of operations.

We are increasingly required to certify compliance with various material content restrictions in our products based on laws of various jurisdictions or territories such as the Restriction of Hazardous Substances (RoHS) and Registration, Evaluation, Authorization and Restriction of Chemicals, or REACH directives in the European Union and China's RoHS legislation. Similar laws have been adopted in other jurisdictions and may become increasingly prevalent. In addition, we must also certify as to the non-applicability of the EU's Waste Electrical and Electronic Equipment directive for certain products that we manufacture. The REACH directive requires the identification of Substances of Very High Concern, or SVHCs periodically. We must survey our supply chain and certify to the non-presence or presence of SVHCs to our customers. As with other types of product certifications that we routinely provide, we may incur liability and pay damages if our products do not conform to our certifications.

We are also subject to an increasing variety of environmental laws and regulations in China, which impose limitations on the discharge of pollutants into the air and water and establish standards for the treatment, storage, and disposal of solid and hazardous wastes for us and our vendors that assist us in managing the waste generated by our manufacturing processes. The manufacturing of our products generates gaseous chemical wastes, liquid wastes, wastewater, and other industrial wastes from various stages of the manufacturing process. Production sites, waste collectors, and vendors in China are subject to increasing regulation and periodic monitoring by the relevant environmental protection authorities. Environmental claims or the failure to comply with current or future regulations could result in the assessment of damages or imposition of fines against us, suspension of production, or cessation of operations.

The process to manufacture PCBs and our other products requires adherence to city, county, state, federal, and foreign environmental laws and regulations regarding the storage, use, handling, and disposal of chemicals, solid wastes, and other hazardous materials, as well as compliance with wastewater and air quality standards. We rely on our vendors for the transportation and disposal of our solid and hazardous wastes generated by our manufacturing processes. If we are not able to find such services, our ability to conduct our business and our results of operations may be adversely impacted. In Asia, the government has a history of changing legal requirements with no or minimal notice. We believe that our facilities in Asia comply in all material respects with current applicable environmental laws and regulations and have resources in place to maintain compliance to them. The capital expenditure costs expected for environmental improvement initiatives are included in our annual capital expenditure projections.

Our international sales are subject to laws and regulations relating to corrupt practices, trade, and export controls and economic sanctions. Any non-compliance could have a material adverse effect on our business, financial condition, and results of operations.

We operate on a global basis and are subject to anti-corruption, anti-bribery, and anti-kickback laws and regulations, including restrictions imposed by the Foreign Corrupt Practices Act (FCPA). The FCPA and similar anti-corruption, anti-bribery, and anti-kickback laws in other jurisdictions generally prohibit companies and their intermediaries and agents from making improper payments to government officials or any other persons for the purpose of obtaining or retaining business. We operate and sell our products in many parts of the world that have experienced governmental corruption to some degree and, in certain circumstances, strict compliance with anti-corruption, anti-bribery, and anti-kickback laws may conflict with local customs and practices. We also, from time to time, undertake business ventures with state-owned companies or enterprises.

Our global business operations must also comply with all applicable domestic and foreign export control laws, including International Traffic In Arms Regulations (ITAR) and Export Administration Regulations (EAR). Some items we manufacture are controlled for export by the U.S. Department of Commerce's Bureau of Industry and Security under EAR.

We train our employees concerning anti-corruption, anti-bribery, and anti-kickback laws and compliance with international regulations regarding trades and exports, and we have policies in place that prohibit employees from making improper payments. We cannot provide assurances that our internal controls and procedures will guarantee compliance by our employees or third parties with whom we work. If we are found to be liable for violations of the FCPA or similar anti-corruption, anti-bribery, or anti-kickback laws in international jurisdictions or for violations of ITAR, EAR, or other similar regulations regarding trades and exports, either due to our own acts or out of inadvertence, or due to the inadvertence of others, we could suffer criminal or civil fines or penalties or other repercussions, including reputational harm, which could have a material adverse effect on our business, financial condition, and results of operations.

Our global business operations also must be conducted in compliance with applicable economic sanction laws and regulations, such as laws administered by the U.S. Department of the Treasury's Office of Foreign Asset Control, the U.S. State Department, and the U.S. Department of Commerce. We must comply with all applicable economic sanction laws and regulations of the United States and other countries. Imposition of economic sanction laws and regulations on a company or country could impact our revenue levels. Violations of these laws or regulations could result in significant additional sanctions including criminal or civil fines or penalties, more onerous compliance requirements, more extensive debarments from export privileges, or loss of authorizations needed to conduct aspects of our international business.

In certain countries, we may engage third-party agents or intermediaries, such as customs agents, to act on our behalf, and if these third-party agents or intermediaries violate applicable laws, their actions may result in criminal or civil fines or penalties or other sanctions being assessed against us. We take specific measures designed to ensure our compliance with U.S. export and economic sanctions laws, anti-corruption laws and regulations, and export control laws. However, it is possible that some of our products were sold or will be sold to distributors or other parties, without our knowledge or consent, in violation of applicable law. There can be no assurances that we will be in compliance in the future. Any such violation could result in significant criminal or civil fines, penalties, or other sanctions and repercussions, including reputational harm, which could have a material adverse effect on our business, financial condition, and results of operations.

In conjunction with defense procurements, some international customers require contractors to comply with industrial cooperation regulations, including entering into industrial participation, industrial development or localization agreements, sometimes referred to as offset agreements, as a condition to obtaining orders for our products and services. These offset agreements generally extend over several years and obligate the contractor to perform certain commitments, which may include in-country purchases, technology transfers, local manufacturing support, consulting support to in-country projects, investments in joint ventures and financial support projects, and to prefer local suppliers or subcontractors. The customer's expectations in respect of the scope of offset commitments can be substantial, including high-value content, and may exceed existing local technical capability. Failure to meet these commitments, which can be subjective and outside of our control, may result in significant penalties, and could lead to a reduction in sales to a country.

We incur significant costs as a result of operating as a public company, and our management is required to devote substantial time to current and evolving compliance initiatives and corporate governance practices.

As a public company we incur significant legal, accounting and other expenses that we likely would not incur as a private company. We are subject to the reporting requirements of the Exchange Act, which require, among other things, that we file with the SEC annual, quarterly and current reports with respect to our business and financial condition. In addition, the Sarbanes-Oxley Act of 2002 and rules subsequently implemented by the SEC and Nasdaq have imposed various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management and other personnel devote a substantial amount of time to these compliance initiatives. Further, in July 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act, was enacted. There are significant corporate governance and executive compensation related provisions in the Dodd-Frank Act that require the SEC, from time to time, to adopt additional rules and regulations in these areas, such as "say on pay" and proxy access. Stockholder activism, the current political environment and the current high level of government intervention and regulatory reform may lead to further substantial new regulations and disclosure obligations, which may lead to additional compliance costs and impact the manner in which we operate our business in ways we cannot currently anticipate. The rules and regulations applicable to public companies substantially increase our legal and financial compliance costs and make some activities more time-consuming and costly. When these requirements divert the attention of our management and personnel from other business concerns, they could have a material adverse effect on our business, financial condition and results of operations. The increased costs may decrease our net income (or increase our net loss) and may require us to reduce costs in other areas of our business or increase the prices of our products or services. We cannot predict or estimate the amount or timing of additional costs we may incur to respond to these requirements.

Other Risks

Outages, computer viruses, cyber-attacks, and similar cybersecurity threats could materially disrupt our operations, and breaches of our information systems may cause us to incur significant legal and financial exposure.

We rely on information technology networks and systems, some of which are owned and operated by third parties, to collect, process, transmit, and store electronic information. In particular, we depend on our information systems for a variety of functions, including worldwide financial reporting, inventory management, procurement, invoicing, and email communications. These information systems are susceptible to outages due to fire, floods, power loss, telecommunications failures, hacking, terrorist attacks, and similar cybersecurity threats. In addition, in the ordinary course of our business, we collect and store sensitive data in our data centers and on our networks, including intellectual property, our proprietary and confidential business information and that of our customers, suppliers and business partners, and personally identifiable information of our employees. The secure collection, processing, storage, maintenance and transmission of this information is critical to our operations. Despite the implementation of network security measures, our information systems, including those owned and operated by third parties, on which we rely are vulnerable to computer viruses, break-ins, cyber-attacks, attacks by hackers or breaches due to employee or third party (including suppliers and business partners) error, malfeasance, or other disruptions that are material and adverse. Further, our operations could also be materially disrupted if our vendors experience such outages or breaches. While we have experienced cybersecurity incidents in the past, to date none have materially affected us or our business strategy, results of operations, financial condition and/or cash flows. However, if unauthorized parties gain material access to our information systems or material information is used in an unauthorized manner, misdirected, altered, lost, or stolen during transmission, any theft or misuse of such information could result in, among other things, unfavorable publicity, governmental inquiry and oversight, difficulty in marketing our services, allegations by our customers that we have not performed our contractual obligations, loss of customers, litigation by affected parties, and possible financial obligations for damages related to the theft or misuse of such information, any of which could have a material adverse effect on our business, financial condition, and results of operations.

In addition, some of our employees work remotely, including while traveling for business, which increases our cybersecurity risk, creates data accessibility concerns, and makes us more susceptible to security breaches or business disruptions.

In addition, threat actors are also increasingly using tools and techniques that circumvent controls, evade detection, and remove forensic evidence, which means that we and others may be unable to anticipate, detect, deflect, contain or recover from cybersecurity incidents in a timely or effective manner. As AI capabilities improve and are increasingly adopted, we may see cybersecurity incidents created through AI. These attacks could be crafted with an AI tool to directly attack IT systems with increased speed and/or efficiency than a human threat actor or create more effective phishing emails. In addition, the cybersecurity threat could be introduced from the result of our or our customers and business partners incorporating the output of an AI tool that includes a threat, such as introducing malicious code by incorporating AI generated source code. Our information systems, as well as those of our customers and business partners, may be subject to unauthorized access by hackers or breached due to operator error, malfeasance or other system disruptions.

Privacy, information security, and data protection laws, rules, and regulations could affect or limit how we collect and use personal information, increase our costs, and adversely affect our business opportunities.

Many U.S. and foreign laws and regulations, including those promulgated by the SEC, require companies to provide notice of cybersecurity incidents involving certain types of personal data or unauthorized access to, or interference with, our information systems to the public, certain individuals, the media, government authorities, or other third parties. Certain of these laws and regulations include notice or disclosure obligations contingent upon the result of complex analyses, including in some cases a determination of materiality. The nature of cybersecurity incidents can make it difficult to quickly and comprehensively assess an incident's overall impact to our business, and we may make errors in our assessments. If we are unable to appropriately assess a cybersecurity incident in the context of required analyses then we could face compliance issues under these laws and regulations, and we could be subject to lawsuits, regulatory fines or investigations, or other liabilities, any or all of which could adversely affect our business and operating results. Furthermore, cybersecurity incidents experienced by us, or by our customers or vendors, that lead to public disclosures may also lead to widespread negative publicity and increased government or regulatory scrutiny. Any security compromise in our industry, whether actual or perceived, could harm our reputation; erode customer confidence in our security measures; negatively affect our ability to attract new customers; or subject us to third-party lawsuits, regulatory fines or investigations, or other liability, any or all of which could adversely affect our business and operating results. Even the perception of inadequate security may damage our reputation and negatively impact our ability to win new customers and retain existing customers.

Additionally, we could be required to expend significant capital and other resources to investigate and address any actual or suspected cybersecurity incident or to prevent further or additional incidents. To maintain business relationships, we may find it necessary or desirable to incur costs to provide remediation and incentives to customers or other business partners following an actual or suspected cybersecurity incident. We also cannot be sure that our existing cybersecurity insurance will continue to be available on acceptable terms, in sufficient amounts to cover any claims we submit, or at all. Further, we cannot be sure that insurers will not deny coverage as to any claim, and some cybersecurity incidents may be outside the scope of our coverage, including in instances where they are considered force majeure events. Cybersecurity incidents may result in increased costs for cybersecurity insurance. One or more large, successful claims against us in excess of our available insurance coverage, or changes in our insurance policies, including premium increases or large deductible or co-insurance requirements, could have an adverse effect on our business, operating results, and financial condition.

We may need additional capital in the future to fund investments in our operations, refinance our indebtedness, and to maintain and grow our business, and such capital may not be available on a timely basis, on acceptable terms, or at all.

Our business is capital-intensive, and our ability to increase revenue, profit, and cash flow depends upon continued capital spending. To the extent that the funds generated by our on-going operations are insufficient to cover our liquidity requirements, we may need to raise additional funds through financings. If we are unable to fund our operations and make capital expenditures as currently planned or if we do not have sufficient liquidity to service the interest and principal payments on our debt, it would have a material adverse effect on our business, financial condition, and results of operations. If we do not achieve our expected operating results, we would need to reallocate our sources and uses of operating cash flows. This may include borrowing additional funds to service debt payments, which may impair our ability to make investments in our business. Looking ahead at long-term needs, we may need to raise additional funds for a number of purposes, including the following:

- to fund capital equipment purchases to increase production capacity, upgrade and expand our technological capabilities and replace aging equipment or introduce new products;
- to refinance our existing indebtedness;
- to fund our current or planned operations;
- to fund potential acquisitions or strategic relationships;
- to fund working capital requirements for future growth that we may experience;
- to enhance or expand the range of services we offer;
- to increase our sales and marketing activities;
- to respond to competitive pressures or perceived opportunities, such as investment, acquisition, and international expansion activities; or

- to fund our initiatives set forth in our ESG policies and practices.

Should we need to raise funds through incurring additional debt, we may become subject to covenants even more restrictive than those contained in our current debt instruments. There can be no assurance that additional capital, including any future equity or debt financing, would be available on a timely basis, on favorable terms, or at all. If such funds are not available to us when required or on acceptable terms, our business, financial condition, and results of operations could be materially adversely affected.

Issues arising during the upgrade of our enterprise resource planning system could affect our operating results and ability to manage our business effectively.

We are continuing the process of upgrading our enterprise resource planning, or ERP, management system to enhance operating efficiencies and provide more effective management of our business operations. We are investing significant financial and personnel resources into this project. However, there is no assurance that the system upgrade will meet our current or future business needs or that it will operate as designed. The transition to the new ERP system will affect numerous systems necessary for our operation. If we fail to correctly implement one or more components of the ERP system, we could experience significant disruption to our operations. Such disruptions could include, among other things, temporary loss of data, inability to process certain orders, failure of systems to communicate with each other and the inability to track or reconcile key data. We are heavily dependent on automated management systems, and any significant failure or delay in the system upgrade could cause a substantial interruption to our business and additional expense, which could result in an adverse impact on our operating results, cash flows or financial condition.

Our ability to use net operating loss carryforwards to offset future taxable income for U.S. federal, state and foreign income tax purposes is subject to limitations, and future transfers of shares of our common stock could cause us to experience an "ownership change" that could further limit our ability to utilize our net operating losses.

Under U.S. federal income tax law, a corporation's ability to utilize its net operating losses (NOLs) to offset future taxable income may be significantly limited if it experiences an "ownership change" as defined in Section 382 of the Internal Revenue Code of 1986, as amended. In general, an ownership change will occur if there is a cumulative change in a corporation's ownership by "5-percent shareholders" that exceeds 50 percentage points over a rolling three-year period.

A corporation that experiences an ownership change will generally be subject to an annual limitation on its pre-ownership change NOLs equal to the value of the corporation immediately before the ownership change, multiplied by the long-term tax-exempt rate (subject to certain adjustments). The annual limitation for a taxable year is generally increased by the amount of any "recognized built-in gains" for such year and the amount of any unused annual limitation in a prior year. As a result of our acquisition of Viasystems, the NOLs acquired were subject to this limitation. Future transfers or sales of our common stock during a rolling three-year period by any of our "5-percent shareholders" could cause us to experience an ownership change under Section 382, which could further limit our use of NOLs.

If our net earnings do not remain at or above recent levels, or we are not able to predict with a reasonable degree of probability that they will continue, we may have to record a valuation allowance against our net deferred income tax assets.

Our U.S. entities and certain of our foreign subsidiaries have deferred income tax assets. Based on our forecast for future earnings and analysis, we believe we may not utilize our deferred income tax assets in future periods in the U.S. and certain subsidiaries in foreign jurisdictions and as a result have established a valuation allowance against those deferred tax assets. If our estimates of future earnings and analysis changes, we may change our determination to have a valuation allowance against our deferred income tax assets, which will result in an increase or decrease to our income tax provision that can impact our results of operations.

Unanticipated changes in our tax rates or in our assessment of the realizability of our deferred income tax assets or exposure to additional income tax liabilities could affect our business, financial condition, and results of operations.

We are subject to income taxes in the United States and various foreign jurisdictions. Significant judgment is required in determining our provision for income taxes and, in the ordinary course of business, there are many transactions and calculations in which the ultimate tax determination is uncertain. Our effective tax rates could be materially adversely affected by changes in the mix of earnings in countries and states with differing statutory tax rates, changes in the valuation of deferred income tax assets and liabilities, changes in tax laws or regulations as well as other factors. Many countries are considering implementing or have implemented legislation to align their tax law with guidance proposed by the Organization for Economic Co-operation and Development (OECD). In particular, the OECD's Pillar Two proposes a global minimum tax of 15% on a country-by-country basis for multinational enterprises (MNEs) which have annual global revenue exceeding Euro (EUR) 750 million. The implementation of Pillar Two, which became effective in many countries on January 1, 2024, in countries in which we operate may adversely impact our effective tax rates. We have evaluated and will continue to evaluate the impact of Pillar Two as the countries in which we operate issue new guidance and regulations. Our tax determinations are regularly subject to audit by tax authorities, and developments in those audits could also adversely affect our income tax provision. Although we believe that our tax estimates are reasonable, the final determination of tax audits or tax disputes may be different from what is reflected in our historical income tax provisions, which could materially adversely affect our business, financial condition, and results of operations.

ITEM 1B. *UNRESOLVED STAFF COMMENTS*

None.

ITEM 1C. *CYBERSECURITY*

We depend on information systems and technology in substantially all aspects of our business, including communications among our employees and with suppliers and customers. Such uses of information systems and technology give rise to cybersecurity risks, including system disruption, security breach, ransomware, theft, espionage and inadvertent release of information. Our business involves the storage and transmission of numerous classes of sensitive and/or confidential information and intellectual property, including customers' and suppliers' information, private information about employees, and financial and strategic information about the company and its business partners. Further, as we pursue new initiatives that improve our operations and cost structure, we are also expanding and improving our information technologies, resulting in a larger technological presence and increased exposure to cybersecurity risk. If we fail to properly assess and identify cybersecurity risks, we may become increasingly vulnerable to such risks.

Cybersecurity risk management and strategy

We assess and identify security risk to the organization by:

- conducting assessments of risk including likelihood and magnitude from unauthorized access, use, disclosure, disruption, modification or destruction of information systems and the related information processes, stored, or transmitted;
- performing risk assessments and producing security assessment reports that document the results of the assessment for use and review by information technology (IT) senior leadership, including the Company's Senior Vice President of Information Technology (SVP-IT);
- ensuring security controls are assessed for effectiveness, are implemented correctly, operating as intended, and producing the desired outcome; and
- periodically scanning for vulnerabilities and remedying all vulnerabilities in accordance with the associated risk.

We have established a continuous monitoring strategy and program, which includes:

- a set of defined security metrics to be monitored;
- performance of security control assessments on an ongoing basis;
- addressing results of analysis and reporting security status to the executive team; and
- monitoring information systems to detect attacks and indicators of potential attacks.

Other processes in place to further manage any additional security risk to the organization include:

- identifying, reporting and correcting information system flaws, security alerts and advisories;
- monitoring inbound and outbound communications for unusual or unauthorized activity;
- designing and implementing application systems to include sound backup and recoverability principles, such as periodic data backups in the case of a disaster;
- mechanisms designed for the physical protection of IT resources; and
- use of all third party and cloud computing services are reviewed and evaluated for material risks of cybersecurity threats by the IT security department before being formally authorized for use. Use of services must comply with all laws and regulations governing the handling of personally identifiable information, corporate financial data, controlled unclassified information, or any other data owned or collected by the company.

Our cybersecurity incident management plan includes the following, among other things:

- The SVP-IT leads the team in the development, documentation, review and testing of security procedures and incident response procedures. Beyond initial creation, procedures are continually re-assessed, augmented, updated, and tested on an ongoing basis;
- The SVP-IT works with the Executive Team on the identification, assessment, verification and classification of incidents to determine affected stakeholders and appropriate parties for contact;
- The SVP-IT is responsible for launching the Cybersecurity Incident Response Team (CIRT) if necessary, and for notification to the Chief Executive Officer, who in turn will contact the Board of Directors and Government Security Committee in order to validate the response is being addressed appropriately.
- The CIRT team, in consultation with outside experts if needed, is responsible for the following:
    - o Initial containment;

- Analysis to establish root cause of incidents, identification and evidence collection;
- Incident containment by further analyzing additional information and further identifying any additional compromised machines or resources not previously identified;
- Implementing solutions designed to solve underlying problems and prevent re-occurrence;
- Recovery and restoring normal business functionality;
- Review after closure of each incident and conducting a post-mortem analysis to improve prevention and help to make incident response processes more efficient and effective. Also, the CIRT evaluates competency and any additional training requirements needed.

While we have experienced cybersecurity incidents in the past, to date none have materially affected us or our business strategy, results of operations, financial condition and/or cash flows. Moreover, we have not identified any risks from cybersecurity threats that have materially affected or are reasonably likely to materially affect our business strategy, results of operations, financial condition and/or cash flows. See Item 1A, *Risk Factors* above for more information. While we continually work to safeguard the information systems we use, and the proprietary, confidential and personal information residing therein, and mitigate potential risks, there can be no assurance that such actions will be sufficient to prevent cybersecurity incidents or mitigate all potential risks to such systems, networks and data or those of our third party providers.

Governance

We have invested in robust data security and privacy protections. We follow industry-standard recommendations for data security such as those outlined in the National Institute of Standards and Technology (NIST) Special Publication 800-171 and evolving Cybersecurity Maturity Model Certification (CMMC) frameworks. We have developed cybersecurity policies and procedures, including a data classification system to ensure the protection of critical data. In addition to periodic internal review, we also employ external auditors as needed, and cybersecurity testing firms to review our cybersecurity posture.

We maintain a CIRT, whose responsibilities are described above. We conduct periodic tests with this team to maintain readiness and resiliency while regularly reviewing its policies in the interest of protecting data security. External companies or agencies may be called upon to provide consulting, guidance, assistance, or some other form of support in response to a cybersecurity incident. The regular training of employees, at least annually, on the ever-present threat of cybersecurity helps maintain data security.

Our Board of Directors receives an update from our SVP-IT twice per year. In addition, our Government Security Committee of the Board of Directors is responsible for reviewing Cybersecurity Posture and overall resilience of the aerospace and defense portion of the network. The Government Security Committee reviews global cybersecurity risk with the SVP-IT at least four times a year. These reviews included standard cybersecurity-related metrics as well as other detailed reviews of sensitive systems. Our SVP-IT has over 25 years of experience in IT, which include various leadership roles at other large corporations and holds an Executive Master in Cybersecurity degree from Brown University.

ITEM 2. *PROPERTIES*

The following table describes our headquarters and our principal manufacturing facilities.

U.S. Locations	Operating Segment	Leased Square Feet	Owned Square Feet	Total Square Feet
Chippewa Falls, WI	PCB	—	280,086	280,086
Elizabeth City, NC	PCB	—	47,784	47,784
Farmingdale, NY	PCB	—	171,600	171,600
Forest Grove, OR	PCB	12,774	212,453	225,227
Huntington, NY	PCB	82,440	—	82,440
Littleton, CO	PCB	54,590	63,210	117,800
Logan, UT	PCB	12,000	118,448	130,448
North Jackson, OH	PCB	8,800	85,000	93,800
Salem, NH	PCB	43,700	—	43,700
San Diego, CA	PCB	43,336	—	43,336
San Jose, CA	PCB	42,434	—	42,434
Santa Ana, CA (1)	Headquarters	14,472	—	14,472
Santa Ana, CA	PCB	9,416	82,550	91,966
Stafford, CT	PCB	—	126,924	126,924
Stafford Springs, CT	PCB	—	115,579	115,579
Sterling, VA (2)	PCB	100,896	—	100,896
Syracuse, NY (3)	PCB and RF&S Components	37,639	162,587	200,226
Total		462,497	1,466,221	1,928,718

Foreign Locations	Operating Segment	Leased Square Feet	Owned Square Feet	Total Square Feet
Canada				
Toronto	PCB	15,500	99,960	115,460
Malaysia				
Penang	PCB	827,000	—	827,000
China				
Dongguan	PCB	—	1,069,129	1,069,129
Guangzhou	PCB	—	1,872,800	1,872,800
Hong Kong (1)	Asia Headquarters	—	24,640	24,640
Huiyang	PCB	—	435,485	435,485
Suzhou	RF&S Components	68,030	—	68,030
Zhongshan	PCB	—	1,132,760	1,132,760
Total		910,530	4,634,774	5,545,304

(1) Location of our headquarters and not a manufacturing facility

(2) In December 2021, we entered into a joint venture agreement with our landlord, O.J.B./1600 University Boulevard, LLC, Count Du Greenmonet, LLC and GFI#2/DII, LLC, to jointly own approximately 100,896 square feet of land and building. We have a 50% ownership interest and we account for this joint venture under the equity method of accounting and do not consolidate our interest in the property.

(3) Location includes two manufacturing facilities

We maintain our properties in good operating condition. We believe that our properties are suitable and adequate for us to operate at present levels, and the productive capacity and extent of utilization of the facilities are appropriate for our existing manufacturing requirements.

On November 1, 2023, we announced that we had selected New York State as the location for a new proposed advanced technology PCB manufacturing facility. We are in the advanced stages of project planning, having identified the 24-acre property adjacent to our existing facility in Syracuse for the campus expansion and the site for the new facility. We have completed initial building designs and site layout, and are now applying for the required permitting. Groundbreaking is anticipated in the first half of 2024, with the project's final scale, scope, and timeline subject to finalizing funding with various stakeholders. Phase one of the proposed project, including capital for campus-wide improvements is estimated to be $100.0 million to $130.0 million, and is anticipated to run through 2026.

ITEM 3. ***LEGAL PROCEEDINGS***

From time to time, we may become a party to various legal proceedings arising in the ordinary course of our business. There can be no assurance that we will prevail in any such litigation. We believe that the amount of any reasonably possible or probable loss for known matters would not be material to our financial statements; however, the outcome of these actions is inherently difficult to predict. In the event of an adverse outcome, the ultimate potential loss could have a material adverse effect on our financial condition, results of operations, or cash flows in a particular period.

ITEM 4. ***MINE SAFETY DISCLOSURES***

Not applicable.

PART II

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

Market Information

Our common stock is traded on the Nasdaq Global Select Market under the symbol "TTMI".

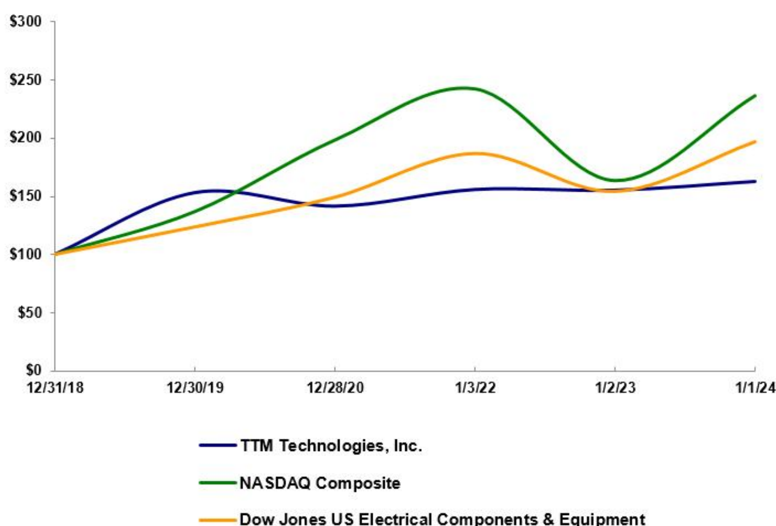
As of February 22, 2024, there were approximately 267 holders of record of our common stock, although there are a significantly larger number of beneficial owners of our common stock.

STOCK PRICE PERFORMANCE GRAPH

The performance graph below compares, for the period from December 31, 2018 to January 1, 2024, the cumulative total stockholder return on our common stock against the cumulative total return of the Nasdaq Composite Index and the Dow Jones U.S. Electrical Components and Equipment Index.

The graph assumes $100 was invested in our common stock on December 31, 2018, and an investment in Nasdaq Composite Index and the Dow Jones U.S. Electrical Components & Equipment Index. The stock performance shown on the graph below represents historical stock performance and is not necessarily indicative of future stock performance.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN*
Among TTM Technologies, Inc., the Nasdaq Composite Index
and the Dow Jones U.S. Electrical Components & Equipment Index



* $100 invested on December 31, 2018 in stock or index, including reinvestment of dividends.

	12/31/2018	12/30/2019	12/28/2020	1/3/2022	1/2/2023	1/1/2024
TTM Technologies, Inc.	$ 100.00	$ 152.93	$ 141.32	$ 155.60	$ 154.98	$ 162.49
Nasdaq Composite	100.00	136.69	198.10	242.03	163.28	236.17
Dow Jones U.S. Electrical Components & Equipment	100.00	123.69	149.34	187.20	154.45	197.36

The performance graph above shall not be deemed "filed" for purposes of Section 18 of the Exchange Act, or otherwise subject to the liability of that section. The performance graph above will not be deemed incorporated by reference into any filing of our company under the Securities Act of 1933, as amended, or the Exchange Act.

Dividends

We have never declared or paid cash dividends on our common stock. We currently expect to retain future earnings for capital expenditures, acquisitions, to fund working capital requirements, repay existing debt, and potentially for share repurchases and do not anticipate paying cash dividends in the foreseeable future. Additionally, our ability to pay dividends is limited pursuant to covenants contained in our various debt agreements.

Issuer Purchases of Equity Securities

The following table provides information about repurchases by us of shares of our common stock during the quarter ended January 1, 2024:

Period	Total Number of Shares Purchased	Average Price Paid per Share (1)	Total Number of Shares Purchased As Part of Publicly Announced Program (2)	Maximum Approximate Dollar of Shares that May Yet be Purchased Under the Program (3)
October 3, 2023 - October 30, 2023	574,415	$ 11.99	574,415	$ 78,493,201
October 31, 2023 - November 27, 2023	84,634	12.67	84,634	77,420,817
November 28, 2023 - January 1, 2024	125,000	14.82	125,000	75,567,732
Total for the quarter ended January 1, 2024	784,049	$ 12.52	784,049	

(1) Includes commissions.
(2) On May 3, 2023, we announced that our Board of Directors authorized and approved a share repurchase program. Under the program, we may repurchase up to $100.0 million in value of our outstanding shares of common stock from time to time through May 3, 2025.
(3) As of the last day of the applicable period.

ITEM 6. *RESERVED*

Not applicable.

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

This financial review presents our operating results for each of our three most recent fiscal years and our financial condition as of January 1, 2024. Except for historical information contained herein, the following discussion contains forward-looking statements which are subject to known and unknown risks, uncertainties and other factors that may cause our actual results to differ materially from those expressed or implied by such forward-looking statements. We discuss such risks, uncertainties and other factors throughout this Report and specifically under Item 1A of Part I of this Report, Risk Factors. In addition, the following discussion should be read in connection with the information presented in our consolidated financial statements and the related notes to our consolidated financial statements.

COMPANY OVERVIEW

We are a leading global manufacturer of technology solutions, including mission systems, radio frequency (RF) components/RF microwave/microelectronic assemblies, quick-turn and technologically advanced printed circuit boards (PCB). We focus on providing time-to-market and volume production of advanced technology products and offer a one-stop design, engineering, and manufacturing solution to our customers. This solution allows us to align technology development with the diverse needs of our customers and to enable them to reduce the time required to develop new products and bring them to market. We serve a diversified customer base consisting of approximately 1,500 customers in various markets throughout the world, including aerospace and defense, data center computing, automotive, medical, industrial and instrumentation, and networking. Our customers include original equipment manufacturers (OEMs), electronic manufacturing services (EMS) providers, original design manufacturers (ODMs), distributors and government agencies (both domestic and allied foreign governments).

RECENT DEVELOPMENTS

On November 1, 2023, we announced our selection of Syracuse, New York as the location for a new proposed advanced technology PCB manufacturing facility. We believe the planned investment aligns with New York State's continued emphasis as a premier technology hub for U.S. electronics and the recent selection of Buffalo-Rochester-Syracuse (BRS) for the Federal Tech Hub designation. The project reflects our support for cultivating an even stronger microelectronics ecosystem in New York and across the U.S. Aerospace & Defense industrial base. We expect that the proposed facility will bring advanced technology capability for our domestic high-volume production of ultra-high-density interconnect (HDI) PCBs in support of national security requirements. We are in the advanced stages of project planning, having identified the 24-acre property adjacent to our existing facility in Syracuse for the campus expansion and the site for the new facility. We have completed initial building designs and site layout, and are now applying for the required permitting. Groundbreaking is anticipated in the first half of 2024, with the project's final scale, scope, and timeline subject to finalizing funding with various stakeholders. Phase one of the proposed project, including capital for campus-wide improvements is estimated to be $100.0 million to $130.0 million, and is anticipated to run through 2026. Our planned capital investment commitments will be determined after finalizing terms with various stakeholders.

As announced on February 8, 2023, we substantially closed in fiscal year 2023 our PCB manufacturing operations in Anaheim and Santa Clara, California, and Hong Kong and consolidated the business from these sites into our remaining facilities. The plant closures are expected to improve both facility and talent utilization across our footprint resulting in improved profitability. We recorded $20.8 million of restructuring charges and $5.3 million of accelerated depreciation expense during 2023 related to this.

On March 30, 2023, we completed the sale of our Shanghai Backplane Assembly entity for approximately $11.2 million to DBG Holdings Limited (DBG), which is wholly owned by DBG Technology Co. Ltd., a public company traded on the Shenzhen Stock Exchange. We recorded a gain on the sale of $1.3 million.

FINANCIAL OVERVIEW

We use a 52 or 53 week fiscal calendar with the fourth quarter ending on the Monday nearest December 31. Fiscal year 2023 and 2022 were 52 weeks ended on January 1, 2024 and January 2, 2023, respectively. Fiscal year 2021 consisted of 53 weeks ended on January 3, 2022, with the additional week included in the fourth quarter. We estimate the additional week contributed approximately $42.2 million of additional revenue and approximately $2.5 million of additional operating income for the year ended January 3, 2022.

While our customers include both OEMs and EMS providers, we measure customers based on OEM companies, as they are the ultimate end customers. Sales to our five largest customers accounted for 41%, 33% and 30% of our net sales in fiscal years 2023, 2022 and 2021, respectively. We sell to OEMs both directly and indirectly through EMS providers.

The following table shows the percentage of our net sales attributable to each of the principal end markets we serve for the periods indicated:

End Markets[1]	For the Year Ended January 1, 2024		January 2, 2023		January 3, 2022	
Aerospace and Defense	45	%	35	%	33	%
Automotive	16		17		18	
Data Center Computing	14		15		14	
Medical/Industrial/Instrumentation	17		20		19	
Networking	8		13		15	
Other [2]	—		—		1	
Total	100	%	100	%	100	%

(1) Sales to EMS companies are classified by the end markets of their OEM customers.
(2) Other end market reflects direct sales to EMS and distributor customers.

We derive revenues primarily from the sale of PCBs, engineered systems using customer-supplied engineering and design plans as well as our long-term contracts related to the design and manufacture of highly sophisticated intelligence, surveillance and communications solutions, and RF and microwave/microelectronics components, assemblies, and subsystems. Orders for products generally correspond to the production schedules of our customers and are supported with firm purchase orders. Our customers have continuous control of the work in progress and finished goods throughout the PCB and engineered systems manufacturing process, as these are built to customer specifications with no alternative use, and there is an enforceable right of payment for work performed to date. As a result, we recognize revenue progressively over time based on the extent of progress towards completion of the performance obligation. We recognize revenue based on a cost method as it best depicts the transfer of control to the customer which takes place as we incur costs. Revenues are recorded proportionally as costs are incurred.

We also manufacture certain components, assemblies, subsystems, and completed systems which service our RF and Specialty Components (RF&S Components) customers and certain aerospace and defense customers. We recognize revenue at a point in time upon transfer of control of the products to our customer. Point in time recognition was determined as our customers do not simultaneously receive or consume the benefits provided by our performance and the asset being manufactured has alternative uses to us.

Net sales consist of gross sales less an allowance for returns, which typically have been approximately 2% of gross sales. We provide our customers a limited right of return for defective PCBs including components, subsystems, and assemblies. We record an estimate for sales returns and allowances at the time of sale based on historical results and anticipated returns.

Cost of goods sold consists of materials, labor, outside services, and overhead expenses incurred in the manufacture and testing of our products. Shipping and handling fees and related freight costs and supplies associated with shipping products are also included as a component of cost of goods sold. Many factors affect our gross margin, including capacity utilization, product mix, production volume, supply chain issues, and yield.

Selling and marketing expenses consist primarily of salaries, labor related benefits, and commissions paid to our internal sales force, independent sales representatives, and our sales support staff, as well as costs associated with marketing materials and trade shows.

General and administrative costs primarily include the salaries for executive, finance, accounting, information technology, and human resources personnel, as well as expenses for accounting and legal assistance, incentive compensation expense, and gains or losses on the sale or disposal of property, plant and equipment.

Research and development expenses consist primarily of salaries and labor related benefits paid to our research and development staff, as well as material costs.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

Our consolidated financial statements included in this Report have been prepared in accordance with accounting principles generally accepted in the United States of America (U.S. GAAP). The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, net sales and expenses, and related disclosure of contingent assets and liabilities.

A critical accounting policy is defined as one that is both material to the presentation of our consolidated financial statements and requires us to make judgments that could have a material effect on our financial condition or results of operations. These policies require us to make assumptions about matters that are highly uncertain at the time of the estimate. Critical accounting estimates refers to those estimates made in accordance with U.S. GAAP that have had or are reasonably likely to have a material impact on the amounts reported

in the consolidated financial statements and the related notes due to the significant level of uncertainty involved in developing the estimate. Different estimates we could reasonably have used, or changes in the estimates that are reasonably likely to occur, could have a material effect on our financial condition or results of operations.

We base our estimates on historical experience and on various other 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. Management has discussed the development, selection and disclosure of these estimates with the audit committee of our board of directors. Actual results may differ from these estimates under different assumptions or conditions.

We believe the following critical accounting policies and estimates reflect the more significant judgments and estimates used by us in preparing our consolidated financial statements:

Revenue Recognition

Revenue is recognized when control of the promised goods or services is transferred to customers, in an amount that reflects the consideration to which we expect to be entitled in exchange for those goods or services. We apply a five-step approach in determining the amount and timing of revenue to be recognized: (1) identifying the contract with a customer; (2) identifying the performance obligations in the contract; (3) determining the transaction price; (4) allocating the transaction price to the performance obligations in the contract; and (5) recognizing revenue when the corresponding performance obligation is satisfied.

For PCBs and engineered systems, including pursuant to long-term contracts related to the manufacture of highly sophisticated intelligence, surveillance and communications solutions, components, assemblies and subsystems, orders for products generally correspond to the production schedules of customers and are supported with firm purchase orders. Customers have continuous control of the work in progress and finished goods throughout the PCB and engineered systems manufacturing process, as these are built to customer specifications with no alternative use, and there is an enforceable right to payment for work performed to date. As a result, we recognize revenue progressively over time based on the extent of progress towards completion of the performance obligation. Revenue recognized is based on a cost method as it best depicts the transfer of control to the customer which takes place as we incur costs. Revenues are recorded proportionally as costs are incurred.

For revenue recorded on an over time basis, we apply a gross margin estimate to inventory in process of being manufactured for customers to determine how much of a contract asset or contract liability should be recorded at period end. Contract assets totaled $292.1 million and $335.8 million for the years ended January 1, 2024 and January 2, 2023, respectively. The decrease in contract assets is primarily due to timing of progress on customer work orders at year-end. In addition, $11.3 million and $7.1 million of contract assets are expected to be collected after one year and included as a component of deposits and other non-current assets on the consolidated balance sheets as of January 1, 2024 and January 2, 2023, respectively. We use historical information to estimate the gross margin associated with performance obligations that are satisfied over time. We reevaluate our estimate of gross margins on a quarterly basis. Based on the review of gross margins, we update our estimate to the model as necessary. If our estimates of gross margins are inaccurate, we may recognize too much or too little revenue in a period. While experience has shown that trends in gross margins are not volatile, changes in pricing or cost efficiencies could create significant fluctuations. An increase or decrease of 200 basis points in gross margin estimates would have increased or decreased our contract assets by $3.6 million and $3.4 million, respectively, and decreased or increased our contract liabilities by $3.6 million, respectively.

In addition, we manufacture components, assemblies, subsystems, and completed systems which service our RF&S Components and certain aerospace and defense customers. We recognize revenue at a point in time upon transfer of control of the products to the customer. Point in time recognition was determined as our customer does not simultaneously receive or consume the benefits provided by our performance and the asset being manufactured has alternative uses to us.

Goodwill and Intangible Assets

We have significant goodwill and definite-lived intangibles. We review these assets for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. In addition, we perform an impairment test related to goodwill at least annually. As necessary, we make judgments regarding future cash flow forecasts in the assessment of impairment.

Goodwill is allocated to our reporting units, which are our operating segments or one level below our operating segments (the component level). Reporting units are determined by the discrete financial information available for the component and whether it is regularly reviewed by segment management. Components are aggregated into a single reporting unit if they share similar economic characteristics. The Company evaluates its goodwill on an annual basis in the fourth quarter or more frequently if it believes indicators of impairment exist. We assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount or perform a quantitative impairment test. When tested quantitatively, we compare the fair value of the applicable reporting unit with its carrying value. We estimate the fair values of our reporting units using a combination of the discounted cash flow (DCF) and market approach. If the carrying amount of a reporting unit exceeds the reporting unit's fair value, the amount by which the carrying value exceeds the fair value is recognized as an impairment loss.

We have two reportable segments: PCB and RF&S Components. Goodwill is attributable to both of our PCB and RF&S Components reportable segments.

During the third quarter of 2023, we experienced a continued decline in sales and profitability in the RF and Specialty Components (RF&S Components) reporting unit and have reduced our forecasted sales in future years. We considered these factors to be indicators of potential impairment requiring us to test the related goodwill for impairment. As of October 2, 2023, we completed a quantitative goodwill impairment analysis related to our RF&S Components reporting unit by comparing the fair value of the reporting unit with its carrying amount. In making this assessment, we rely on a number of factors, including expected future operating results, business plans, economic projections, anticipated future cash flows, business trends and declines in our market capitalization. We determined the fair value of the reporting unit by using both a discounted cash flow (DCF) and a market approach. Under the market approach, we used revenue and earnings multiples based on comparable industry multiples to estimate the fair value of the reporting unit.

Under the DCF approach, we estimated the future cash flows, as well as selected a risk-adjusted discount rate to measure the present value of the anticipated cash flows. When determining future cash flow estimates, we considered historical results adjusted to reflect current and anticipated future operating conditions. We estimated cash flows for the reporting unit over a discrete period and a terminal period (considering expected long-term growth rates and trends).

Based on our analysis, we determined that the fair value of the RF&S Components reporting unit was less than its carrying value and recorded a non-cash goodwill impairment charge of $44.1 million. Estimating the fair value of the reporting unit requires us to make assumptions and estimates in such areas as future economic conditions, industry-specific conditions, product pricing, and necessary capital expenditures. The use of different assumptions or estimates for future cash flows, discount rates, or terminal growth rates could produce substantially different estimates of the fair value of the reporting unit. We may be subject to additional goodwill impairment charges if actual results do not meet the estimates used in determining the fair value of goodwill and the associated goodwill impairment charge.

In the fourth quarter of 2023, we performed our annual impairment test qualitatively and concluded that it was more likely than not that goodwill was not impaired. Management will continue to monitor the reporting units for changes in the business environment that could impact recoverability. The recoverability of goodwill is dependent upon the continued growth of cash flows from our business activities. If the economy or business environment falter and we are unable to achieve our assumed revenue growth rates or profit margin percentages, our projections used would need to be re-measured, which could impact the carrying value of our goodwill in one or more of our reporting units.

We also assess definite-lived intangibles for potential impairment given similar impairment indicators. When indicators of impairment exist related to our definite-lived intangible assets, we use an estimate of the undiscounted cash flows in measuring whether the carrying amount of the assets is recoverable. If the sum of the undiscounted cash flows is less than the carrying amount of the net assets, impairment is measured based on the difference between the net asset's carrying value and estimated fair value. Fair value is determined through various valuation techniques, including cost-based, market and income approaches as considered necessary, which involve judgments related to future cash flows and the application of the appropriate valuation model.

Business Combinations

The application of acquisition accounting to a business acquisition requires that we identify the individual assets acquired and liabilities assumed and estimate the fair value of each. The fair value of assets acquired and liabilities assumed in a business acquisition are recognized at the acquisition date, with the purchase price exceeding the fair values being recognized as goodwill. Determining fair value of identifiable assets, particularly intangibles, liabilities acquired and contingent obligations assumed requires management to make estimates. In certain circumstances, the allocations of the purchase price are based upon preliminary estimates and assumptions and subject to revision when we receive final information, including appraisals and other analysis. Accordingly, the measurement period for such purchase price allocations will end when the information, or the facts and circumstances, becomes available, but will not exceed twelve months. We will recognize measurement-period adjustments during the period of resolution, including the effect on earnings of any amounts that would have been recorded in previous periods if the accounting had been completed at the acquisition date.

Goodwill and intangible assets often represent a significant portion of the assets acquired in a business combination. We recognize the fair value of an acquired intangible apart from goodwill whenever the intangible arises from contractual or other legal rights, or when it can be separated or divided from the acquired entity and sold, transferred, licensed, rented or exchanged, either individually or in combination with a related contract, asset or liability. Intangible assets consist primarily of customer relationships, technology, backlog, and tradenames acquired in business combinations. The fair value of the identifiable intangible assets was determined using various valuation methods including relief from royalty and excess earnings to determine the present value of expected future cash flows for each identifiable intangible asset based on discount rates. The expected cash flows were estimated using available historical data adjusted based on a market participant perspective. We used risk adjusted discount rates between 7.0% and 8.0% to discount the expected future cash flows.

RESULTS OF OPERATIONS

We operate on a 52 or 53 week year ending on the Monday nearest December 31. Fiscal year 2023 and 2022 were 52 weeks ended on January 1, 2024 and January 2, 2023, respectively. Fiscal year 2021 consisted of 53 weeks ended on January 3, 2022, with the additional week included in the fourth quarter. We estimate the additional week contributed approximately $42.2 million of additional revenue and approximately $2.5 million of additional operating income for the year ended January 3, 2022.

The following table sets forth the relationship of various items to net sales in our consolidated statements of operations:

	For the Year Ended		
	January 1, 2024	January 2, 2023	January 3, 2022
Net sales	100.0 %	100.0 %	100.0 %
Cost of goods sold	81.5	81.6	83.5
Gross profit	18.5	18.4	16.5
Operating expenses:			
Selling and marketing	3.4	3.0	2.8
General and administrative	6.7	6.4	5.5
Research and development	1.2	1.0	0.8
Amortization of definite-lived intangibles	2.2	1.5	1.6
Impairment of goodwill	2.0	—	—
Restructuring charges	1.1	0.2	0.2
Gain on sale of Shanghai E-MS (SH E-MS) property	—	(2.1)	—
Total operating expenses	16.6	10.0	10.9
Operating income	1.9	8.4	5.6
Other (expense) income:			
Interest expense	(2.2)	(1.8)	(2.0)
Loss on extinguishment of debt	(0.1)	—	(0.7)
Gain on sale of subsidiary	0.1	—	—
Other, net	0.3	0.7	0.2
Total other expense, net	(1.9)	(1.1)	(2.5)
Income before income taxes	—	7.3	3.1
Income tax provision	(0.9)	(3.5)	(0.7)
Net (loss) income	(0.9) %	3.8 %	2.4 %

The Telephonics acquisition occurred on June 27, 2022. Accordingly, our fiscal year 2022 only includes Telephonics' 2022 results of operations since the acquisition date. As of the fourth quarter of 2022, we completed our integration of Telephonics and reassessed our reportable segments, which resulted in the inclusion of Telephonics into our PCB reportable segment.

Net Sales

Total net sales decreased $262.5 million, or 10.5%, to $2,232.5 million for the year ended January 1, 2024 from $2,495.0 million for the year ended January 2, 2023. Net sales for the PCB reportable segment decreased $243.9 million, or 10.0%, to $2,194.0 million for the year ended January 1, 2024 from $2,437.9 million for the year ended January 2, 2023. The primary driver of this decrease was demand weakness in our commercial end markets and decrease in sales of $36.3 million from the Shanghai Backplane Assembly entity we sold in the first quarter of 2023, partially offset by the inclusion of a full year of results of Telephonics during the year ended January 1, 2024 (as compared to the inclusion in the year ended January 2, 2023 of its results commencing with its acquisition in June 2022), as well as organic growth in our Aerospace and Defense end market. Net sales for the RF&S Components reportable segment decreased $18.6 million, or 32.5%, to $38.5 million for the year ended January 1, 2024 from $57.1 million for the year ended January 2, 2023. The decrease in RF&S Components net sales was primarily due to lower demand in our Networking end market.

Total net sales increased $246.3 million, or 11.0%, to $2,495.0 million for the year ended January 2, 2023 from $2,248.7 million for the year ended January 3, 2022. Net sales for the PCB reportable segment increased $251.0 million, or 11.5%, to $2,437.9 million for the year ended January 2, 2023 from $2,186.9 million for the year ended January 3, 2022. This increase in PCB net sales was primarily due to the acquisition of Telephonics in June 2022, which accounted for $125.9 million in net sales for the year ended January 2, 2023 since the date of acquisition, as well as increased demand in our Medical/Industrial/Instrumentation, Data Center Computing, and Automotive end markets. The increase in PCB net sales also benefited from a 15.4% increase in the average price per square foot driven mainly by better product mix, higher pricing and premium revenue, partially offset by a 5.6% decrease in the volume of PCB shipments as compared to the year ended January 3, 2022. Net sales for the RF&S Components reportable segment decreased $1.5 million, or 2.5%, to $57.1 million for the year end January 2, 2023 from $58.6 million for the year ended January 3, 2022. The decrease in RF&S Components net sales was primarily due to lower demand.

For information regarding net sales by country, see Note 17 of the Notes to Consolidated Financial Statements.

Gross Margin

Overall gross margin increased slightly to 18.5% for the year ended January 1, 2024 from 18.4% for the year ended January 2, 2023. The increase in overall gross margin was due to the increase in gross margin for the PCB reportable segment to 19.3% for the year ended January 1, 2024, from 18.2% for the year ended January 2, 2023. This increase was primarily due to better product mix and improved execution in our North America region, partially offset by lower revenues and less quick-turn premium in our commercial markets. Gross margin for the RF&S Components reportable segment decreased to 54.7% for the year ended January 1, 2024, from 62.3% for the year ended January 2, 2023, primarily due to lower sales.

Overall gross margin increased to 18.4% for the year ended January 2, 2023 from 16.5% for the year ended January 3, 2022. The increase in overall gross margin was due to the increase in gross margin for the PCB reportable segment to 18.2% for the year ended January 2, 2023, from 16.3% for the year ended January 3, 2022. This increase was primarily due to better product mix, higher pricing and premium revenue, partially offset by higher labor costs, particularly in North America as we raised wages in the first quarter of 2022 to be more competitive. Gross margin for the RF&S Components reportable segment increased to 62.3% for the year ended January 2, 2023, from 52.6% for the year ended January 3, 2022, primarily due to favorable product mix.

An important factor affecting gross margins is capacity utilization, which is measured by the actual production as a percentage of maximum capacity. This measure is particularly important in our high-volume PCB facilities in Asia, as a significant portion of our operating costs are fixed in nature. North America utilization figures are not as meaningful as Asia because bottlenecks in these high mix low volume facilities tend to occur in areas outside of plating, which is the core process that we use for calculating utilization rates. Capacity utilization for the year ended January 1, 2024 in our Asia and North America PCB facilities was 49% and 38%, respectively, compared to 75% and 45%, respectively, for the year ended January 2, 2023. The decrease in capacity utilization in our Asia PCB facilities was caused by a decline in production volumes due to demand weakness in our commercial end markets while the decrease in our North America PCB facilities was due to the additional plating capacity added as well as a greater mix of higher technology product that requires less finish plating.

Selling and Marketing Expenses

Selling and marketing expenses increased $1.7 million to $76.9 million for the year ended January 1, 2024 from $75.2 million for the year ended January 2, 2023. As a percentage of net sales, selling and marketing expenses were 3.4% for the year ended January 1, 2024 as compared to 3.0% for the year ended January 2, 2023. The increase in selling and marketing expense was primarily due to the inclusion of a full year of Telephonics expenses, which resulted in an increase of $3.5 million and an increase in labor and travel costs, partially offset by a $3.7 million decrease in commission expense.

Selling and marketing expenses increased $12.2 million to $75.2 million for the year ended January 2, 2023 from $63.0 million for the year ended January 3, 2022. As a percentage of net sales, selling and marketing expenses were 3.0% for the year ended January 2, 2023 as compared to 2.8% for the year ended January 3, 2022. The increase in selling and marketing expense was primarily due to $4.8 million of selling and marketing expenses incurred by Telephonics post acquisition and increases in labor costs and commission expense company wide.

General and Administrative Expenses

General and administrative expenses decreased $8.5 million to $149.6 million for the year ended January 1, 2024 from $158.2 million for the year ended January 2, 2023, but increased as a percentage of net sales to 6.7% from 6.4% over the same two periods. The decrease in the amount of general and administrative expenses primarily resulted from $13.2 million of reduced acquisition and integration costs mainly related to the acquisition of Telephonics on June 27, 2022. In addition, there were decreases in incentive compensation and bad debt. These decreases were partially offset by the inclusion of a full year of Telephonics expenses, which resulted in an increase of $1.6 million, increase in labor costs and lower gains on the sale of assets. The increase of general and administrative expenses as a percentage of net sales resulted from lower net sales for the year ended January 1, 2024 as compared to January 2, 2023.

General and administrative expenses increased $33.3 million to $158.2 million, or 6.4% of net sales, for the year ended January 2, 2023 from $124.9 million, or 5.5% of net sales, for the year ended January 3, 2022. The increase in expense was primarily due to $11.5 million of one-time costs incurred in connection with the acquisition of Telephonics on June 27, 2022 and $6.6 million of general and administrative expenses incurred by Telephonics post acquisition. In addition, there were increases in incentive compensation, labor costs, and bad debt. These increases were partially offset by gains on the sale of assets.

Research and Development Expenses

Research and development expenses increased $2.5 million to $27.3 million, or 1.2% of net sales, for the year ended January 1, 2024 from $24.8 million, or 1.0% of net sales, for the year ended January 2, 2023. The increase in expense was primarily due to the inclusion of a full year of Telephonics expenses, which resulted in an increase of $4.5 million, partially offset by a decrease in labor and material costs.

Research and development expenses increased $6.7 million to $24.8 million, or 1.0% of net sales, for the year ended January 2, 2023 from $18.1 million, or 0.8% of net sales, for the year ended January 3, 2022. The increase in expense was primarily due to $3.4 million of research and development expense incurred by Telephonics post acquisition and increases in labor costs.

Impairment of Goodwill

For the year ended January 1, 2024, we recorded a goodwill impairment charge of $44.1 million. See Note 5 of the Notes to Consolidated Financial Statements for further information.

Restructuring Charges

For the years ended January 1, 2024, January 2, 2023, and January 3, 2022, we incurred restructuring charges of $24.4 million, $4.1 million and $4.2 million, respectively, related to our global realignment restructuring efforts.

For the year ended January 1, 2024, we recognized restructuring charges of $23.7 million and $0.7 million in our PCB reportable segment and Corporate and Other, respectively. For the year ended January 2, 2023, we recognized restructuring charges of $3.5 million and $0.6 million in our PCB reportable segment and Corporate and Other, respectively. For the year ended January 3, 2022, we recognized restructuring charges of $0.6 million and $3.6 million in our PCB reportable segment and Corporate and Other, respectively. These charges primarily represent employee separation and contract termination and other costs associated with the restructuring plans.

Gain on sale of SH E-MS Property

On December 22, 2022, land, building, and relevant ancillary assets related to our former SH E-MS manufacturing facility was expropriated by the Chinese government for a compensation fee of Renminbi (RMB) 477.6 million ($69.2 million as of January 2, 2023) and we recorded a gain on the sale of $51.8 million during the year ended January 2, 2023. We received 90% of the proceeds from the sale during 2023 and the remaining 10% was collected subsequent to year-end.

Other Expense

Other expense, net increased $14.5 million to $42.0 million for the year ended January 1, 2024 from $27.5 million for the year ended January 2, 2023. The increase in other expense, net was primarily due to:

- a decrease in other income of $16.8 million related to the strengthening of the Chinese RMB, which we utilize at our China facilities for employee-related expenses, RMB denominated purchases, and other costs of running our operations in China,
- an increase in interest expense of $2.6 million due to higher interest rates,
- partially offset by an increase in interest income of $5.9 million.

Other expense, net decreased $28.4 million to $27.5 million for the year ended January 2, 2023 from $55.9 million for the year ended January 3, 2022. The decrease in other expense, net was primarily due to:

- an increase in other income of $17.8 million related to the weakening of the Chinese RMB, which we utilize at our China facilities for employee-related expenses, RMB denominated purchases, and other costs of running our operations in China,
- the absence of $15.2 million of loss on extinguishment of debt,
- partially offset by the decrease in other income of $4.1 million related to the change in fair value of warrant liabilities.

Income Taxes

Income tax expense decreased $69.3 million to $19.0 million for the year ended January 1, 2024 from $88.3 million for the year ended January 2, 2023. The change in income tax from fiscal year 2022 to fiscal year 2023 was primarily due to a decrease in pre-tax book income, the absence of an expense to set up a valuation allowance against U.S. deferred tax assets in 2022, and the release of uncertain tax positions due to lapse of statute of limitations.

Our effective tax rate is primarily impacted by tax rates in China and Hong Kong, the U.S. federal income tax rate, apportioned state income tax rates, the generation of credits and deductions available to us, as well as changes in the valuation allowance, certain non-deductible items, global intangible low taxed income, and the establishment of a deferred tax liability related to unremitted foreign earnings.

Income tax expense increased $72.7 million to $88.3 million for the year ended January 2, 2023 from $15.6 million for the year ended January 3, 2022. The change in income tax from fiscal year 2021 to fiscal year 2022 was primarily due to an increase in the valuation allowance set up against U.S. deferred tax assets, an increase in pre-tax book income, and a gain on the sale of certain assets of our Shanghai E-MS subsidiary.

Liquidity and Capital Resources

Our principal sources of liquidity have been cash provided by operations, the issuance of debt, and borrowings under our revolving credit facilities. Our principal uses of cash have been to finance capital expenditures, finance acquisitions, fund working capital requirements, to repay debt obligations, and to repurchase common stock. We anticipate that financing capital expenditures, financing acquisitions, funding working capital requirements, servicing debt, and repurchasing common stock will be the principal demands on our cash in the future.

Cash flow provided by operating activities during the year ended January 1, 2024 was $187.3 million as compared to $272.9 million in the same period in fiscal year 2022. The decrease in cash flow was primarily due to the $113.3 million decrease in net income.

Net cash used in investing activities was approximately $92.0 million for the year ended January 1, 2024, primarily reflecting the use of $160.2 million for purchases of property, plant and equipment and other assets, partially offset by the receipt of $61.8 million of proceeds from the sale of property associated with our Shanghai E-MS subsidiary and $6.0 million of proceeds from the sale of our Shanghai Backplane Assembly subsidiary, net of cash disposed. Net cash used in investing activities was approximately $395.5 million for the year ended January 2, 2023, primarily reflecting $298.3 million to fund the acquisition of Telephonics, $102.9 million for purchases of property, plant and equipment and other assets, less $6.0 million for proceeds from sale of property, plant and equipment and other assets.

Net cash used in financing activities during the year ended January 1, 2024 was $47.7 million, reflecting repayment of long-term debt borrowings of $291.6 million, repurchases of common stock of $24.4 million, refund of customer deposits of $7.5 million, payment of debt issuance costs of $5.5 million and payment of original issue discount of $3.5 million, partially offset by the receipt of proceeds of $234.8 million from long-term debt borrowing and proceeds of $50.0 million from borrowings under our revolving credit facilities. Net cash used in financing activities during the year ended January 2, 2023 was $11.3 million, primarily reflecting repurchases of common stock of $35.4 million, cash used to settle warrants of $0.9 million, less customer deposits of $25.0 million.

As of January 1, 2024, we had cash and cash equivalents of approximately $450.2 million, of which approximately $195.9 million was held by our foreign subsidiaries, primarily in China, and $189.1 million of available borrowing capacity under our revolving credit facilities. Should we choose to remit cash to the United States from our foreign locations, we may incur tax obligations which would reduce the amount of cash ultimately available to the United States. However, we believe there would be no material tax consequences not previously accrued for the repatriation of this cash.

Our 2024 capital expenditure plan is expected to be in the range of $135.0 million to $155.0 million.

Share Repurchases

On May 3, 2023, our board of directors authorized a share repurchase program (the “2023 Repurchase Program”) allowing us to repurchase up to $100.0 million of our common stock from time to time through May 3, 2025. During 2023, we repurchased a total of 1.8 million shares of our common stock for $24.4 million (including commissions). As of January 1, 2024, the remaining amount in value available to be repurchased under the 2023 Repurchase Program was approximately $75.6 million.

Long-term Debt and Letters of Credit

As of January 1, 2024, we had $917.8 million of outstanding debt, net of discount and debt issuance costs, composed of $495.9 million of Senior Notes due March 2029, $341.9 million of a Term Loan due May 2030, and $80.0 million under the Asia Asset-Based Lending Credit Agreement (Asia ABL).

Pursuant to the terms of the Senior Notes due 2029 and Term Loan Facility, we are subject to certain affirmative and negative covenants, including limitations on indebtedness, corporate transactions, investments, dispositions, and restricted payments. Under the U.S. ABL and Asia ABL (collectively, the ABL Revolving Loans), we are also subject to various financial covenants, including leverage and fixed charge coverage ratios. As of January 1, 2024, we were in compliance with the covenants under the Senior Notes due 2029, Term Loan Facility and ABL Revolving Loans.

Based on our current level of operations, we believe that cash generated from operations, cash on hand and cash from the issuance of term and revolving debt will be adequate to meet our currently anticipated capital expenditure, debt service, and working capital needs for the next twelve months. Additional information regarding our indebtedness, including information about the credit available under our debt facilities, interest rates and other key terms of our outstanding indebtedness, is included in Note 7 of the Notes to Consolidated Financial Statements included in this Report.

Contractual Obligations and Commitments

As part of our ongoing operations, we enter into contractual arrangements that obligate us to make future cash payments. These obligations impact our liquidity and capital resource needs. Our estimated future obligations consist of long-term debt obligations, interest on debt obligations, derivative liabilities, purchase obligations, and leases as of January 1, 2024.

A summary of our long-term debt obligations as of January 1, 2024 is included in Note 7 of the Notes to Consolidated Financial Statements included in this Report.

Our aggregate interest on debt obligations as of January 1, 2024 amounted to $310.1 million, which are expected to be settled as follows: $53.8 million within 1 year, $106.8 million within 1-3 years, $103.3 million within 4-5 years, and $46.2 million after 5 years. For debt obligations based on variable rates, interest rates used are as of January 1, 2024.

As of January 1, 2024, $0.3 million of our derivative liabilities are expected to be settled within one year and $1.5 million of our derivative liabilities are expected to be settled within 1-3 years.

We also have outstanding firm purchase orders with certain suppliers for the purchase of material and inventory. Orders for standard, or catalog, items can typically be canceled with little or no financial penalty. Our policy regarding non-standard or customized items dictates that such items are only ordered specifically for customers who have contractually assumed liability for the inventory, although exceptions are made to this policy in certain situations. In addition, a substantial portion of catalog items covered by our purchase orders are procured for specific customers based on their purchase orders or a forecast under which the customer has contractually assumed liability for such material. Accordingly, our liability from purchase obligations under these purchase orders is not expected to be significant.

A summary of our lease obligations as of January 1, 2024 is included in Note 2 of the Notes to Consolidated Financial Statements included in this Report.

Offset Agreements

Following the acquisition of Telephonics on June 27, 2022, we have and may continue to enter into industrial cooperation agreements, sometimes referred to as offset agreements, as a condition to obtaining orders for our products and services from customers in foreign countries. These agreements are intended to promote investment in the applicable country, and our obligations under these agreements may be satisfied through activities that do not require us to use cash, including transferring technology or providing manufacturing and other consulting support. The obligations under these agreements may also be satisfied through the use of cash for such activities as purchasing supplies from in-country vendors, setting up support centers, research and development investments, acquisitions, and building or leasing facilities for in-country operations. The amount of the offset requirement is determined by contract value awarded and negotiated percentages with customers. As of January 1, 2024, we had outstanding offset agreements of approximately $28.0 million, some of which extend through 2028. Offset programs usually extend over several years and in some cases provide for penalties in the event we fail to perform in accordance with contract requirements. Historically, we have not paid any such penalties, and as of January 1, 2024, no such penalties have been paid.

Seasonality

We tend to experience modest seasonal softness in the first and third quarters due to holidays and vacation periods in China and North America, respectively, which limit production leading to stronger revenue levels in the second and fourth quarters.

Recently Issued Accounting Standards

For a description of recently adopted and issued accounting standards, including the respective dates of adoption and expected effects on our results of operations and financial condition, see Note 1 of the Notes to Consolidated Financial Statements.

ITEM 7A. ***QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK***

In the normal course of business operations, we are exposed to risks associated with fluctuations in interest rates, foreign currency exchange rates, and commodity prices. We address these risks through controlled risk management that includes the use of derivative financial instruments to economically hedge or reduce these exposures. We do not enter into derivative financial instruments for trading or speculative purposes.

We have not experienced any losses to date on any derivative financial instruments due to counterparty credit risk.

To ensure the adequacy and effectiveness of our foreign exchange and commodity price hedge positions, we continually monitor our foreign exchange forward positions and commodity hedge price positions, both on a stand-alone basis and in conjunction with their underlying foreign currency and commodity price exposures, from an accounting and economic perspective. However, given the inherent limitations of forecasting and the anticipatory nature of the exposures intended to be hedged, we cannot be assured that such programs will offset more than a portion of the adverse financial impact resulting from unfavorable movements in either foreign exchange rates or commodity prices. In addition, the timing of the accounting for recognition of gains and losses related to mark-to-market instruments for any given period may not coincide with the timing of gains and losses related to the underlying economic exposures and, therefore, may adversely affect our consolidated operating results and financial position.

Interest Rate Risks

Our business is exposed to risk resulting from fluctuations in interest rates. Our interest expense is more sensitive to fluctuations in the general level of Term Secured Overnight Financing Rate (SOFR) interest rates than to changes in rates in other markets. Increases in interest rates would increase interest expense relating to our outstanding variable rate borrowings and increase the cost of debt. Fluctuations in interest rates can also lead to significant fluctuations in the fair value of our debt obligations.

On March 23, 2023, we entered into a four-year pay-fixed, receive floating (1-month CME Term SOFR), interest rate swap arrangement with a notional amount of $250.0 million for the period beginning April 1, 2023 and ending on April 1, 2027. Under the terms of the interest rate swap, we pay a fixed rate of 3.49% against the first interest payments of a portion of our Term SOFR-based debt and receive floating 1-month CME Term SOFR during the swap period. At inception, we designated the interest rate swap as a cash flow hedge and the fair value of the interest rate swap was zero. As of January 1, 2024, the fair value of the interest rate swap was recorded, of which $3.3 million is included as a component of prepaid expenses and other current assets and $1.5 million is included as a component of other long-term liabilities. No ineffectiveness was recognized for the year ended January 1, 2024. During the year ended January 1, 2024, the interest rate swap decreased interest expense by $3.2 million.

See *Liquidity and Capital Resources* in Item 7, *Management's Discussion and Analysis of Financial Condition and Results of Operations* and Note 7 of the Notes to Consolidated Financial Statements included in this Report for further discussion of our financing facilities and capital structure. As of January 1, 2024, approximately 80.7% of our debt was based on fixed rates. Based on our borrowings as of January 1, 2024, an assumed 100 basis point change in variable rates would cause our annual interest cost to change by $1.8 million.

Foreign Currency Exchange Rate Risks

In the normal course of business, we are exposed to risks associated with fluctuations in foreign currency exchange rates related to transactions that are denominated in currencies other than our functional currencies, as well as the effects of translating amounts denominated in a foreign currency to the U.S. Dollar as a normal part of our financial reporting process. Most of our foreign operations have the U.S. Dollar as their functional currency, however, one of our China facilities utilize the Renminbi (RMB), which results in recognition of translation adjustments included as a component of other comprehensive income (loss). Our foreign exchange exposure results primarily from employee-related and other costs of running our operations in foreign countries, foreign currency denominated purchases and translation of balance sheet accounts denominated in foreign currencies. We do not engage in hedging to manage this foreign currency risk, except for certain equipment purchases. However, we may consider the use of derivatives in the future. Our primary foreign exchange exposure is to the RMB. In general, our Chinese customers pay us in RMB, which partially mitigates this foreign currency exchange risk.

Our foreign subsidiaries may at times enter into forward exchange contracts to manage foreign currency risks in relation to certain purchases of machinery denominated in foreign currencies other than our functional currencies. As of January 1, 2024 and January 2, 2023, the notional amount of the foreign exchange contracts was approximately $1.9 million (EUR 1.8 million) and $1.6 million (EUR 1.4 million), respectively. We designated certain of these foreign exchange contracts as cash flow hedges.

Commodity Price Risks

We are exposed to certain commodity risks associated with prices for various raw materials, particularly copper, which may negatively affect our profitability. Copper clad laminates (CCLs), a key raw material for the manufacture of PCBs, are made from epoxy resin, glass cloth and copper foil. We only buy a small amount of copper directly. However, copper is a major driver of laminate cost. We are hedging copper as a proxy for hedging laminate. As of January 1, 2024, we had commodity contracts with a notional quantity of (i) 675 metric tonnes for the period beginning January 1, 2024 and ending on March 31, 2024, (ii) 600 metric tonnes for the period beginning April 1, 2024 and ending on June 30, 2024, (iii) 600 metric tonnes for the period beginning July 1, 2024 and ending on

September 30, 2024, and (iv) 500 metric tonnes for the period beginning October 1, 2024 and ending on December 31, 2024. As of January 1, 2024, the fair value of the commodity contracts was recorded as a liability in the amount of $0.3 million and included as a component of other current liabilities. We will continue to evaluate our commodity risks and may utilize commodity forward purchase contracts more in the future.

Debt Instruments

The table below presents the fiscal calendar maturities of our debt instruments through 2028 and thereafter as of January 1, 2024:

	As of January 1, 2024								
	2024	2025	2026	2027	2028	Thereafter	Total	Fair Value	Weighted Average Interest Rate
	(In thousands)								
US$ Variable Rate [1]	$ 3,500	$ 3,500	$ 3,500	$ 4,375	$ 83,500	$ 330,750	$ 429,125	$ 431,743	7.83%
US$ Fixed Rate	—	—	—	—	—	500,000	500,000	455,035	4.00%
Total	$ 3,500	$ 3,500	$ 3,500	$ 4,375	$ 83,500	$ 830,750	$ 929,125	$ 886,778	

(1) Interest rate swap effectively fixed $250,000 of variable rate debt.

Interest Rate Swap Contracts

As of January 1, 2024, the fair value of the interest rate swap was recorded, of which $3.3 million is included as a component of prepaid expenses and other current assets and $1.5 million is included as a component of other long-term liabilities. The table below presents information regarding our interest rate swap for the year ended January 1, 2024:

	For the Year Ended January 1, 2024
	(In thousands, except interest rates)
Average interest payout rate	3.49 %
Interest payout amount	$ (6,667)
Average interest received rate	5.19 %
Interest received amount	$ 9,910

ITEM 8. ***FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA***

Reference is made to our consolidated financial statements, the notes thereto, and the report thereon, commencing on page 58 of this Report, which consolidated financial statements, notes and report are incorporated herein by reference.

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

Not applicable.

ITEM 9A. ***CONTROLS AND PROCEDURES***

Evaluation of Disclosure Controls and Procedures

Our management, under the supervision and with the participation of our Chief Executive Officer (CEO) and Chief Financial Officer (CFO), has evaluated the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e)) under the Securities Exchange Act of 1934, as amended (Exchange Act), as of the end of the period covered by this Report. Based on this evaluation, our CEO and CFO have concluded that, as of January 1, 2024 such disclosure controls and procedures were effective to provide reasonable assurance that information we are required to disclose in reports that we file or submit under the Exchange Act is (i) recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and (ii) accumulated and communicated to our management, including our CEO and CFO, as appropriate to allow timely decisions regarding required disclosures.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America (U.S. GAAP). Under the supervision of and with the participation of our CEO and CFO, our management conducted an assessment of the effectiveness of our internal control over financial reporting as of January 1, 2024 based on the criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this assessment, our management concluded that our internal control over financial reporting was effective as of January 1, 2024.

The effectiveness of our internal control over financial reporting as of January 1, 2024 has been audited by KPMG LLP, an independent registered public accounting firm, as stated in their report, which appears under the heading "Report of Independent Registered Public Accounting Firm" on page 59 of this Report.

Inherent Limitations on Effectiveness of Controls

A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. 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. Further, because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, have been detected.

Changes in Internal Control over Financial Reporting

We continue to expand our implementation of an enterprise resource planning (ERP) system on a worldwide basis, which is expected to improve the efficiency of the financial reporting and related transaction processes. We have completed the implementation at certain locations and as a result, we made changes to our processes and procedures which, in turn, resulted in changes to our internal control over financial reporting, including the implementation of additional controls. We are in the process of rolling out the ERP system to our remaining locations to standardize the ERP system.

There were no other changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the quarter ended January 1, 2024 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. ***OTHER INFORMATION***

Rule 10b5-1 Trading Plans

During the fiscal quarter ended January 1, 2024, none of the Company's directors or executive officers adopted or terminated any contract, instruction or written plan for the purchase or sale of Company securities that was intended to satisfy the affirmative defense conditions of Rule 10b5-1(c) or any "non-Rule 10b5-1 trading arrangement."

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 will be incorporated herein by reference from the definitive Proxy Statement to be filed pursuant to Regulation 14A of the Exchange Act for our 2024 Annual Meeting of Stockholders or will be included in an amendment to this Report.

ITEM 11. *EXECUTIVE COMPENSATION*

The information required by this Item will be incorporated herein by reference from the definitive Proxy Statement to be filed pursuant to Regulation 14A of the Exchange Act for our 2024 Annual Meeting of Stockholders or will be included in an amendment to this Report.

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

The information required by this Item will be incorporated herein by reference from the definitive Proxy Statement to be filed pursuant to Regulation 14A of the Exchange Act for our 2024 Annual Meeting of Stockholders or will be included in an amendment to this Report.

ITEM 13. *CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE*

The information required by this Item will be incorporated herein by reference from the definitive Proxy Statement to be filed pursuant to Regulation 14A of the Exchange Act for our 2024 Annual Meeting of Stockholders or will be included in an amendment to this Report.

ITEM 14. *PRINCIPAL ACCOUNTANT FEES AND SERVICES*

The information required by this Item will be incorporated herein by reference from the definitive Proxy Statement to be filed pursuant to Regulation 14A of the Exchange Act for our 2024 Annual Meeting of Stockholders or will be included in an amendment to this Report.

PART IV

ITEM 15. *EXHIBITS, FINANCIAL STATEMENT SCHEDULES*

(a) *Financial Statements*

Financial Statements are listed in the Index to Consolidated Financial Statements on page 58 of this Report.

(b) *Exhibits*

Exhibit Number	Exhibits
2.1	Stock Purchase Agreement, dated as of April 18, 2022, by and among TTM Technologies, Inc., Griffon Corporation, and Exphonics, Inc. (1)
3.1(a)	Registrant's Certificate of Incorporation, as amended June 3, 2011 (2)
3.1(b)	Registrant's Certificate of Amendment of Certificate of Incorporation, dated May 12, 2016 (3)
3.2	Registrant's Fifth Amended and Restated Bylaws, as amended August 3, 2021 (4)
4.1	Indenture, dated as of May 14, 2008, between the Registrant and American Stock Transfer & Trust Company (5)
4.2	Form of Registrant's common stock certificate (6)
4.3	Indenture, dated as of December 20, 2013, between the Registrant and American Stock Transfer & Trust Company, LLC (7)
4.4	Description of the Registrant's Securities (8)
4.5	Indenture dated as of March 10, 2021, by and among the Company, the Guarantors named therein, and Wilmington Trust, National Association, as Trustee (9)
4.6	Form of 4.000% Senior Notes due 2029 (10)
10.1	Form of Director and Officer Indemnification Agreement (11)
10.2‡	Executive and Director Deferred Compensation Plan (12)
10.3‡	Form of Executive Change in Control Severance Agreement and schedule of agreements (13)
10.4‡	TTM Technologies, Inc. 2006 Incentive Compensation Plan (14)
10.5‡	TTM Technologies, Inc. 2014 Incentive Compensation Plan, as amended (15)
10.6‡	TTM Technologies, Inc. Form of Restricted Stock Unit Award Grant Notice (for U.S. taxpayers) pursuant to TTM Technologies, Inc. 2014 Incentive Compensation Plan (16)
10.7‡	TTM Technologies, Inc. Form of Restricted Stock Unit Award Grant Notice (for non-U.S. taxpayers) pursuant to TTM Technologies, Inc. 2014 Incentive Compensation Plan (17)
10.8‡	TTM Technologies, Inc. Form of Performance-Based RSU Grant Notice and Award Agreement pursuant to TTM Technologies, Inc. 2014 Incentive Compensation Plan (18)
10.9‡	TTM Technologies, Inc. Form of Restricted Stock Unit Award Grant Notice (for non-employee directors) pursuant to TTM Technologies, Inc. 2014 Incentive Compensation Plan (19)
10.10‡	TTM Technologies, Inc. 2023 Incentive Compensation Plan (20)
10.11‡	TTM Technologies, Inc. 2023 Form of Restricted Stock Unit Award Grant Notice and Award Agreement (for U.S. taxpayers) pursuant to TTM Technologies, Inc. 2023 Incentive Compensation Plan (21)
10.12‡	TTM Technologies, Inc. 2023 Form of Restricted Stock Unit Award Grant Notice and Award Agreement (for non-U.S. taxpayers) pursuant to TTM Technologies, Inc. 2023 Incentive Compensation Plan (22)
10.13‡	TTM Technologies, Inc. 2023 Form of Performance-Based RSU Grant Notice and Award Agreement pursuant to TTM Technologies, Inc. 2023 Incentive Compensation Plan (23)
10.14‡	Letter Agreement, dated as of July 28, 2023, by and between the Company and Daniel L. Boehle (24)

10.15	Amended & Restated Term Loan Credit Agreement, dated as of May 30, 2023, by and among TTM Technologies, Inc., as Borrower, the several Lenders from time to time parties thereto, and JPMorgan Chase Bank, N.A., as Administrative Agent (25)
10.16	Amended & Restated ABL Credit Agreement, dated as of May 30, 2023, by and among TTM Technologies, Inc., as Borrower, the several Lenders from time to time parties thereto, JPMorgan Chase Bank, N.A., as Administrative Agent, Barclays Bank PLC, Bank of America, N.A. and Truist Securities, Inc. as Syndication Agents, and HSBC Securities (USA) Inc., as Documentation Agent (26)
10.17	Amended & Restated Facility Agreement, dated as of June 14, 2023, by and among TTM Technologies China Limited and TTM Technologies Trading (Asia) Company Limited, as borrowers, TTM Technologies (Asia Pacific) Limited and other parties as guarantors, The Hong Kong and Shanghai Banking Corporation Limited and Barclays Bank PLC as original lenders, and The Hong Kong and Shanghai Banking Corporation Limited as arranger, facility agent, security trustee and issuing bank (27)
21.1*	Subsidiaries of the Registrant
23.1*	Consent of KPMG LLP, independent registered public accounting firm
31.1*	CEO Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2*	CFO Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1**	CEO Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2**	CFO Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
97*	TTM Technologies, Inc. Executive Compensation Recoupment Policy
101.INS	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the inline XBRL document.
101.SCH	Inline XBRL Taxonomy Extension Schema Document
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Documents
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Documents
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Documents
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Documents
104	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101)

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(1) Incorporated by reference to Exhibit 2.1 to the Registrant's Form 8-K as filed with the Commission on June 27, 2022, SEC File Number 000-31285.

(2) Incorporated by reference to Exhibit 3.1 to the Registrant's Form 8-K as filed with the Commission on June 6, 2011, SEC File Number 000-31285.

(3) Incorporated by reference to Exhibit 3.1 to the Registrant's Form 8-K as filed with the Commission on May 18, 2016, SEC File Number 000-31285.

(4) Incorporated by reference to Exhibit 3.2 to the Registrant's Form 10-Q as filed with the Commission on August 4, 2021, SEC File Number 000-31285.

(5) Incorporated by reference to Exhibit 4.1 to the Registrant's Form 8-K as filed with the Commission on May 15, 2008, SEC File Number 000-31285.

(6) Incorporated by reference to Exhibit 4.1 to the Registrant's Form 8-K as filed with the Commission on August 30, 2005, SEC File Number 000-31285.

(7) Incorporated by reference to Exhibit 4.8 to the Registrant's Form 8-K as filed with the Commission on December 20, 2013, SEC File Number 000-31285.

(8) Incorporated by reference to Exhibit 4.10 to the Registrant's Form 10-K filed with the Commission on February 22, 2021, SEC File Number 000-31285.

(9) Incorporated by reference to Exhibit 4.1 to the Registrant's Form 8-K filed with the Commission on March 10, 2021, SEC File Number 000-31285.

(10) Included as Exhibit A to the Indenture filed as Exhibit 4.1 to the Registrant's Form 8-K filed with the Commission on March 10, 2021, SEC File Number 000-31285.

(11) Incorporated by reference to Exhibit 10.1 to the Registrant's Form 8-K as filed with the Commission on December 15, 2014, SEC File Number 000-31285.

(12) Incorporated by reference to Exhibit 10.25 to the Registrant's Form 8-K as filed with the Commission on September 19, 2011, SEC File Number 000-31285.

(13) Incorporated by reference to Exhibit 10.4 to the Registrant's Form 10-Q as filed with the Commission on May 5, 2015, SEC File Number 000-31285.

(14) Incorporated by reference to Exhibit 10.6 to the Registrant's Form 10-K as filed with the Commission on March 16, 2007, SEC File Number 000-31285.

(15) Incorporated by reference to Exhibit 10.1 to the Registrant's Form 8-K as filed with the Commission on May 18, 2016, SEC File Number 000-31285.

(16) Incorporated by reference to Exhibit 10.1 to the Registrant's Form 10-Q as filed with the Commission on August 4, 2016, SEC File Number 000-31285.

(17) Incorporated by reference to Exhibit 10.2 to the Registrant's Form 10-Q as filed with the Commission on May 5, 2015, SEC File Number 000-31285.

(18) Incorporated by reference to Exhibit 10.2 to the Registrant's Form 10-Q as filed with the Commission on August 4, 2016, SEC File Number 000-31285.

(19) Incorporated by reference to Exhibit 10.1 to the Registrant's Form 10-Q as filed with the Commission on August 10, 2015, SEC File Number 000-31285.

(20) Incorporated by reference to Exhibit 99.1 to the Registrant's Form S-8 as filed with the Commission on June 7, 2023, SEC File Number 333-272490.

(21) Incorporated by reference to Exhibit 10.5 to the Registrant's Form 10-Q as filed with the Commission on August 10, 2023, SEC File Number 000-31285.

(22) Incorporated by reference to Exhibit 10.6 to the Registrant's Form 10-Q as filed with the Commission on August 10, 2023, SEC File Number 000-31285.

(23) Incorporated by reference to Exhibit 10.7 to the Registrant's Form 10-Q as filed with the Commission on August 10, 2023, SEC File Number 000-31285.

(24) Incorporated by reference to Exhibit 10.1 to the Registrant's Form 8-K as filed with the Commission on August 2, 2023, SEC File Number 000-31285.

(25) Incorporated by reference to Exhibit 10.1 to the Registrant's Form 8-K as filed with the Commission on May 30, 2023, SEC File Number 000-31285.

(26) Incorporated by reference to Exhibit 10.2 to the Registrant's Form 8-K as filed with the Commission on May 30, 2023, SEC File Number 000-31285.

(27) Incorporated by reference to Exhibit 10.1 to the Registrant's Form 8-K as filed with the Commission on June 20, 2023, SEC File Number 000-31285.

‡ Management contract or compensatory plan.

* Filed herewith
** Furnished herewith. The certifications attached as Exhibits 32.1 and 32.2 that accompany this Report are not deemed filed with the Commission and are not to be incorporated by reference into any filing of Registrant under the Securities Act of 1933, as amended, or the Exchange Act, whether made before or after the date of this Report, irrespective of any general incorporation language contained in such filing.

(c) *Financial Statement Schedules*

None.

ITEM 16. *FORM 10-K SUMMARY*

None.

SIGNATURES

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

TTM TECHNOLOGIES, INC.

By: /s/ Thomas T. Edman

Thomas T. Edman

President and Chief Executive Officer

Date: February 27, 2024

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

Name	Title	Date
/s/ Thomas T. Edman Thomas T. Edman	President, Chief Executive Officer and Director (Principal Executive Officer)	February 27, 2024
/s/ Daniel L. Boehle Daniel L. Boehle	Executive Vice President and Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	February 27, 2024
/s/ Rex D. Geveden Rex D. Geveden	Chairman of the Board	February 27, 2024
/s/ Kenton K. Alder Kenton K. Alder	Director	February 27, 2024
/s/ Julie S. England Julie S. England	Director	February 27, 2024
/s/ Philip G. Franklin Philip G. Franklin	Director	February 27, 2024
/s/ Pamela B. Jackson Pamela B. Jackson	Director	February 27, 2024
/s/ Chantel E. Lenard Chantel E. Lenard	Director	February 27, 2024
/s/ John G. Mayer John G. Mayer	Director	February 27, 2024
/s/ Dov S. Zakheim Dov S. Zakheim	Director	February 27, 2024

TTM TECHNOLOGIES, INC.

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Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
TTM Technologies, Inc.:

Opinions on the Consolidated Financial Statements and Internal Control Over Financial Reporting

We have audited the accompanying consolidated balance sheets of TTM Technologies, Inc. and subsidiaries (the Company) as of January 1, 2024 and January 2, 2023, the related consolidated statements of operations, comprehensive income, stockholders' equity, and cash flows for each of the years in the three-year period ended January 1, 2024, and the related notes (collectively, the consolidated financial statements). We also have audited the Company's internal control over financial reporting as of January 1, 2024, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of January 1, 2024 and January 2, 2023, and the results of its operations and its cash flows for each of the years in the three-year period ended January 1, 2024, in conformity with U.S. generally accepted accounting principles. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of January 1, 2024 based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's consolidated financial statements and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated 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 consolidated 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 consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting 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 the assets of the company; (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 receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated 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 consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The

communication of a critical audit matter does not alter in any way our opinion on the consolidated 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.

Evaluation of the sufficiency of audit evidence over net sales

As discussed in Note 1 to the consolidated financial statements, the Company recorded approximately $2,232,567 thousand of net sales during the year ended January 1, 2024. Net sales are recognized primarily from the sale of printed circuit boards, engineered systems using customer-supplied engineering and design plans as well as long-term contracts related to the design and manufacture of highly sophisticated intelligence, surveillance and communications solutions, radio frequency and microwave/microelectronics components, assemblies, and subsystems.

We identified the evaluation of the sufficiency of audit evidence over net sales as a critical audit matter. Evaluating the sufficiency of audit evidence obtained required especially subjective auditor judgment because of the geographical dispersion and decentralized nature of the Company's net sales generating activities. This included determining the Company locations at which procedures were performed. It also included the involvement of IT professionals with specialized skills and knowledge, who assisted in the performance of certain procedures.

The following are the primary procedures we performed to address this critical audit matter. We applied auditor judgment to determine the nature and extent of procedures to be performed over net sales, including determining the locations at which those procedures were to be performed. At each location where procedures were performed, we (1) evaluated the design and tested the operating effectiveness of certain internal controls over the Company's net sales processes, including the Company's controls over the accurate recording of sales amounts, (2) involved IT professionals, who assisted in testing certain IT applications used by the Company in its revenue recognition processes, and (3) tested the recorded net sales by selecting a sample of transactions and comparing the amounts recognized to underlying documentation, including contracts with customers. In addition, we evaluated the sufficiency of audit evidence obtained over net sales by assessing the results of procedures performed.

/s/ KPMG LLP

We have served as the Company's auditor since 2014.

Irvine, California
February 27, 2024

TTM TECHNOLOGIES, INC.

Consolidated Balance Sheets

	As of	
	January 1, 2024	January 2, 2023
	(In thousands, except par value)	
ASSETS		
Current assets:		
Cash and cash equivalents	$ 450,208	$ 402,749
Accounts receivable, net	413,557	473,225
Contract assets	292,050	335,788
Inventories	213,075	170,639
Receivable from sale of Shanghai E-MS (SH E-MS) property	6,737	69,240
Prepaid expenses and other current assets	54,060	41,415
Total current assets	1,429,687	1,493,056
Property, plant and equipment, net	807,667	724,204
Operating lease right-of-use assets	86,286	18,862
Goodwill	702,735	760,437
Definite-lived intangibles, net	236,711	288,037
Deposits and other non-current assets	60,577	39,008
Total assets	$ 3,323,663	$ 3,323,604
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Short-term debt, including current portion of long-term debt	$ 3,500	$ 50,000
Accounts payable	334,609	361,788
Contract liabilities	126,508	103,981
Accrued salaries, wages and benefits	98,561	115,524
Other current liabilities	140,806	130,032
Total current liabilities	703,984	761,325
Long-term debt, net of discount and issuance costs	914,336	879,407
Operating lease liabilities	80,786	12,249
Other long-term liabilities	113,518	135,044
Total long-term liabilities	1,108,640	1,026,700
Commitments and contingencies (Note 13)		
Equity:		
Common stock, $0.001 par value; 300,000 shares authorized, 111,282 and 109,598 shares issued as of January 1, 2024 and January 2, 2023, respectively; 102,108 and 102,228 shares outstanding as of January 1, 2024 and January 2, 2023, respectively	111	110
Treasury stock – common stock at cost; 9,174 and 7,370 shares as of January 1, 2024 and January 2, 2023, respectively	(123,091)	(98,659)
Additional paid-in capital	880,963	858,077
Retained earnings	782,123	800,841
Accumulated other comprehensive loss	(29,067)	(24,790)
Total stockholders' equity	1,511,039	1,535,579
Total liabilities and stockholders' equity	$ 3,323,663	$ 3,323,604

See accompanying notes to consolidated financial statements.

TTM TECHNOLOGIES, INC.

Consolidated Statements of Operations

	For the Year Ended		
	January 1, 2024	January 2, 2023	January 3, 2022
	(In thousands, except per share data)		
Net sales	$ 2,232,567	$ 2,495,046	$ 2,248,740
Cost of goods sold	1,819,299	2,037,081	1,876,729
Gross profit	413,268	457,965	372,011
Operating expenses:			
Selling and marketing	76,922	75,182	63,016
General and administrative	149,631	158,180	124,865
Research and development	27,272	24,808	18,146
Amortization of definite-lived intangibles	48,675	37,097	35,748
Impairment of goodwill	44,100	—	—
Restructuring charges	24,352	4,094	4,245
Gain on sale of SH E-MS property	—	(51,804)	—
Total operating expenses	370,952	247,557	246,020
Operating income	42,316	210,408	125,991
Other (expense) income:			
Interest expense	(48,124)	(45,517)	(45,475)
Loss on extinguishment of debt	(1,154)	—	(15,217)
Gain on sale of subsidiary	1,270	—	—
Other, net	5,989	17,972	4,754
Total other expense, net	(42,019)	(27,545)	(55,938)
Income before income taxes	297	182,863	70,053
Income tax provision	(19,015)	(88,280)	(15,639)
Net (loss) income	$ (18,718)	$ 94,583	$ 54,414
(Loss) earnings per share:			
Basic (loss) earnings per share	$ (0.18)	$ 0.93	$ 0.51
Diluted (loss) earnings per share	$ (0.18)	$ 0.91	$ 0.50

See accompanying notes to consolidated financial statements.

TTM TECHNOLOGIES, INC.

Consolidated Statements of Comprehensive (Loss) Income

	For the Year Ended		
	January 1, 2024	January 2, 2023	January 3, 2022
		(In thousands)	
Net (loss) income	$ (18,718)	$ 94,583	$ 54,414
Other comprehensive income (loss), net of tax:			
Pension obligation adjustments, net	1,251	1,412	2,722
Foreign currency translation adjustments, net	(249)	(2,085)	928
Derecognition of foreign currency translation adjustments due to sale of subsidiary	(6,627)	—	—
Net unrealized gain on cash flow hedges:			
Unrealized gain (loss) on effective cash flow hedges during the period, net	4,061	(91)	(515)
Amounts realized in the statement of operations, net	(2,713)	3,229	8,523
Net	1,348	3,138	8,008
Other comprehensive (loss) income, net of tax	(4,277)	2,465	11,658
Comprehensive (loss) income, net of tax	$ (22,995)	$ 97,048	$ 66,072

See accompanying notes to consolidated financial statements.

TTM TECHNOLOGIES, INC.

Consolidated Statements of Stockholders' Equity

	Common Stock		Treasury Stock		Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive (Loss) Income	Total Stockholders' Equity
	Shares	Amount	Shares	Amount				
				(In thousands)				
Balance, December 28, 2020	106,770	$ 107	—	$ —	$ 830,971	$ 651,844	$ (38,913)	$ 1,444,009
Net income	—	—	—	—	—	54,414	—	54,414
Other comprehensive income	—	—	—	—	—	—	11,658	11,658
Issuance of common stock for performance-based restricted stock units	135	—	—	—	—	—	—	—
Issuance of common stock for restricted stock units	1,200	1	—	—	(1)	—	—	—
Repurchases of common stock	—	—	(4,723)	(64,726)	—	—	—	(64,726)
Fair value of warrants reclassified to warrant liabilities	—	—	—	—	(7,649)	—	—	(7,649)
Issuance of stock from warrant exercises	89	—	62	919	(919)	—	—	—
Stock-based compensation	—	—	—	—	17,711	—	—	17,711
Balance, January 3, 2022	108,194	$ 108	(4,661)	$ (63,807)	$ 840,113	$ 706,258	$ (27,255)	$ 1,455,417
Net income	—	—	—	—	—	94,583	—	94,583
Other comprehensive income	—	—	—	—	—	—	2,465	2,465
Issuance of common stock for performance-based restricted stock units	182	—	—	—	—	—	—	—
Issuance of common stock for restricted stock units	1,222	2	—	—	(2)	—	—	—
Repurchases of common stock	—	—	(2,747)	(35,424)	—	—	—	(35,424)
Fair value of warrants reclassified to warrant liabilities	—	—	—	—	(987)	—	—	(987)
Issuance of stock from warrant exercises	—	—	38	572	(572)	—	—	—
Stock-based compensation	—	—	—	—	19,525	—	—	19,525
Balance, January 2, 2023	109,598	$ 110	(7,370)	$ (98,659)	$ 858,077	$ 800,841	$ (24,790)	$ 1,535,579
Net loss	—	—	—	—	—	(18,718)	—	(18,718)
Other comprehensive loss	—	—	—	—	—	—	(4,277)	(4,277)
Issuance of common stock for performance-based restricted stock units	337	—	—	—	—	—	—	—
Issuance of common stock for restricted stock units	1,347	1	—	—	(1)	—	—	—
Repurchases of common stock	—	—	(1,804)	(24,432)	—	—	—	(24,432)
Stock-based compensation	—	—	—	—	22,887	—	—	22,887
Balance, January 1, 2024	111,282	$ 111	(9,174)	$ (123,091)	$ 880,963	$ 782,123	$ (29,067)	$ 1,511,039

See accompanying notes to consolidated financial statements.

TTM TECHNOLOGIES, INC.

Consolidated Statements of Cash Flows

	For the Year Ended		
	January 1, 2024	January 2, 2023	January 3, 2022
		(In thousands)	
Cash flows from operating activities:			
Net (loss) income	$ (18,718)	$ 94,583	$ 54,414
Adjustments to reconcile net (loss) income to net cash provided by operating activities:			
Depreciation of property, plant and equipment	99,155	91,276	85,942
Amortization of definite-lived intangible assets	61,576	42,631	41,389
Amortization of debt discount and issuance costs	2,205	2,152	2,110
Loss on extinguishment of debt	1,154	—	15,217
Deferred income taxes	(11,347)	61,304	9,745
Stock-based compensation	22,887	19,525	17,711
Impairment of goodwill	44,100	—	—
Gain on sale of subsidiary	(1,270)	—	—
Gain on sale of SH E-MS property	—	(51,804)	—
Other	(516)	(5,179)	(9,650)
Changes in operating assets and liabilities:			
Accounts receivable, net	49,936	(35,738)	(5,242)
Contract assets	42,589	15,534	(51,606)
Inventories	(45,392)	(4,411)	(11,961)
Prepaid expenses and other current assets	(6,034)	(15,473)	(5,023)
Accounts payable	(34,582)	(14,804)	40,951
Contract liabilities	22,527	24,530	9,935
Accrued salaries, wages and benefits	(16,447)	15,462	(7,822)
Other current liabilities	(24,539)	33,285	(9,478)
Net cash provided by operating activities	187,284	272,873	176,632
Cash flows from investing activities:			
Acquisition of Gritel Holding Co., Inc. and ISC Farmingdale Corp.	—	(298,339)	—
Proceeds from sale of SH E-MS property	61,769	—	—
Purchase of property, plant and equipment and other assets	(160,242)	(102,884)	(81,951)
Proceeds from sale of property, plant and equipment and other assets	505	6,010	1,427
Proceeds from sale of subsidiary, net of cash disposed	6,039	—	—
Investment in unconsolidated joint venture	—	—	(3,188)
Other	(101)	(245)	(431)
Net cash used in investing activities	(92,030)	(395,458)	(84,143)
Cash flows from financing activities:			
Proceeds from borrowings of revolving loan	50,000	50,000	—
Proceeds from long-term debt borrowing	234,818	—	500,000
Repurchases of common stock	(24,432)	(35,424)	(64,726)
Refund of customer deposits	(7,500)	—	—
Customer deposits	—	25,000	—
Payment of debt issuance costs	(5,487)	—	(5,960)
Payment of original issue discount	(3,500)	—	—
Repayment of revolving loan	—	(50,000)	—
Cash used to settle warrants	—	(887)	(3,231)
Repayment of long-term debt borrowings	(291,572)	—	(425,838)
Other	—	—	(7,477)
Net cash used in financing activities	(47,673)	(11,311)	(7,232)
Effect of foreign currency exchange rates on cash and cash equivalents	(122)	(1,033)	856
Net increase (decrease) in cash and cash equivalents	47,459	(134,929)	86,113
Cash and cash equivalents at beginning of year	402,749	537,678	451,565
Cash and cash equivalents at end of year	$ 450,208	$ 402,749	$ 537,678
Supplemental cash flow information:			
Cash paid, net for interest	$ 47,884	$ 42,844	$ 42,364
Cash paid, net for income taxes	53,751	4,574	5,211
Supplemental disclosure of noncash investing and financing activities:			
Property, plant and equipment recorded in accounts payable and other current liabilities	$ 117,299	$ 31,670	$ 33,323
Cashless extinguishment of debt for issuance of new long-term debt borrowing	115,182	—	—
Receivable from sale of SH E-MS property	—	69,240	—
Issuance of common stock for warrant settlement	—	589	2,268

See accompanying notes to consolidated financial statements.

Notes to Consolidated Financial Statements
(Dollars and shares in thousands, except per share data)

(1) Nature of Operations and Summary of Significant Accounting Policies

Nature of Operations

TTM Technologies, Inc. (the Company or TTM) is a leading global manufacturer of technology solutions, including mission systems, radio frequency (RF) components/RF microwave/microelectronic assemblies, quick-turn and technologically advanced printed circuit boards (PCB). The Company provides time-to-market and volume production of advanced technology products and offers a one-stop design, engineering and manufacturing solution to customers. This solution allows the Company to align technology developments with the diverse needs of the Company's customers and to enable them to reduce the time required to develop new products and bring them to market.

The Company serves a diversified customer base in various markets throughout the world, including aerospace and defense, data center computing, automotive, medical, industrial and instrumentation, and networking. The Company's customers include original equipment manufacturers (OEMs), electronic manufacturing services (EMS) providers, original design manufacturers (ODMs), distributors and government agencies (both domestic and allied foreign governments).

The Company operates on a 52 or 53 week fiscal calendar with the fourth quarter ending on the Monday nearest December 31. Fiscal year 2023 and 2022 consisted of 52 weeks ended on January 1, 2024 and January 2, 2023, respectively. Fiscal year 2021 consisted of 53 weeks ended on January 3, 2022, with the additional week included in the fourth quarter. All references to years relate to fiscal years unless otherwise noted.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America (U.S. GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amount of revenues and expenses during the reporting period. These estimates and assumptions are based on management's best estimates and judgment. Due, in part, to the conflict between Russia and Ukraine, and the conflict in Israel and the Gaza Strip, the global economy and financial markets have been volatile. The Company has considered information available to it as of the date of issuance of these financial statements and is not aware of any specific events or circumstances that would require an update to its estimates or judgments, or a revision to the carrying value of its assets or liabilities. Management evaluates its estimates and assumptions on an ongoing basis using historical experience and other factors, including the economic environment, which management believes to be reasonable under the circumstances. Management adjusts such estimates and assumptions when facts and circumstances dictate. The actual results the Company experienced may differ materially and adversely from its estimates. To the extent there are material differences between the estimates and actual results, the Company's future result of operations will be affected.

Principles of Consolidation

The consolidated financial statements include the accounts of TTM and its subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation.

Foreign Currency Translation and Transactions

The functional currency of one of the Company's subsidiaries is the Chinese Renminbi (RMB). Accordingly, assets and liabilities are translated into U.S. dollars using period-end exchange rates. Sales and expenses are translated at the average exchange rates in effect during the period. The resulting translation gains or losses are recorded as a component of accumulated other comprehensive income/(loss) in the consolidated statement of stockholders' equity and the consolidated statement of comprehensive income. Net gains and losses resulting from foreign currency remeasurements and transactions are included in income as a component of other, net in the consolidated statements of operations and totaled $4,059 loss, $12,756 gain and $5,033 loss for the years ended January 1, 2024, January 2, 2023 and January 3, 2022, respectively.

Cash Equivalents

The Company considers highly liquid investments with insignificant interest rate risk and original maturities to the Company of three months or less to be cash equivalents.

Accounts Receivable and Allowance for Doubtful Accounts

Accounts receivable are reflected at estimated net realizable value, do not bear interest and do not generally require collateral. The Company performs credit evaluations of its customers and adjusts credit limits based upon payment history and the customer's current creditworthiness. The Company maintains an allowance for doubtful accounts based upon a variety of factors. The Company considers both current and forecasted future economic conditions in determining the adequacy of its allowance for doubtful accounts.

The Company's allowance for doubtful accounts was $3,041, $2,075 and $1,558 as of January 1, 2024, January 2, 2023 and January 3, 2022, respectively.

Inventories

Inventories are stated at the lower of cost (determined on a first-in, first-out or weighted average basis) or net realizable value. Assessments to value the inventory at the lower of the actual cost to purchase and/or manufacture the inventory, or net realizable value of the inventory, are based upon assumptions about future demand and market conditions. As a result of the Company's assessments, when the net realizable value of inventory is less than the carrying value, the inventory cost is written down to the net realizable value and the write down is recorded as a charge to cost of goods sold.

Property, Plant and Equipment, Net

Property, plant and equipment are recorded at cost. Depreciation expense is computed using the straight-line method over the estimated useful lives of the assets. Assets recorded under leasehold improvements are amortized using the straight-line method over the lesser of their useful lives or the related lease term. The Company uses the following estimated useful lives:

Land use rights	50-99 years
Buildings and improvements	7-50 years
Machinery and equipment	3-10 years
Furniture and fixtures	3-7 years

Upon retirement or other disposition of property, plant and equipment, the cost and related accumulated depreciation are removed from the accounts. The resulting gain or loss is included in the determination of operating income in the period incurred. Depreciation and amortization expense on property, plant and equipment was $99,155, $91,276 and $85,942 for the years ended January 1, 2024, January 2, 2023 and January 3, 2022, respectively.

The Company capitalizes interest on borrowings during the active construction period of major capital projects. Capitalized interest is amortized over the average useful lives of such assets, which primarily consist of buildings and machinery and equipment. The Company capitalized interest costs of $2,272, $731 and $936 during the years ended January 1, 2024, January 2, 2023 and January 3, 2022, respectively, in connection with various capital projects.

Major renewals and betterments are capitalized and depreciated over their estimated useful lives while minor expenditures for maintenance and repairs are included in operating income as incurred.

Goodwill

Goodwill represents the excess of purchase price of an acquisition over the fair value of net assets acquired. Goodwill is not amortized but instead is assessed for impairment, at a reporting unit level, annually and when events and circumstances warrant an evaluation. Goodwill is allocated to reporting units, which are operating segments or one level below the Company's operating segments (the component level). Reporting units are determined by the discrete financial information available for the component and whether it is regularly reviewed by segment management. Components are aggregated into a single reporting unit if they share similar economic characteristics. The Company evaluates its goodwill on an annual basis in the fourth quarter or more frequently if it believes indicators of impairment exist. The Company assesses qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount or performs a quantitative impairment test. When tested quantitatively, the Company compares the fair value of the applicable reporting unit with its carrying value. In making this assessment, management relies on a number of factors, including expected future operating results, business plans, economic projections, anticipated future cash flows, business trends and declines in the Company's market capitalization. The Company estimates the fair values of its reporting units using a combination of the discounted cash flow (DCF) and market approaches. If the carrying amount of a reporting unit exceeds the reporting unit's fair value, the amount by which the carrying value exceeds the fair value is recognized as an impairment loss. See Note 5 for further details.

Intangible Assets

Intangible assets include customer relationships, technology, backlog and trade names, which are being amortized over their estimated useful lives on a straight-line basis. The estimated useful lives of such intangibles range from 2 years to 13 years.

Impairment of Long-lived Assets

Long-lived tangible assets, including property, plant and equipment, assets held for sale, and definite-lived intangible assets, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying value of the asset or asset groups may not be recoverable. The Company regularly evaluates whether events or circumstances have occurred that indicate possible impairment and relies on a number of factors, including expected future operating results, business plans, economic projections, and anticipated future cash flows. The Company uses an estimate of the future undiscounted net cash flows of the related asset or asset group over the remaining life in measuring whether the assets are recoverable. If the sum of the undiscounted cash flows is less than the carrying amount of the net assets, impairment is measured based on the difference between the net asset's carrying value and estimated fair value. Fair value is determined through various valuation techniques, including cost-based, market and income approaches as considered necessary.

The Company classifies assets to be sold as assets held for sale when (i) Company management has approved and commits to a plan to sell the asset; (ii) the asset is available for immediate sale in its present condition and is ready for sale; (iii) an active program to locate a buyer and other actions required to sell the asset have been initiated; (iv) the sale of the asset is probable; (v) the asset is being actively marketed for sale at a price that is reasonable in relation to its current fair value; and (vi) it is unlikely that significant changes to the plan will be made or that the plan will be withdrawn. Assets classified as held for sale are recorded at the lower of the carrying amount or fair value less the cost to sell.

The Company classifies assets held for use when a decision to dispose of an asset or a business is made and the held for sale criteria are not met. In evaluating the recoverability of property and intangible assets subject to amortization, in a held for use business, the carrying value is first compared to the sum of the undiscounted cash flows expected to result from the use and eventual disposition. If the carrying value exceeds the undiscounted expected cash flows, then a fair value analysis is performed. An impairment charge is recognized if the carrying value exceeds the fair value.

Leases

The Company determines if an arrangement is a lease at inception. Operating leases are included in operating lease right-of-use (ROU) assets, and lease liabilities are included in other current liabilities and operating lease liabilities on the consolidated balance sheets. Finance lease ROU assets are included in property, plant and equipment, net and lease liabilities are included in other current liabilities and other long-term liabilities on the consolidated balance sheets.

ROU assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent the Company's obligation to make lease payments arising from the lease. Operating and finance lease ROU assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. As most of the Company's leases do not provide an implicit rate, the Company uses its incremental borrowing rate based on the information available at the commencement date in determining the present value of lease payments. The operating and finance lease ROU assets also include any lease payments made and excludes lease incentives. Lease terms may include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option. Operating lease expense is recognized on a straight-line basis over the lease term. Finance lease expense is recognized based on the effective interest method over the lease term.

The Company has lease agreements with lease and non-lease components and accounts for the lease and non-lease components as a single lease component.

Revenue Recognition

The Company derives revenues primarily from the sale of PCBs, engineered systems using customer-supplied engineering and design plans as well as long-term contracts related to the design and manufacture of highly sophisticated intelligence, surveillance and communications solutions, RF and microwave/microelectronics components, assemblies, and subsystems. In the absence of a sales agreement, the Company's standard terms and conditions apply. Revenue is recognized when control of the promised goods or services is transferred to the Company's customers, in an amount that reflects the consideration to which it expects to be entitled in exchange for those goods or services. The Company applies a five-step approach in determining the amount and timing of revenue to be recognized: (1) identifying the contract with a customer; (2) identifying the performance obligations in the contract; (3) determining the transaction price; (4) allocating the transaction price to the performance obligations in the contract; and (5) recognizing revenue when the corresponding performance obligation is satisfied.

Revenue Streams

For PCBs and engineered systems, including pursuant to the Company’s long-term contracts related to the manufacture of highly sophisticated intelligence, surveillance and communications solutions, components, assemblies and subsystems, orders for products generally correspond to the production schedules of the Company’s customers and are supported with firm purchase orders. The Company’s customers have continuous control of the work in progress and finished goods throughout the PCB and engineered systems manufacturing process, as these are built to customer specifications with no alternative use, and there is an enforceable right to payment for work performed to date. As a result, the Company recognizes revenue progressively over time based on the extent of progress towards completion of the performance obligation. Revenue recognized is based on a cost method as it best depicts the transfer of control to the customer which takes place as we incur costs. Revenues are recorded proportionally as costs are incurred. For contracts in which anticipated total costs exceed the total expected revenue, an estimated loss is recognized in the period when identifiable. A provision for the entire amount of the estimated loss is recorded on a cumulative basis. The estimated remaining costs to complete for loss contracts as of January 1, 2024 and January 2, 2023 were $25,213 and $21,632, respectively, and the provision is recorded as a reduction to gross margin on the consolidated statements of operations.

In addition, the Company manufactures components, assemblies, subsystems, and completed systems which service its RF and Specialty Components (RF&S Components) and certain aerospace and defense customers. The Company recognizes revenue at a point in time upon transfer of control of the products to the customer. Point in time recognition was determined as the customer does not simultaneously receive or consume the benefits provided by the Company’s performance and the asset being manufactured has alternative uses to the Company.

Performance Obligations

Each distinct promise to transfer products is considered to be an identified performance obligation for which revenue is recognized upon transfer of control of the products to the customer. A contract’s transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. The majority of the Company's contracts have a single performance obligation as the promise to transfer the individual good or service is not separately identifiable from other promises in the contract and is, therefore, not distinct. As of January 1, 2024, the aggregate amount of the transaction price allocated to remaining performance obligations for the Company’s long-term contracts was $382,238. The Company expects to recognize revenue on approximately 51% of the remaining performance obligations for the Company’s long-term contracts over the next twelve months with the remaining amount recognized thereafter. The remaining performance obligations for the Company’s short-term contracts are expected to be recognized within one year.

Transaction Price

The Company provides customers a limited right of return for defective PCBs including components, subsystems and assemblies. Estimates of returns are treated as variable consideration for purposes of determining the transaction price. The Company accrues an estimate for sales returns and allowances progressively over time based on the extent of progress towards completion of the performance obligation using the Company’s judgment based on historical results and anticipated returns. To the extent actual experience varies from its historical experience, revisions to the sales returns and allowances accrual may be required. Sales returns and allowances are recorded as a reduction of revenue and included as a component of other current liabilities on the consolidated balance sheets. Shipping and handling fees and related freight costs and supplies associated with shipping products to customers are included as a component of cost of goods sold. Warranty-related services are not considered a separate performance obligation. Incremental warranty costs that are not related to sales returns are recorded in other current liabilities on the consolidated balance sheets and cost of goods sold on the consolidated statements of operations. The following summarizes the activity in the Company’s sales returns and allowances for the years ended January 1, 2024, January 2, 2023 and January 3, 2022:

	For the Year Ended		
	January 1, 2024	January 2, 2023	January 3, 2022
		(In thousands)	
Balance at beginning of year	$ 12,319	$ 12,853	$ 13,015
Addition charged as a reduction of sales	4,692	2,410	5,635
Deductions	(4,719)	(2,914)	(5,767)
Effect of foreign currency exchange rates	9	(30)	(30)
Balance at end of year	$ 12,301	$ 12,319	$ 12,853

Contract Balances

Accounts receivable represents the Company's unconditional right to receive consideration from its customer. Payments are generally due within 90 days or less of invoicing and do not include a significant financing component. To date, there have been no material credit losses on accounts receivable.

A contract asset is recognized when the Company has recognized revenue, but not issued an invoice for payment. Amounts will be invoiced when applicable contract terms, such as the achievement of specified milestones or product delivery, are met. Contract assets are transferred to receivables when the entitlement to payment becomes unconditional. Contract assets were $292,050 and $335,788 as of January 1, 2024 and January 2, 2023, respectively, and represent unbilled amounts for work performed to date. Contract assets decreased by $43,738 due to timing of progress on customer work orders at year-end. As of January 1, 2024 and January 2, 2023, $11,257 and $7,096 of contract assets are expected to be collected after one year, respectively, and are included as a component of deposits and other non-current assets on the consolidated balance sheets. In 2023, there were no material impairment losses on contract assets.

A contract liability is recognized when the Company has received payment in advance for the future transfer of goods or services. The Company's contract liabilities are reduced as the contract requirements are fulfilled. Contract liabilities were $126,508 and $103,981 as of January 1, 2024 and January 2, 2023, respectively, and represent customer advances for work yet to be performed. The contract liabilities increased by $22,527 due to timing of customer billings and/or payments. Revenue recognized for year ended January 1, 2024 from amounts recorded as contract liabilities as of January 2, 2023 was $57,937.

The Company has elected to account for shipping and handling activities as a fulfillment cost as permitted by the standard. All incremental customer contract acquisition costs are expensed as they are incurred as the amortization period of the asset that the Company otherwise would have recognized is one year or less in duration.

Disaggregated Revenue

Revenue from products and services transferred to customers over time and at a point in time accounted for 96% and 4%, respectively, of the Company's revenue in 2023, 97% and 3%, respectively, of the Company's revenue in 2022 and 2021.

The following tables represent a disaggregation of revenue by principal end markets within the reportable segments:

	For the Year Ended January 1, 2024		
	PCB	RF&S Components	Total
End Markets		(In thousands)	
Aerospace and Defense	$ 1,004,864	$ 18	$ 1,004,882
Automotive	359,455	—	359,455
Data Center Computing	318,769	51	318,820
Medical/Industrial/Instrumentation	365,611	3,448	369,059
Networking	145,347	35,004	180,351
Total	$ 2,194,046	$ 38,521	$ 2,232,567

	For the Year Ended January 2, 2023		
	PCB	RF&S Components	Total
End Markets		(In thousands)	
Aerospace and Defense	$ 862,367	$ —	$ 862,367
Automotive	428,022	—	428,022
Data Center Computing	378,114	34	378,148
Medical/Industrial/Instrumentation	486,088	5,708	491,796
Networking	278,911	52,414	331,325
Other	4,440	(1,052)	3,388
Total	$ 2,437,942	$ 57,104	$ 2,495,046

	For the Year Ended January 3, 2022			
	PCB	RF&S Components	Other [1]	Total
End Markets	(In thousands)			
Aerospace and Defense	$ 727,868	$ 137	$ —	$ 728,005
Automotive	407,063	—	3,642	410,705
Data Center Computing	323,528	457	—	323,985
Medical/Industrial/Instrumentation	416,504	4,880	25	421,409
Networking	297,569	49,059	1	346,629
Other	14,369	4,050	(412)	18,007
Total	$ 2,186,901	$ 58,583	$ 3,256	$ 2,248,740

(1) Other represents results from the now closed SH E-MS and SZ facilities.

Value Added and Sales Tax Collected from Customers

As a part of the Company's normal course of business, value added and sales taxes are collected from customers. Such taxes collected are remitted, in a timely manner, to the appropriate governmental tax authority on behalf of the customer. Value added and sales taxes are excluded from reported revenues and costs of goods sold presented in the consolidated statements of operations and comprehensive income.

Stock-Based Compensation

The Company recognizes stock-based compensation expense in its consolidated financial statements for its incentive compensation plan awards. The incentive compensation plan awards include performance-based restricted stock units, restricted stock units, and stock options. The associated compensation expense for all awards is based on the grant date fair value of the awards. For performance-based restricted stock units, compensation expense also includes management's periodic assessment of annual financial performance goals to be achieved. Compensation expense for the incentive compensation plan awards is recognized on a straight line basis over the vesting period of the awards. The fair value of performance-based restricted stock units is estimated on the grant date using a Monte Carlo simulation model based on the underlying common stock closing price as of the date of grant, stock price volatility, and risk-free interest rates. The fair value of restricted stock units is measured on the grant date based on the quoted closing market price of the Company's common stock.

Income Taxes

Income taxes are accounted for under the asset and liability method. Deferred income tax assets or liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of assets and liabilities and their respective tax bases and operating loss and tax credit carryforwards. Deferred income 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 settled or realized. The effect on deferred income tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. Deferred income tax assets are reviewed for recoverability, and the Company records a valuation allowance to reduce its deferred income tax assets when it is more likely than not that all or some portion of the deferred income tax assets will not be realized.

The Company has various foreign subsidiaries formed or acquired to conduct or support its business outside the United States. The Company expects its earnings attributable to foreign subsidiaries will not be indefinitely reinvested except for certain subsidiaries, and we have established a deferred tax liability for foreign withholding taxes and the estimated federal/state tax impact. For those other companies with earnings currently being reinvested outside of the U.S., no deferred tax liabilities on undistributed earnings are recorded.

The Company recognizes the effect of income tax positions only if those positions are more likely than not to be sustained. Recognized income tax positions are measured at the largest amount that is greater than 50 percent likely to be realized. Changes in recognition or measurement are reflected in the period in which the change in judgment occurs. Estimated interest and penalties related to underpayment of income taxes are recorded as a component of income tax provision in the consolidated statements of operations.

Fair Value Measures

The Company measures at fair value certain of its financial and non-financial assets and liabilities by using a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, essentially an exit price, based on the highest and best use of the asset or liability. The levels of the fair value hierarchy are:

Level 1 — Quoted market prices in active markets for identical assets or liabilities;

Level 2 — Significant other observable inputs (e.g., quoted prices for similar items in active markets, quoted prices for identical or similar items in markets that are not active, inputs other than quoted prices that are observable, such as interest rate and yield curves, and market-corroborated inputs); and

Level 3 — Unobservable inputs in which there is little or no market data, which require the reporting unit to develop its own assumptions.

Earnings Per Share

Basic earnings per common share excludes dilution and is computed by dividing net income by the weighted average number of common shares outstanding during the period. Diluted earnings per common share reflect the potential dilution that could occur if stock options, or other common stock equivalents were exercised or converted into common stock. The dilutive effect of stock options or other common stock equivalents is calculated using the treasury stock method.

Comprehensive Income

Comprehensive income includes changes to equity accounts that were not the result of transactions with stockholders. Comprehensive income is comprised of net income, changes in the cumulative foreign currency translation adjustments, pension obligation adjustments, and realized and unrealized gains or losses on hedged derivative instruments.

Loss Contingencies

The Company establishes an accrual for an estimated loss contingency when it is both probable that an asset has been impaired or that a liability has been incurred and the amount of the loss can be reasonably estimated. Any legal fees expected to be incurred in connection with a contingency are expensed as incurred.

Accounting for Retirement Benefit Plans

The Company accounts for its retirement benefit plans and postretirement and postemployment benefit obligations in accordance with Accounting Standards Codification (ASC) Topic 715, *Compensation—Retirement Benefits*. ASC Topic 715 requires the Company to recognize the overfunded or underfunded status of a defined benefit plan, measured as the difference between the fair value of plan assets and the plan's benefit obligation, as an asset or liability in its consolidated balance sheets and to recognize changes to that funded status in the year in which the changes occur through accumulated other comprehensive loss. ASC Topic 715 also requires measurement of the funded status of a plan as of the Company's consolidated balance sheet dates.

Recently Adopted and Issued Accounting Standards

Recently Adopted Accounting Standards

In September 2022, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2022-04, *Liabilities - Supplier Finance Programs (Topic 450-50): Disclosure of Supplier Finance Program Obligations*, that requires entities that use supplier finance programs in connection with the purchase of goods and services to disclose the key terms of the programs and information about obligations outstanding at the end of the reporting period, including a rollforward of those obligations. The guidance does not affect the recognition, measurement or financial statement presentation of supplier finance program obligations. The amendments are effective for all entities for fiscal years beginning after December 15, 2022 on a retrospective basis, including interim periods within those fiscal years, except for the requirement to disclose rollforward information, which is effective prospectively for fiscal years beginning after December 15, 2023. The Company adopted ASU 2022-04 as of April 3, 2023. The Company has agreements with financial institutions to facilitate the payments to certain suppliers. Under the terms of the agreements, the Company confirms the validity of each supplier invoice to the respective financial institution upon receipt. The supplier receives payment from the financial institution, and the Company pays the financial institution based on the terms negotiated, which generally range from 160 days to 360 days. Liabilities associated with these agreements are recorded in accounts payable on the consolidated balance sheets and amounted to $18,832 and $6,653 as of January 1, 2024 and January 2, 2023, respectively.

In December 2022, the FASB issued ASU 2022-06, *Reference Rate Reform (Topic 848): Deferral of the Sunset Date of Topic 848*, which deferred the sunset date of Topic 848 to December 31, 2024, after which entities will no longer be permitted to apply the optional expedients and exceptions in Topic 848. On March 23, 2023, the Company entered into a four-year pay-fixed, receive floating (1-month CME Term Secured Overnight Financing Rate (SOFR)), interest rate swap arrangement with a notional amount of $250,000 for the period beginning April 1, 2023 and ending on April 1, 2027. Under the terms of the interest rate swap, the Company pays a fixed rate of 3.49% against a portion of its Term SOFR-based debt and receives a floating 1-month CME Term SOFR during the swap period. The Company elected optional expedients provided in Topic 848 which allowed the designation of the interest rate swap as a cash flow hedge.

Recently Issued Accounting Standards Not Yet Adopted

In October 2023, the FASB issued ASU 2023-06, *Disclosure Improvements: Codification Amendments in Response to the Securities and Exchange Commission's (SEC) Disclosure Update and Simplification Initiativ*e, which modifies the disclosure or presentation requirements of a variety of topics in the ASC in response to the SEC's Release No. 33-10532, *Disclosure Update and Simplification Initiative*, and align the ASC's requirements with the SEC's regulations. For entities subject to the SEC's existing disclosure requirements, the effective date for each amendment will be the date on which the SEC's removal of that related disclosure from Regulation S-X or Regulation S-K becomes effective. However, if by June 30, 2027, the SEC has not removed the related disclosure from its regulations, the amendments will be removed from the Codification and not become effective. Early adoption is prohibited. The Company is currently evaluating the new guidance to determine the impact it may have on its consolidated financial statements and related disclosures.

In November 2023, the FASB issued ASU 2023-07, *Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures*, which updates reportable segment disclosure requirements primarily through enhanced disclosures about significant segment expenses. The amendments are effective for fiscal years beginning after December 15, 2023, and for interim periods within fiscal years beginning after December 15, 2024. Early adoption is permitted. The amendments should be applied retrospectively to all prior periods presented in the financial statements. The Company is currently evaluating the new guidance to determine the impact it may have on its consolidated financial statements and related disclosures, but expects additional disclosures upon adoption.

In December 2023, the FASB issued ASU 2023-09, *Income Taxes (Topic 740): Improvements to Income Tax Disclosures*, which requires disclosure of disaggregated income taxes paid, prescribes standard categories for the components of the effective tax rate reconciliation, and modifies other income tax-related disclosures. The update will be effective for annual periods beginning after December 15, 2024. Early adoption is permitted for annual financial statements not yet issued or made available for issuance. The Company is currently evaluating the new guidance to determine the impact it may have on its consolidated financial statements and related disclosures, but expects additional disclosures upon adoption.

(2) Leases

The Company leases some of its manufacturing and assembly plants, sales offices and equipment under non-cancellable operating leases and finance leases that expire at various dates through 2043. The majority of the Company's lease arrangements are comprised of fixed payments, and certain leases consist of variable payments based on equipment usage. These variable payments are not included in the measurement of the ROU asset or lease liability due to uncertainty of the payment amount and are recorded as lease expense in the period incurred. Certain leases contain renewal provisions at the Company's option. Most of the leases require the Company to pay for certain other costs such as property taxes and maintenance. Certain leases also contain rent escalation clauses (step rents) that require additional rental amounts in the later years of the term. Rent expense for leases with step rents is recognized on a straight-line basis over the minimum lease term. The lease agreements do not contain any material residual value guarantees or material restrictive covenants.

The components of lease expense were as follows:

	For the Year Ended		
	January 1, 2024	January 2, 2023	January 3, 2022
		(In thousands)	
Operating lease cost	$ 9,527	$ 7,751	$ 7,907
Variable lease cost	930	1,140	798
Short-term lease cost	311	708	338
Finance lease costs:			
Amortization of right-of-use assets	1,374	1,374	538
Interest on lease liabilities	373	392	159

Supplemental cash flow information related to leases was as follows:

	For the Year Ended		
	January 1, 2024	January 2, 2023	January 3, 2022
		(In thousands)	
Cash paid for amounts included in the measurement of lease liabilities:			
Operating cash flows for operating leases	$ 9,039	$ 7,746	$ 8,308
Right-of-use assets obtained in exchange for new lease obligations:			
Operating leases	77,041	7,896	8,651
Finance leases	—	—	15,297

Supplemental balance sheet information related to leases was as follows:

	Balance Sheet Location	As of January 1, 2024	As of January 2, 2023
		(In thousands)	
Assets:			
Operating leases	Operating lease right-of-use assets	$ 86,286	$ 18,862
Finance leases	Property, plant and equipment, net	12,010	13,384
Total lease assets		$ 98,296	$ 32,246
Liabilities:			
Current:			
Operating leases	Other current liabilities	$ 8,433	$ 7,368
Finance leases	Other current liabilities	780	736
Long-term:			
Operating leases	Operating lease liabilities	80,786	12,249
Finance leases	Other long-term liabilities	12,799	13,579
Total lease liabilities		$ 102,798	$ 33,932

	As of January 1, 2024	As of January 2, 2023
Weighted average remaining lease term (years):		
Operating leases	12.8	3.3
Finance leases	12.6	13.6
Weighted average discount rate:		
Operating leases	6.13 %	3.09 %
Finance leases	2.69 %	2.69 %

Maturities of lease liabilities were as follows:

	Operating Leases [1]	Finance Leases
	(In thousands)	
Less than one year	$ 13,533	$ 1,134
1 - 2 years	11,418	1,146
2 - 3 years	9,280	1,175
3 - 4 years	7,986	1,197
4 - 5 years	7,630	1,228
Thereafter	85,018	10,231
Total lease payments	134,865	16,110
Less imputed interest	(45,646)	(2,531)
Total	$ 89,219	$ 13,579

(1) Excludes $817 of legally binding minimum lease payments for leases signed but not yet commenced.

(3) Acquisition of Gritel and ISC Farmingdale Corp.

On June 27, 2022, the Company completed its acquisition of all of the issued and outstanding capital stock of Gritel and ISC Farmingdale Corp. for a total consideration of $298,339 in cash. At the time of acquisition, Telephonics Corporation was wholly-owned by Gritel, and as a result of the acquisition, became an indirect, wholly-owned subsidiary of the Company (collectively with ISC Farmingdale Corp., Telephonics).

For the years ended January 1, 2024 and January 2, 2023, bank fees and legal, accounting, and other professional service costs associated with the acquisition of $598 and $11,529, respectively, have been expensed and recorded as general and administrative expense in the consolidated statements of operations. There were no bank fees or legal, accounting, or other professional service costs associated with the acquisition for the year ended January 3, 2022.

Purchase Price Allocation

The purchase price was allocated to tangible and intangible assets acquired, and liabilities assumed based on the fair value at the date of the acquisition, June 27, 2022. The excess of the purchase price over the fair value of net assets acquired was allocated to

goodwill. The fair values were based on management's analysis, including work performed by third-party valuation specialists. The Company finalized the allocation of the purchase price during the second quarter of 2023.

The fair values assigned are based on reasonable methods applicable to the nature of the assets acquired and liabilities assumed. The following summarizes the final assigned fair values of net assets acquired:

	(In thousands)
Accounts receivable	$ 51,140
Contract assets	26,460
Inventories	38,616
Prepaid expenses and other current assets	5,605
Property, plant and equipment	69,253
Operating lease right-of-use assets	497
Goodwill	112,326
Identifiable intangible assets	101,000
Non-current deferred tax assets	913
Deposits and other non-current assets	3,129
Accounts payable	(16,026)
Contract liabilities	(65,262)
Accrued salaries, wages and benefits	(10,616)
Other current liabilities	(12,751)
Operating lease liabilities	(336)
Other long-term liabilities	(5,609)
Total	$ 298,339

Identifiable Intangible Assets

Acquired identifiable intangible assets include customer relationships, technology, backlog, and trade names. The fair value of the identifiable intangible assets was determined using various valuation methods including relief from royalty and excess earnings to determine the present value of expected future cash flows for each identifiable intangible asset based on discount rates. The expected cash flows were estimated using available historical data adjusted based on a market participant perspective. The Company used risk adjusted discount rates between 7.0% and 8.0% to discount the expected future cash flows.

The Company finalized the acquired identifiable intangible asset valuation during the second quarter of 2023. The Company recorded amortization expense of $24,877 related to the acquired identifiable intangible assets during the year ended January 1, 2024 (of which $5,627 corresponded to the year ended January 2, 2023 due to the change in amortization period). For the year ended January 1, 2024, $8,850 of amortization expense is included in cost of goods sold (of which $2,950 corresponded to the year ended January 2, 2023).

Goodwill

Goodwill represents the excess of the purchase price over the fair value of assets acquired and liabilities assumed. The Company believes that the acquisition of Telephonics will strengthen the Company's differentiated position in the Aerospace and Defense market. The Company believes that these factors support the amount of goodwill recognized as a result of the purchase price paid for Telephonics, in relation to other acquired tangible and intangible assets. The goodwill acquired in the acquisition is not deductible for income tax purposes.

Results of Operations

Included in the consolidated statements of operations are net sales of $223,287 and $125,933, excluding intercompany sales, for the years ended January 1, 2024 and January 2, 2023, respectively. Included in the consolidated statements of operations are pre-tax income of $24,965 and $10,822, excluding amortization of intangibles, for the years ended January 1, 2024 and January 2, 2023, respectively.

Pro forma Financial Information (Unaudited)

The unaudited pro forma financial information below gives effect to this acquisition as if it had occurred at the beginning of fiscal 2022, or January 4, 2022. The pro forma financial information presented includes the effects of adjustments related to the amortization of acquired identifiable intangible assets, decrease in inventory markup, depreciation of acquired fixed assets, and other non-recurring transactions costs directly associated with the acquisition such as legal, accounting and banking fees.

The pro forma financial information as presented below is for informational purposes only and is not necessarily indicative of the actual results that would have been achieved had the acquisition occurred at the beginning of the earliest period presented, or the results that may be achieved in future periods.

	For the Year Ended	
	January 1, 2024	January 2, 2023
	(In thousands, except per share amounts)	
Net sales	$ 2,232,567	$ 2,602,114
Net (loss) income	(13,091)	94,952
Basic (loss) earnings per share	$ (0.13)	$ 0.93
Diluted (loss) earnings per share	$ (0.13)	$ 0.91

(4) Composition of Certain Consolidated Financial Statement Captions

	As of	
	January 1, 2024	January 2, 2023
	(In thousands)	
Inventories:		
Raw materials	$ 165,666	$ 145,561
Work-in-process	45,494	20,114
Finished goods	1,915	4,964
	$ 213,075	$ 170,639
Property, plant and equipment, net:		
Land and land use rights	$ 71,131	$ 76,811
Buildings and improvements	512,148	443,353
Machinery and equipment	986,527	989,935
Furniture and fixtures and other	10,157	11,327
Construction-in-progress	90,940	27,774
	1,670,903	1,549,200
Less: Accumulated depreciation	(863,236)	(824,996)
	$ 807,667	$ 724,204
Other current liabilities:		
Accrued capital expenditures	$ 35,026	$ —
Sales return and allowances	12,301	12,319
Warranty	10,557	8,045
Accrued facility operating costs	10,172	9,081
Interest	9,399	9,336
Operating leases	8,433	7,368
Housing fund	7,749	7,440
Income taxes payable	5,466	28,057
Accrued professional fees	3,276	5,123
Restructuring	1,179	2,513
Derivative liabilities	297	1,622
Other	36,951	39,128
	$ 140,806	$ 130,032
Other long-term liabilities:		
Deferred income taxes	$ 44,238	$ 54,268
Customer deposits	29,820	38,750
Finance leases	12,799	13,579
Derivative liabilities	1,476	—
Defined benefit pension plan liability	836	2,471
Other	24,349	25,976
	$ 113,518	$ 135,044

On December 22, 2022, land, building, and relevant ancillary assets related to the Company’s former Shanghai E-MS (SH E-MS) manufacturing facility was expropriated by the Chinese government for a compensation fee of RMB 477.6 million ($69,240 as of

January 2, 2023) generating a gain on the sale of $51,804 during the year ended January 2, 2023. The Company received 90% of the proceeds from the sale during 2023 and the remaining 10% was collected subsequent to year-end.

(5) Goodwill

As of January 1, 2024 and January 2, 2023, goodwill by reportable segment was as follows:

	PCB	RF&S Components	Total
		(In thousands)	
Balance as of January 2, 2023			
Goodwill	$ 823,837	$ 177,200	$ 1,001,037
Accumulated impairment losses	(171,400)	(69,200)	(240,600)
	652,437	108,000	760,437
Impairment loss during the year ended January 1, 2024	—	(44,100)	(44,100)
Goodwill adjustment during the year ended January 1, 2024	(10,787)	—	(10,787)
Derecognition of goodwill due to sale of subsidiary	(2,815)	—	(2,815)
Balance as of January 1, 2024			
Goodwill	810,235	177,200	987,435
Accumulated impairment losses	(171,400)	(113,300)	(284,700)
	$ 638,835	$ 63,900	$ 702,735

The Company evaluates its goodwill on an annual basis during its fourth fiscal quarter and at other times when events or changes in circumstances – such as significant adverse changes in the business climate or operating results or changes in management strategy, coupled with a decline in the market price of its stock and market capitalization – indicate that there may be a potential impairment. The Company assesses qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount or performs a quantitative impairment test.

During the third quarter of 2023, the Company experienced a continued decline in sales and profitability in the RF&S Components reporting unit and have reduced forecasted sales in future years. The Company considered these factors to be indicators of potential impairment requiring the Company to test the related goodwill for impairment. As of October 2, 2023, the Company completed a quantitative goodwill impairment analysis related to its RF&S Components reporting unit by comparing the fair value of the reporting unit with its carrying amount. In making this assessment, management relies on a number of factors, including expected future operating results, business plans, economic projections, anticipated future cash flows, business trends and declines in the Company's market capitalization. The Company determined the fair value of the reporting unit by using both a DCF and a market approach. Under the market approach, the Company used revenue and earnings multiples based on comparable industry multiples to estimate the fair value of the reporting unit. If the carrying amount of a reporting unit exceeds the reporting unit's fair value, the amount by which the carrying value exceeds the fair value is recognized as an impairment loss.

Under the DCF approach, the Company estimated the future cash flows, as well as selected a risk-adjusted discount rate to measure the present value of the anticipated cash flows. When determining future cash flow estimates, the Company considered historical results adjusted to reflect current and anticipated future operating conditions. The Company estimated cash flows for the reporting unit over a discrete period and a terminal period (considering expected long-term growth rates and trends).

Based on its analysis, the Company determined that the fair value of the RF&S Components reporting unit was less than its carrying value and recorded a non-cash goodwill impairment charge of $44,100 during the year ended January 1, 2024. If the Company's future cash flow projections and other fair value assumptions for its reporting unit change, the Company's goodwill may be subject to potential additional impairment charges in subsequent quarters. Estimating the fair value of the reporting unit requires the Company to make assumptions and estimates in such areas as future economic conditions, industry-specific conditions, product pricing, and necessary capital expenditures. The use of different assumptions or estimates for future cash flows, discount rates, or terminal growth rates could produce substantially different estimates of the fair value of the reporting unit.

In addition, the Company decreased goodwill by $10,787 during the year ended January 1, 2024 due to an adjustment to the estimate of fair value for identifiable intangible assets and deferred taxes. Goodwill recognized as a result of the acquisition of Telephonics was finalized during the second quarter of 2023. See Note 3, *Acquisition of Gritel and ISC Farmingdale Corp.*, for further information.

In the fourth quarter of 2023, the Company performed its annual goodwill impairment test qualitatively and concluded that it was more likely than not that there was no impairment to goodwill.

(6) Definite-lived Intangibles

As of January 1, 2024 and January 2, 2023, the components of definite-lived intangibles were as follows:

	Gross Amount	Accumulated Amortization	Net Carrying Amount	Weighted Average Amortization Period
		(In thousands)		(In years)
January 1, 2024				
Customer relationships	$ 416,230	$ (222,766)	$ 193,464	11.2
Technology	66,650	(27,278)	39,372	8.2
Backlog	13,000	(9,750)	3,250	2.0
Trade names	2,500	(1,875)	625	2.0
	$ 498,380	$ (261,669)	$ 236,711	
January 2, 2023				
Customer relationships	$ 366,071	$ (187,560)	$ 178,511	11.3
Technology	47,650	(24,876)	22,774	9.5
Acquired intangibles from acquisition				
Customer relationships	82,500	(3,173)	79,327	13.0
Trade names	8,250	(825)	7,425	5.0
	$ 504,471	$ (216,434)	$ 288,037	

The Company has acquired customer relationships, technology, backlog and trade names as a result of the Telephonics acquisition. See Note 3, *Acquisition of Gritel and ISC Farmingdale Corp.*, for further information.

Definite-lived intangibles are amortized using the straight-line method of amortization over the useful life. Amortization expense was $61,576, $42,631 and $41,389 for the years ended January 1, 2024, January 2, 2023 and January 3, 2022, respectively. For the years ended January 1, 2024, January 2, 2023 and January 3, 2022, $12,901, $5,534 and $5,641, respectively, of amortization expense is included in cost of goods sold.

Estimated aggregate amortization for definite-lived intangible assets for the next five years and thereafter is as follows:

	(In thousands)
2024	$ 44,892
2025	36,897
2026	36,897
2027	34,543
2028	30,997
Thereafter	52,485
	$ 236,711

(7) Long-term Debt and Letters of Credit

The following table summarizes the long-term debt of the Company as of January 1, 2024 and January 2, 2023:

	Interest Rate as of January 1, 2024	Principal Outstanding as of January 1, 2024	Interest Rate as of January 2, 2023	Principal Outstanding as of January 2, 2023
	(In thousands, except interest rates)			
Senior Notes due March 2029	4.00 %	$ 500,000	4.00 %	$ 500,000
Term Loan due May 2030	8.10	349,125	—	—
Asia ABL Revolving Loan due June 2028	6.65	80,000	5.79	30,000
Term Loan due September 2024	—	—	6.89	405,879
		929,125		935,879
Less: Unamortized debt issuance costs		(8,021)		(6,080)
Unamortized debt discount		(3,268)		(392)
		917,836		929,407
Less: current maturities		(3,500)		(50,000)
Long-term debt, less current maturities		$ 914,336		$ 879,407

The fiscal calendar maturities of debt through 2028 and thereafter are as follows:

	(In thousands)
2024	$ 3,500
2025	3,500
2026	3,500
2027	4,375
2028	83,500
Thereafter	830,750
	$ 929,125

As of January 1, 2024, the Company was in compliance with the financial covenants under the Senior Notes due 2029, Term Loan Facility and ABL Revolving Loans.

Senior Notes due 2029

On March 10, 2021, the Company issued $500,000 of Senior Notes due 2029, which are included in long-term debt and bear interest at a rate of 4.0% per annum. Interest is payable semiannually in arrears on March 1 and September 1 of each year beginning September 1, 2021. The Senior Notes due 2029 will mature on March 1, 2029.

The Senior Notes due 2029 are irrevocably and unconditionally guaranteed, jointly and severally, on a senior unsecured basis by the Company's existing and future domestic subsidiaries, subject to certain exceptions. The Senior Notes due 2029 and related guarantees are senior unsecured obligations of, respectively, the Company and applicable subsidiary guarantors.

Term Loan Facility

On May 30, 2023, pursuant to an Amended & Restated Term Loan Credit Agreement by and among the Company, JPMorgan Chase Bank, N.A., as Administrative Agent, and the several lenders from time to time parties thereto (Term Loan Credit Agreement), the Company closed its $350,000 senior secured Term Loan due 2030 (Term Loan Facility). This Term Loan Facility had an outstanding balance of $349,125 as of January 1, 2024, of which $3,500 is included in short-term debt and $345,625 is included in long-term debt. The Term Loan Facility was issued with a 1.0% original issue discount and bears interest at a floating rate of 1-month CME Term SOFR plus an applicable margin of 2.75%. There is no provision, other than an event of default, for the interest margin to increase. The Company is required to make quarterly principal repayments in an aggregate annual amount equal to 1% of the initial aggregate principal amount of the Term Loan Facility. Such principal repayment is payable quarterly on January 1, April 1, July 1, and October 1 and ending with the last such day to occur prior to May 30, 2030. The remaining principal under the Term Loan Facility is scheduled to mature on May 30, 2030. In addition, the Term Loan Credit Agreement permits the Company to add one or more senior secured incremental term loan facilities to the Term Loan Facility subject to the satisfaction of certain conditions.

The Company used $234,818 under the Term Loan Facility and $115,182 of cashless rollover from continuing lenders, together with cash on hand, to refinance the full amount of indebtedness outstanding under the Company's previous Term Loan Facility that was due to mature in 2024, as well as to pay related fees and expenses.

The obligations under the Term Loan Facility are unconditionally guaranteed by each Subsidiary Guarantor of the Company, subject to certain exceptions (Guarantors). The Term Loan Facility is secured by (i) a perfected first priority security interest in substantially all of the assets of the Company and the Guarantors (other than the U.S. ABL Priority Collateral (as defined below)), including all of the total outstanding voting capital stock held by the Company and the Guarantors (subject to a limitation of 65% on pledges of such capital stock of certain foreign subsidiaries and domestic holding companies of foreign subsidiaries) and (ii) a perfected second priority interest in all of the U.S. ABL Priority Collateral. The Term Loan Facility is structurally senior to the Company's Senior Notes due 2029.

Based on certain parameters defined in the Term Loan Facility, including a Secured Leverage Ratio, the Company may be required to make an additional principal payment on an annual basis if its Secured Leverage Ratio is greater than 2.0.

Borrowings under the Term Loan Credit Agreement are subject to certain affirmative and negative covenants, including limitations on indebtedness, corporate transactions, investments, dispositions, and share payments.

Asset-Based Lending Agreements

The Company amended and restated its U.S. Asset-Based Lending Credit Agreement (U.S. ABL) on May 30, 2023 and its Asia Asset-Based Lending Credit Agreement (Asia ABL) on June 14, 2023. Both agreements were amended for the benchmark interest rate and margins and maturity was extended to May 2028 and June 2028 for the U.S. ABL and the Asia ABL (collectively the ABL Revolving Loans), respectively.

The U.S. ABL is comprised of a revolving credit facility for up to $150,000 and a sublimit for letter of credit for up to $50,000, provided that at no time may amounts outstanding under the agreement exceed in the aggregate $150,000 or the applicable borrowing base, which is the sum of (i) a percentage of the principal amount of "Eligible Accounts", plus (ii) a percentage of the net orderly liquidation value of (x) "Eligible Inventory", minus (y) "Inventory Reserves" applicable thereto, minus (iii) "Reserves", each as defined in the U.S. ABL agreement. Borrowings under the U.S. ABL bear interest at a floating rate of Term SOFR plus a margin ranging from 1.25% to 1.50%. The applicable margin can vary based on the remaining availability of the facility, from 1.25% to 1.50% for Term SOFR-based loans and from 0.25% to 0.50% for JPMorgan Chase Bank's prime rate-based loans. Other than availability and an event of default, there are no other provisions for the interest margin to increase.

The U.S. ABL is scheduled to mature on May 30, 2028. The Guarantors have also fully guaranteed the full and timely payment of all obligations in respect of the U.S. ABL. Loans made under the U.S. ABL are secured by a perfected first priority security interest in certain deposit accounts, cash and cash equivalents, accounts receivable and certain U.S. inventory (U.S. ABL Priority Collateral) as well as by a perfected second priority interest in all of the collateral securing the Term Loan Facility.

The Asia ABL is comprised of a revolving credit facility for up to $150,000 and a sublimit for letter of credit for up to $100,000, provided that at no time may amounts outstanding under the agreement exceed in aggregate $150,000 or the applicable borrowing base, which is a percentage of the principal amount of Eligible Accounts, as defined in the Asia ABL agreement. Borrowings under the Asia ABL bear interest at a floating rate of Term SOFR plus 1.30%. There is no provision, other than an event of default, for the interest margin to increase. As of January 1, 2024, the interest rate on the outstanding borrowings under the Asia ABL was 6.65%. As of January 1, 2024, $80,000 under the Asia ABL was outstanding and classified as long-term debt, which is consistent with its maturity date.

The Asia ABL is scheduled to mature on June 13, 2028. Loans made under the Asia ABL are secured by a portion of the Company's Asia Pacific cash and receivables and are structurally senior to the Company's domestic obligations, including the Senior Notes due 2029.

As of January 1, 2024, letters of credit in the amount of $6,928 were outstanding under the U.S. ABL and $23,977 were outstanding under the Asia ABL with various maturities through March 2025. Available borrowing capacity under the U.S. ABL and the Asia ABL was $143,072 and $46,023 respectively, which considers letters of credit outstanding as of January 1, 2024.

The Company is required to pay a commitment fee of 0.25% per annum on any unused portion of the ABL Revolving Loans. The Company incurred total commitment fees related to unused borrowing availability of $620, $661 and $663 for the years ended January 1, 2024, January 2, 2023 and January 3, 2022, respectively. Under the occurrence of certain events, the ABL Revolving Loans are subject to various financial covenants, including leverage and fixed charge coverage ratios.

Debt Issuance Costs and Debt Discount

As of January 1, 2024 and January 2, 2023, remaining unamortized debt issuance costs and debt discount for the Senior Notes due 2029 and Term Loan Facility are as follows:

	As of January 1, 2024			As of January 2, 2023		
	Debt Issuance Costs	Debt Discount	Effective Interest Rate	Debt Issuance Costs	Debt Discount	Effective Interest Rate
	(In thousands, except interest rates)					
Senior Notes due March 2029	$ 4,085	$ —	4.18 %	$ 4,779	$ —	4.18 %
Term Loan due May 2030	3,936	3,268	8.26	—	—	—
Term Loan due September 2024	—	—	—	1,301	392	4.66
	$ 8,021	$ 3,268		$ 6,080	$ 392	

The above debt issuance costs and debt discount are recorded as a reduction of the debt and are amortized into interest expense using an effective interest rate over the duration of the debt.

Remaining unamortized debt issuance costs for the ABL Revolving Loans of $1,603 and $792 as of January 1, 2024 and January 2, 2023, respectively, are included in other non-current assets and are amortized to interest expense over the duration of the ABL Revolving Loans using the straight line method of amortization.

As of January 1, 2024, the remaining weighted average amortization period for all unamortized debt issuance costs and debt discount was 5.8 years.

Loss on Extinguishment of Debt

During the year ended January 1, 2024, the Company recognized loss on extinguishment of debt of $1,154, primarily associated with the write-off of the remaining unamortized debt issuance costs and debt discount as a result of the repayment of the remaining outstanding balance of the Term Loan Facility that was due to mature September 2024. During the year ended January 2, 2023, the Company recognized losses of $15,217 associated with the premium paid on extinguishment of debt and the write-off of the remaining unamortized debt issuance costs as a result of the repayment of the remaining outstanding balance of the Senior Notes due 2025.

(8) Income Taxes

The components of income before income taxes for the years ended January 1, 2024, January 2, 2023 and January 3, 2022 are:

	For the Year Ended		
	January 1, 2024	January 2, 2023	January 3, 2022
	(In thousands)		
United States	$ (105,101)	$ (52,468)	$ (28,057)
Foreign	105,398	235,331	98,110
Income before income taxes	$ 297	$ 182,863	$ 70,053

The Company expects its earnings attributable to foreign subsidiaries will not be indefinitely reinvested, except for certain subsidiaries, and the Company has established a deferred tax liability of approximately $6,154 and $982 for the foreign and U.S. federal/state impact, respectively. For those other companies with earnings currently being reinvested outside of the U.S., the undistributed earnings amounted to approximately $60,769 as of January 1, 2024. The determination of the unrecognized deferred tax liability related to these undistributed earnings is approximately $2,703.

The components of income tax provision for the years ended January 1, 2024, January 2, 2023 and January 3, 2022 are:

	For the Year Ended		
	January 1, 2024	January 2, 2023	January 3, 2022
	(In thousands)		
Current (provision) benefit:			
Federal	$ 445	$ (2,591)	$ (1,125)
State	(1,592)	(1,812)	547
Foreign	(29,094)	(23,453)	(9,211)
Total current	(30,241)	(27,856)	(9,789)
Deferred (provision) benefit:			
Federal	1,321	(29,093)	2,889
State	271	(3,905)	(1,492)
Foreign	9,634	(27,426)	(7,247)
Total deferred	11,226	(60,424)	(5,850)
Income tax provision	$ (19,015)	$ (88,280)	$ (15,639)

The following is a reconciliation of the provision for income taxes at the statutory federal income tax rate compared to the Company's provision for income taxes for the years ended January 1, 2024, January 2, 2023 and January 3, 2022:

	For the Year Ended		
	January 1, 2024	January 2, 2023	January 3, 2022
	(In thousands)		
Statutory federal income tax provision	$ (62)	$ (38,401)	$ (14,711)
State income taxes, net of federal benefit and state tax credits	(1,875)	1,750	1,815
IRC Section 162(m) limitation	(2,121)	(791)	(725)
Stock options	(651)	(599)	89
Global Intangible Low-Taxed Income	(12,639)	(19,240)	(9,824)
Foreign tax credits	14,916	17,343	3,028
Permanently reinvested earnings assertion	(3,934)	(2,721)	(1,392)
Foreign tax differential on foreign earnings & other permanent items	3,788	1,504	3,917
Change in valuation allowance	(13,460)	(50,805)	(1,139)
Uncertain tax positions	957	(85)	(642)
Federal research and development credits	4,665	4,319	3,400
Goodwill impairment	(9,261)	—	—
Other	662	(554)	545
Income tax provision	$ (19,015)	$ (88,280)	$ (15,639)

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. The significant components of the net deferred income tax (liabilities) assets as of January 1, 2024 and January 2, 2023 are as follows:

	As of	
	January 1, 2024	January 2, 2023
	(In thousands)	
Deferred income tax assets:		
Net operating loss carryforwards	$ 30,098	$ 33,092
Reserves and accruals	60,023	60,360
Interest expense limitation	959	115
Unrealized gain on cash flow hedge	(1,221)	(276)
Tax credit carryforwards	35,760	36,192
Stock-based compensation	5,312	5,076
Property, plant and equipment	4,733	5,983
Other deferred income tax assets	883	2,848
	136,547	143,390
Less: valuation allowance	(81,779)	(67,173)
	54,768	76,217
Deferred income tax liabilities:		
Repatriation of foreign earnings	(7,137)	(7,112)
Property, plant and equipment basis differences	(73,072)	(84,609)
Goodwill and intangible amortization	(11,551)	(31,456)
Other deferred income tax liabilities	(5,149)	(4,882)
Net deferred income tax (liabilities) assets (included in Other long-term liabilities and Deposits and other non-current assets, respectively)	$ (42,141)	$ (51,842)

As of January 1, 2024, the Company had the following net operating loss (NOL) carryforwards: $88,318 in the U.S. for federal, $15,243 in various U.S. states, $25,199 in China, and $23,627 in Hong Kong. The U.S. federal NOLs expire in 2028 through 2032, the various U.S. states' NOLs expire in 2025 through 2043, the China NOLs expire in 2025 through 2033, and the Hong Kong NOLs carryforward indefinitely. Further, the Company's tax credits were approximately $45,777, of which $6,147 carryforward indefinitely.

In connection with the Company's acquisition of Viasystems during 2015, there was more than a 50% change in ownership under Section 382 of the Internal Revenue Code of 1986, as amended, and regulations issued there under. As a consequence, the utilization of the remaining Viasystems U.S. NOLs is limited to approximately $9,826 per year and total $88,318.

A valuation allowance is provided when it is more likely than not that all or some portion of the deferred income tax assets will not be realized. The Company established a valuation allowance on its U.S. net deferred tax assets in the current year mainly due to cumulative book losses in the U.S. In addition, certain subsidiaries in various tax jurisdictions continue to have NOL carryforwards, which the Company has determined are not more likely than not to be utilized. As a result, a full valuation allowance has been recorded for these subsidiaries as of January 1, 2024. For the remaining net deferred income tax assets, management has determined that it is more likely than not that the results of future operations will generate sufficient income to realize the net deferred tax assets.

The following summarizes the activity in the Company's valuation allowance for the years ended January 1, 2024, January 2, 2023 and January 3, 2022:

	For the Year Ended		
	January 1, 2024	January 2, 2023	January 3, 2022
		(In thousands)	
Balance at beginning of year	$ 67,173	$ 16,541	$ 15,322
Additions charged to expense	13,811	51,748	2,330
Addition related to acquisition	1,187	—	—
Other reduction charged to expense	(392)	(1,116)	(1,111)
Balance at end of year	$ 81,779	$ 67,173	$ 16,541

Certain entities within China qualified for the high and new technology enterprise (HNTE) status enabling those entities to enjoy certain benefits, which were effective for the years ended January 1, 2024, January 2, 2023 and January 3, 2022. The HNTE status as well as enhanced research and development (R&D) deductions decreased Chinese taxes. HNTE and R&D benefit and effect on earnings per share are as follows:

	For the Year Ended		
	January 1, 2024	January 2, 2023	January 3, 2022
	(In thousands, except per share data)		
HNTE and R&D benefits	$ 6,056	$ 13,480	$ 5,611
Basic shares	102,744	102,074	106,314
Diluted shares	102,744	103,866	108,153
Increases earnings per share:			
Basic	$ 0.06	$ 0.13	$ 0.05
Diluted	$ 0.06	$ 0.13	$ 0.05

HNTE status expired for certain subsidiaries in 2024, but the Company expects to continue to file for renewal of such HNTE status for the foreseeable future.

A reconciliation of the beginning and ending amount of unrecognized tax benefits, exclusive of accrued interest and penalties, is as follows:

	For the Year Ended		
	January 1, 2024	January 2, 2023	January 3, 2022
		(In thousands)	
Balance at beginning of year	$ 9,778	$ 9,442	$ 7,404
Additions based on tax positions related to the current year	934	820	2,749
Additions for tax positions of prior years	13	—	41
Reductions for tax positions of prior years	—	(72)	(357)
Lapse of statute of limitations	(362)	(412)	(395)
Balance at end of year	$ 10,363	$ 9,778	$ 9,442

During the year ended January 1, 2024, the Company increased uncertain tax positions by $585 due to (i) U.S. R&D credit generation in 2023, offset by (ii) release of uncertain tax positions due to statute of limitation expiration.

As of January 1, 2024, and January 2, 2023, the Company recorded unrecognized tax benefits of $449 and $776, respectively, as well as interest and penalties of $434 and $1,028, respectively, to current and long-term liabilities. The Company has also recorded unrecognized tax benefits of $9,915 and $9,002 against certain deferred tax assets as of January 1, 2024, and January 2, 2023, respectively. The amount of unrecognized tax benefits that would, if recognized, reduce the Company's effective income tax rate in any future periods is $883 including interest and penalties. The Company does not expect any of its unrecognized tax benefits to be released in the next twelve months.

As of January 1, 2024, the Company is open for (i) U.S. federal income tax examination for the period from 2020 to 2023 and NOL and credit carryforwards are subject to adjustment for 3 years post utilization, (ii) state and local income tax examination for tax years 2019 to 2023 and NOL and credit carryforwards are subject to adjustment for 4 years post utilization; and (iii) foreign income tax examinations generally for tax years from 2013 to 2023.

(9) Financial Instruments

Derivatives

Interest Rate Swaps

The Company's business is exposed to risk resulting from fluctuations in interest rates on certain SOFR-based variable rate debt. Increases in interest rates increase interest expenses relating to the outstanding variable rate borrowings and increase the cost of debt. Fluctuations in interest rates can also lead to significant fluctuations in the fair value of the debt obligations.

On March 23, 2023, the Company entered into a four-year pay-fixed, receive floating (1-month CME Term SOFR), interest rate swap arrangement with a notional amount of $250,000 for the period beginning April 1, 2023 and ending on April 1, 2027. Under the terms of the interest rate swap, the Company pays a fixed rate of 3.49% against a portion of its Term SOFR-based debt and receives a floating 1-month CME Term SOFR during the swap period.

At inception, the Company designated the interest rate swap as a cash flow hedge and the fair value of the interest rate swap was zero. As of January 1, 2024, the fair value of the interest rate swap was recorded, of which $3,253 is included as a component of prepaid expenses and other current assets and $1,476 is included as a component of other long-term liabilities. The change in the fair value of the interest rate swap is recorded as a component of accumulated other comprehensive loss, net of tax in the Company's consolidated balance sheets. No ineffectiveness was recognized for the year ended January 1, 2024. The interest rate swap decreased interest expense by $3,243 for the year ended January 1, 2024.

Foreign Exchange Contracts

The Company's foreign subsidiaries may at times purchase forward exchange contracts to manage their foreign currency risks in relation to certain purchases of machinery denominated in foreign currencies other than the Company's functional currencies. The notional amount of the foreign exchange contracts was $1,925 (Euro (EUR) 1.8 million) and $1,625 (EUR 1.4 million) as of January 1, 2024 and January 2, 2023, respectively. The Company has designated certain of these foreign exchange contracts as cash flow hedges.

Commodity Price Risk Management

The Company uses various raw materials in the manufacturing of PCBs. Copper clad laminates (CCLs), a key raw material for the manufacture of PCBs, are made from epoxy resin, glass cloth and copper foil. The Company only buys a small amount of copper directly. However, copper is a major driver of laminate cost. The Company enters into commodity contracts to hedge copper as a proxy for hedging laminate. As of January 1, 2024, the Company has commodity contracts with a notional quantity of (i) 0.7 metric tonnes for the period beginning January 1, 2024 and ending on March 31, 2024, (ii) 0.6 metric tonnes for the period beginning April 1, 2024 and ending on June 30, 2024, (iii) 0.6 metric tonnes for the period beginning July 1, 2024 and ending on September 30, 2024, and (iv) 0.5 metric tonnes for the period beginning October 1, 2024 and ending on December 31, 2024. As of January 1, 2024 and January 2, 2023, the fair value of the commodity contracts was recorded as a liability in the amount of $297 and $1,489, respectively, and included as a component of other current liabilities. The changes in the fair value of these commodity contracts are recorded in cost of goods sold in the consolidated statements of operations. The commodity contracts increased cost of goods sold by $372 and $2,605 for the years ended January 1, 2024 and January 2, 2023, respectively and decreased cost of goods sold by $297 for the year ended January 3, 2022. These commodity contracts are not designated as accounting hedges.

The fair values of derivative instruments in the consolidated balance sheets are as follows:

		Asset/(Liability) Fair Value	
	Balance Sheet Location	January 1, 2024	January 2, 2023
		(In thousands)	
Cash flow derivative instruments designated as hedges:			
Interest rate swap	Prepaid expenses and other current assets	$ 3,253	$ —
Foreign exchange contracts	Prepaid expenses and other current assets	29	—
Foreign exchange contracts	Other current liabilities	—	(133)
Interest rate swap	Other long-term liabilities	(1,476)	—
Cash flow derivative instruments not designated as hedges:			
Commodity contracts	Other current liabilities	(297)	(1,489)

The following table provides information about the amounts recorded in accumulated other comprehensive loss related to derivatives designated as cash flow hedges, as well as the amounts recorded in each caption in the consolidated statements of operations when derivative amounts are reclassified out of accumulated other comprehensive loss for the years ended January 1, 2024, January 2, 2023, and January 3, 2022:

		For the Year Ended					
		January 1, 2024		January 2, 2023		January 3, 2022	
	Financial Statement Caption	Gain Recognized in Other Comprehensive Loss	Amounts Reclassified into Income	Gain Recognized in Other Comprehensive Income	Amounts Reclassified into Income	Loss Recognized in Other Comprehensive Loss	Amounts Reclassified into Income
		(In thousands)					
Cash flow hedge:							
Interest rate swap	Interest expense	$ 5,020	$ (3,243)	$ 190	$ (4,105)	$ (599)	$ (11,272)

The following table provides a summary of the activity associated with the designated cash flow hedges reflected in accumulated other comprehensive loss for the years ended January 1, 2024, January 2, 2023, and January 3, 2022:

	For the Year Ended		
	January 1, 2024	January 2, 2023	January 3, 2022
		(In thousands)	
Beginning balance, net of tax	$ (85)	$ (3,223)	$ (11,231)
Changes in fair value gain (loss), net of tax	4,061	(91)	(515)
Reclassification to earnings	(2,713)	3,229	8,523
Ending balance, net of tax	$ 1,263	$ (85)	$ (3,223)

Based on the current yield curve, the Company expects that gains of approximately $2,445 of accumulated other comprehensive loss will be reclassified into the consolidated statement of operations, net of tax, in the next twelve months.

(10) Accumulated Other Comprehensive Loss

The following provides a summary of the components of accumulated other comprehensive loss, net of tax as of January 1, 2024, January 2, 2023 and January 3, 2022:

	Foreign Currency Translation	Pension Obligation	(Losses) Gains on Cash Flow Hedges	Total
		(In thousands)		
Ending balance as of January 3, 2022	$ (23,899)	$ (133)	$ (3,223)	$ (27,255)
Other comprehensive (loss) income before reclassifications	(2,085)	1,412	(91)	(764)
Amounts reclassified from accumulated other comprehensive income	—	—	3,229	3,229
Net year to date other comprehensive (loss) income	(2,085)	1,412	3,138	2,465
Ending balance as of January 2, 2023	(25,984)	1,279	(85)	(24,790)
Other comprehensive (loss) income before reclassifications	(6,876)	1,251	4,061	(1,564)
Amounts reclassified from accumulated other comprehensive income	—	—	(2,713)	(2,713)
Net year to date other comprehensive (loss) income	(6,876)	1,251	1,348	(4,277)
Ending balance as of January 1, 2024	$ (32,859)	$ 2,530	$ 1,263	$ (29,067)

(11) Significant Customers and Concentration of Credit Risk

Financial instruments that are potentially subject to concentrations of credit risk are primarily cash and cash equivalents and accounts receivable.

The Company had cash and cash equivalents held by its foreign subsidiaries of $195,928 and $161,708 as of January 1, 2024 and January 2, 2023, respectively. The Company maintains its cash and cash equivalents with major financial institutions and such balances exceed Federal Deposit Insurance Corporation insurance limits. The Company has not experienced any losses in such accounts and believes it is not exposed to any significant risk on cash and cash equivalents.

In the normal course of business, the Company extends credit to its customers. Some customers to whom the Company extends credit are located outside the United States. The Company performs ongoing credit evaluations of customers, does not require collateral, and considers the credit risk profile of the entity from which the receivable is due in further evaluating collection risk. There were no customers that accounted for 10% or more of accounts receivable as of January 1, 2024. As of January 2, 2023, there was one customer that accounted for 11% of the Company’s accounts receivable.

The Company’s customers include both OEMs and EMS companies. The Company’s OEM customers often direct a significant portion of their purchases through EMS companies. While the Company’s customers include both OEM and EMS providers, the Company measures customer concentration based on OEM companies, as they are the ultimate end customers.

For the year ended January 1, 2024, one customer accounted for approximately 13% of the Company’s net sales. For each of the years ended January 2, 2023 and January 3, 2022, one customer accounted for approximately 10% of the Company’s net sales.

(12) Fair Value Measures

The Company measures at fair value its financial and non-financial assets by using a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, essentially an exit price, based on the highest and best use of the asset or liability.

The carrying amount and estimated fair value of the Company's financial instruments as of January 1, 2024 and January 2, 2023 were as follows:

	As of January 1, 2024		As of January 2, 2023	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
	(In thousands)			
Derivative assets, current	$ 3,282	$ 3,282	$ —	$ —
Derivative liabilities, current	297	297	1,622	1,622
Derivative liabilities, non-current	1,476	1,476	—	—
Senior Notes due March 2029	495,915	455,035	495,221	430,165
Term Loan due May 2030	341,921	351,743	—	—
Term Loan due September 2024	—	—	404,186	405,628
ABL Revolving Loans	80,000	80,000	30,000	30,000

The fair value of the derivative instruments was determined using pricing models developed based on the 1-month CME Term SOFR swap rate, foreign currency exchange rates, and other observable market data, including quoted market prices, as appropriate using Level 2 inputs. The values were adjusted to reflect non-performance risk of both the counterparty and the Company, as necessary.

The fair value of the long-term debt was estimated based on quoted market prices or discounting the debt over its life using current market rates for similar debt as of January 1, 2024 and January 2, 2023, which are considered Level 2 inputs.

The fair value of plan assets in the defined benefit plan of $23,249 and $21,637 as of January 1, 2024 and January 2, 2023, respectively, were not included in the table above and was estimated based on quoted market prices of the securities that are actively traded and price quotes that are readily available, which are considered Level 1 inputs. See Note 15 for further details of the plan assets measured at fair value in the defined benefit plan.

As of January 1, 2024 and January 2, 2023, the Company's other financial instruments included cash and cash equivalents, accounts receivable, contract assets, accounts payable, and contract liabilities. The carrying amount of these instruments approximates fair value.

The majority of the Company's non-financial assets and liabilities, which include goodwill, intangible assets, inventories, and property, plant and equipment, are not required to be carried at fair value on a recurring basis. However, if certain triggering events occur (or are tested at least annually in the case of goodwill) such that a non-financial instrument is required to be evaluated for impairment, based upon a comparison of the non-financial instrument's fair value to its carrying value, an impairment is recorded to reduce the carrying value to the fair value, if the carrying value exceeds the fair value.

As of January 1, 2024, the Company's goodwill balance related to its RF&S Components reporting unit of $63,900 was measured at fair value on a nonrecurring basis. The Company recorded a non-cash goodwill impairment charge of $44,100 related to its RF&S Components reporting unit during the year ended January 1, 2024. The fair value of goodwill was determined using both a DCF and a market approach, which are considered Level 3 inputs. The Company used risk adjusted discount rate of 12% to discount the expected future cash flows. There was no impairment of long-lived assets recognized for the years ended January 1, 2024, January 2, 2023, and January 3, 2022.

(13) Commitments and Contingencies

Legal Matters

The Company is subject to various legal matters, which it considers normal for its business activities. While the Company currently believes that the amount of any reasonably possible loss for known matters would not be material to the Company's financial condition, the outcome of these actions is inherently difficult to predict. In the event of an adverse outcome, the ultimate potential loss could have a material adverse effect on the Company's financial condition or results of operations in a particular period. The Company has accrued amounts for its loss contingencies which are probable and estimable as of January 1, 2024 and January 2, 2023. However, these amounts are not material to the consolidated financial statements of the Company.

Offset Agreements

The Company has and may continue to enter into industrial cooperation agreements, sometimes referred to as offset agreements, as a condition to obtaining orders for products and services from customers in foreign countries. These agreements are intended to promote investment in the applicable country, and the Company's obligations under these agreements may be satisfied through activities that do not require the Company to use cash, including transferring technology or providing manufacturing and other consulting support. The obligations under these agreements may also be satisfied through the use of cash for activities such as purchasing supplies from in-country vendors, setting up support centers, research and development investments, acquisitions, and building or leasing facilities for in-country operations, if applicable. The amount of the offset requirement is determined by contract value awarded and negotiated percentages with customers. As of January 1, 2024, the Company had outstanding offset agreements of approximately $27,963, some of which extend through 2028. Offset programs usually extend over several years and in some cases provide for penalties in the event the Company fails to perform in accordance with contract requirements. Historically, the Company has not paid any such penalties, and as of January 1, 2024, no such penalties have been paid.

(14) Stock-Based Compensation

Incentive Compensation Plan

The Company maintains a 2023 Incentive Compensation Plan (the Plan), which allows for issuance of up to 5,100 shares through its latest possible expiration date in May 2033.

The Plan provides for the grant of performance-based restricted stock units (PRUs), restricted stock units (RSUs), and stock appreciation rights. The exercise price for awards is determined by the compensation committee of the board of directors. Each award shall vest and expire as determined by the compensation committee of the board of directors, with PRUs and RSUs generally vesting over three years for employees and one year for non-employee directors. PRUs and RSUs do not have voting rights. All grants provide for accelerated vesting if there is a change in control, as defined in the Plan.

As of January 1, 2024, 570 PRUs, 4,131 RSUs and 60 stock options were outstanding under the Plan. Included in the 570 PRUs outstanding as of January 1, 2024 are 227 vested but not yet released. Included in the 4,131 RSUs outstanding as of January 1, 2024 are 678 vested but not yet released RSUs associated with non-employee directors. These RSUs vest over one year with release of the underlying shares of common stock deferred until retirement from the board of directors (or until one year after retirement in the case of certain prior grants).

Performance-based Restricted Stock Units

The Company maintains a long-term incentive program for executives that provides for the issuance of PRUs, representing hypothetical shares of the Company's common stock that may be issued. Under the PRU program, a target number of PRUs is awarded at the beginning of each three-year performance period. The number of shares of common stock released at the end of the performance period may range from zero to 2.4 times the target number depending on performance during the period. The performance metrics of the PRU program are based on (a) annual financial targets, which are based on revenue and earnings before interest, tax, depreciation, and amortization expense (EBITDA), each equally weighted, and (b) an overall modifier based on the Company's total stockholder return (TSR) relative to a group of peer companies selected by the Company's compensation committee, over the three-year performance period.

Under the PRU program, financial goals are set at the beginning of each fiscal year and performance is reviewed at the end of that year. The percentage to be applied to each participant's target award ranges from zero to 160% based upon the extent to which the annual financial performance goals are achieved. If specific performance threshold levels for the annual financial goals are met, the amount earned for that element will be applied to one-third of the participants' PRU award to determine the number of units earned.

At the end of the three-year performance period, the total units earned, if any, are adjusted by applying a modifier, ranging from zero to 150% based on the Company's TSR based on stock price changes relative to a group of peer companies selected by the Company's compensation committee for the same three-year period.

The TSR modifier is intended to ensure that there are limited or no payouts under the PRU program if the Company's stock performance is significantly below the median TSR of a group of peer companies selected by the Company's compensation committee over the three-year performance period. Where the annual financial goals have been met and where there has been strong relative TSR performance over the three-year performance period, the PRU program may provide substantial rewards to participants with a maximum payout of 2.4 times the initial PRU award. However, even if all of the annual financial metric goals are achieved in each of the three years, there will be no payouts if the Company's stock performance is below that of the 10th percentile of the group of peer companies selected by the Company's compensation committee.

Recipients of PRU awards generally must remain employed by the Company on a continuous basis through the end of the three-year performance period in order to receive any amount of the PRUs covered by that award. In events such as death, disability or retirement, the recipient may be entitled to pro-rata amounts of PRUs as defined in the Plan. Target shares subject to PRU awards do not have voting rights of common stock until earned and issued following the end of the three-year performance period.

The Company records stock-based compensation expense for PRU awards granted based on management's periodic assessment of the annual financial performance goals to be achieved. As of January 1, 2024, management determined that vesting of the PRU awards was probable. PRU activity for the year ended January 1, 2024 was as follows:

	Shares (In thousands)	Weighted Average Fair Value
Outstanding shares as of January 2, 2023	391	$ 15.55
Granted	327	16.34
Vested	(227)	16.12
Change in units due to annual performance achievement	(149)	16.22
Outstanding shares as of January 1, 2024	342	$ 15.64

The fair value of PRUs granted is calculated using a Monte Carlo simulation model, as the TSR modifier contains a market condition. For the years ended January 1, 2024, January 2, 2023 and January 3, 2022, the following assumptions were used in determining the fair value:

	For the Year Ended		
	January 1, 2024 [(1)]	January 2, 2023 [(2)]	January 3, 2022 [(3)]
Weighted-average fair value	$ 16.36	$ 15.02	$ 14.23
Risk-free interest rate	4.46%	1.44%	0.18%
Dividend yield	—	—	—
Expected volatility	42%	30%	47%

(1) Reflects the weighted-averages for the third year of the three-year performance period applicable to PRUs granted in 2021, the second year of the three-year performance period applicable to PRUs granted in 2022 and the first year of the three-year performance period applicable to PRUs granted in 2023.

(2) Reflects the weighted-averages for the third year of the three-year performance period applicable to PRUs granted in 2020, the second year of the three-year performance period applicable to PRUs granted in 2021 and the first year of the three-year performance period applicable to PRUs granted in 2022.

(3) Reflects the weighted-averages for the third year of the three-year performance period applicable to PRUs granted in 2019, the second year of the three-year performance period applicable to PRUs granted in 2020 and the first year of the three-year performance period applicable to PRUs granted in 2021.

The risk-free interest rate for the expected term of PRUs is based on the U.S. Treasury yield curve in effect at the time of grant. Expected volatility is calculated using the Company's historical stock price.

Restricted Stock Units

RSU activity for the year ended January 1, 2024 was as follows:

	Shares (In thousands)	Weighted Average Grant-Date Fair Value
Non-vested RSUs outstanding as of January 2, 2023	3,063	$ 12.96
Granted	2,076	13.85
Vested	(1,430)	13.93
Cancelled	(256)	13.35
Non-vested RSUs outstanding as of January 1, 2024	3,453	$ 13.52
Vested and expected to vest through 2026 as of January 1, 2024	4,131	$ 13.25

The fair value of the Company's RSUs is determined based upon the closing common stock price on the grant date. The weighted average fair value per unit of RSUs granted was $13.85, $12.72 and $14.40 for the years ended January 1, 2024, January 2, 2023 and January 3, 2022, respectively. The total fair value of RSUs vested for the years ended January 1, 2024, January 2, 2023 and January 3, 2022 was $19,928, $15,510 and $17,185, respectively.

Stock Options

As of January 1, 2024, stock options outstanding was 60. This is not material to the consolidated financial statements of the Company.

Stock-based Compensation Expense and Unrecognized Compensation Costs

For the years ended January 1, 2024, January 2, 2023 and January 3, 2022, the amounts recognized in the consolidated statements of operations with respect to the stock-based compensation plan are as follows:

	For the Year Ended		
	January 1, 2024	January 2, 2023	January 3, 2022
		(In thousands)	
Cost of goods sold	$ 7,455	$ 5,846	$ 4,714
Selling and marketing	3,205	2,749	2,540
General and administrative	11,088	9,808	9,718
Research and development	1,139	1,122	739
Stock-based compensation expense recognized	$ 22,887	$ 19,525	$ 17,711

The following is a summary of total unrecognized compensation costs as of January 1, 2024:

	Unrecognized Stock-Based Compensation Cost	Remaining Weighted Average Recognition Period
	(In thousands)	(In years)
RSU awards	$ 34,845	1.4
PRU awards	1,890	1.6
	$ 36,735	

(15) Employee Benefit Plans, Deferred Compensation Plan and Retirement Benefit Plan

As of January 1, 2024, the Company has several defined contribution plans. In North America, the Company has savings plans (the Savings Plans) in which eligible full-time employees can participate and contribute a percentage of compensation subject to the maximum allowed by the tax agencies. The Savings Plans provides for a partial match by the Company. In China, the Company contributes to either separate trust-administered funds or various government-sponsored pension plans on a mandatory basis. For all defined contribution plans, the Company has no further payment obligation once the required contributions have been made. The Company recorded contributions to defined contribution plans of $36,843, $36,385 and $29,464 during the years ended January 1, 2024, January 2, 2023 and January 3, 2022, respectively.

The Company also maintains a deferred compensation plan (the Compensation Plan). The Compensation Plan is an unfunded, nonqualified deferred compensation plan and is limited to selected employees, including the Company’s named executive officers and directors. The Compensation Plan allows participants to defer up to 100% of their annual bonus and between 5% and 100% of their annual director fees. Amounts deferred under the Compensation Plan will be credited to accounts maintained by the Company for each participant and will be credited or debited with the participant’s proportionate share of any gains or losses attributable to the performance of investment options selected by the participant.

Following the acquisition of Anaren on April 18, 2018, the Company has a noncontributory defined benefit pension plan covering eligible employees. Effective August 15, 2000, the plan was closed for new participants. Benefits under this plan generally are based on the employee’s years of service and compensation. Effective December 31, 2019, the plan is frozen as to further participation and to further benefit accruals.

As of January 1, 2024 and January 2, 2023, the funded status of the accumulated benefit obligation was 97% and 90%, respectively. The Company does not expect to fund a minimum required contribution during fiscal year 2024.

The following tables set forth the changes in benefit obligation and the plan assets in the defined benefit plan described above for the years ended January 1, 2024, January 2, 2023 and January 3, 2022:

Change in Benefit Obligations	For the Year Ended January 1, 2024	January 2, 2023	January 3, 2022
		(In thousands)	
Benefit obligation at beginning of year	$ (24,108)	$ (31,554)	$ (33,470)
Interest cost	(1,155)	(803)	(722)
Actuarial (loss) gain	(247)	7,033	1,304
Benefits paid	1,425	1,216	1,334
Benefit obligation at end of year	$ (24,085)	$ (24,108)	$ (31,554)
Accumulated benefit obligation at end of year	$ 24,085	$ 24,108	$ 31,554

Change in Plan Assets	For the Year Ended January 1, 2024	January 2, 2023	January 3, 2022
		(In thousands)	
Fair value of plan assets at beginning of year	$ 21,637	$ 26,278	$ 23,484
Actual return on plan assets	3,038	(3,760)	3,526
Employer contributions	—	335	602
Benefits paid	(1,426)	(1,216)	(1,334)
Fair value of plan assets at end of year	$ 23,249	$ 21,637	$ 26,278
Unfunded status	$ (836)	$ (2,471)	$ (5,276)
Net amount recognized	$ (836)	$ (2,471)	$ (5,276)

Amounts before income tax effect recognized in the consolidated balance sheets consists of the following:

	As of January 1, 2024	January 2, 2023
	(In thousands)	
Other long-term liabilities	$ (836)	$ (2,471)
Net amount recognized	$ (836)	$ (2,471)

Amounts before income tax effect included in accumulated other comprehensive loss as of January 1, 2024 and January 2, 2023 are as follows:

	January 1, 2024	January 2, 2023
	(In thousands)	
Net actuarial gain	$ 3,256	$ 1,616
Accumulated other comprehensive gain	$ 3,256	$ 1,616

The net actuarial gain during the year ended January 1, 2024 was primarily driven by an increase in actual return on plan assets.

The components included in the net periodic benefit income (cost) and the increase in minimum liability included in other comprehensive loss for the years ended January 1, 2024, January 2, 2023 and January 3, 2022 are as follows:

	For the Year Ended January 1, 2024	January 2, 2023	January 3, 2022
		(In thousands)	
Interest cost	$ 1,155	$ 803	$ 722
Expected return on plan assets	(1,150)	(1,419)	(1,279)
Amortization of net actuarial loss	—	—	23
Net periodic benefit income (cost)	$ 5	$ (616)	$ (534)

The weighted-average assumptions used to determine benefit obligations for this plan as of January 1, 2024, January 2, 2023 and January 3, 2022 are as follows:

	January 1, 2024	January 2, 2023	January 3, 2022
Discount rate	4.74 %	4.94 %	2.60 %
Expected return on plan assets	5.50	5.50	5.50

The Company determines the discount rate assumption based on an analysis using the discount rates from an industry standard curve that is based on high quality corporate bonds and the expected benefit payments from the plan.

The weighted-average assumptions used to determine net periodic benefit income (cost) for the years ended January 1, 2024, January 2, 2023 and January 3, 2022 are as follows:

	For the Year Ended		
	January 1, 2024	January 2, 2023	January 3, 2022
Discount rate	4.94 %	2.60 %	2.20 %
Expected return on plan assets	5.50	5.50	5.50

The Company determines the expected long-term rate of return on plan assets based upon recommendations from its pension plan's investment advisors and using an allocation approach that considers diversification and rebalancing for a portfolio of assets invested over a long-term time horizon. The approach relies on the historical returns of the plan's portfolio and relationships between equities and fixed income investments, consistent with the widely accepted capital market principle that a diversified portfolio with a larger allocation to equity investments can generate a greater return over the long run. Additionally, the Company monitors the mix of investments in its portfolio to ensure alignment with its expected long-term pension obligations. The Company reviews the expected long-term rate of return annually and revises it as appropriate.

Investments shall be made pursuant to the following objectives: 1) preserve the purchasing power of the plan’s assets adjusted for inflation; 2) provide long-term growth; and 3) avoid significant volatility. Asset allocation shall be determined based on a long-term target allocation having 29% of assets invested in large-cap stocks, 11% in mid-cap stocks, 11% in small-cap stocks, 11% in international stocks, 34% in the broad bond market, and 3% in the real estate market, with little or none invested in cash. Both the investment allocation and the plan performance are reviewed periodically.

The target allocation for 2024 and the plan asset allocation at the end of 2023 and 2022, in percentages, by asset category are as follows:

	Target Allocation 2024	January 1, 2024	January 2, 2023
Equity securities (1)	65 %	65 %	66 %
Debt securities (2)	34	32	33
Cash and cash equivalents (3)	1	3	1
Total	100 %	100 %	100 %

The following table summarizes plan assets measured at fair value as of January 1, 2024 and January 2, 2023:

	As of January 1, 2024			
	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
	(In thousands)			
Equity securities [1]	$ 15,171	$ 15,171	$ —	$ —
Debt securities [2]	7,380	7,380	—	—
Cash and cash equivalents [3]	698	698	—	—
Total	$ 23,249	$ 23,249	$ —	$ —

	As of January 2, 2023			
	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
	(In thousands)			
Equity securities [1]	$ 14,221	$ 14,221	$ —	$ —
Debt securities [2]	7,208	7,208	—	—
Cash and cash equivalents [3]	208	208	—	—
Total	$ 21,637	$ 21,637	$ —	$ —

(1) Equity securities include U.S. and foreign exchange traded common and preferred stocks and mutual funds. Common and preferred shares issued by U.S. and non-U.S. corporations are traded actively on exchanges and price quotes for these shares are readily available. Holdings of corporate stock are categorized as Level 1 investments.

(2) Debt securities include the debt of the U.S. Treasury and U.S. and foreign corporate issuers. U.S. Treasury notes and bonds are actively traded and price quotes for these securities are readily available. Holdings of U.S. Treasury notes and bonds are categorized as Level 1 investments.

(3) Cash and cash equivalents include short-term U.S. government investment notes, short-term money market mutual funds, accrued income and cash held on account. Cash held on account and short-term U.S. government investment notes (including accrued income thereon) for which there is an active market and daily pricing for the security are categorized as Level 1 investments.

The Company seeks to maximize medium to long-term returns of the overall pension plan assets with reasonable levels of investment risk. One element of controlling the overall investment risk is through diversification of asset allocation, among domestic and international equity and debt instruments. The plan's equity investments include foreign and domestic exchange traded equities across a range of industries and countries, but primarily in the domestic markets. The plan's debt securities are primarily invested in government and corporate issuers primarily in the domestic market.

The following benefit payments, which reflect expected future service, as appropriate, are expected to be paid:

	(In thousands)
2024	$ 1,544
2025	1,590
2026	1,630
2027	1,652
2028	1,677
Years 2029 through 2032	8,628

(16) Preferred Stock

The board of directors has the authority, without action by stockholders, to designate and issue preferred stock in one or more series. The board of directors may also designate the rights, preferences and privileges of each series of preferred stock, any or all of which may be superior to the rights of the common stock. As of January 1, 2024, no shares of preferred stock were outstanding.

(17) Segment Information

The reportable segments shown below are the Company's segments for which separate financial information is available and upon which operating results are evaluated by the chief operating decision maker to assess performance and to allocate resources. The PCB reportable segment consists of 16 domestic system, sub-system, and PCB plants; four PCB fabrication plants in China; one in Malaysia; and one in Canada. The RF&S Components reportable segment consists of one domestic RF component plant and one RF component plant in China.

The Company, including the chief operating decision maker, evaluates segment performance based on reportable segment income, which is operating income before amortization of intangibles. Interest expense and interest income are not presented by segment since they are not included in the measure of segment profitability reviewed by the chief operating decision maker. All inter-segment transactions have been eliminated.

	For the Year Ended		
	January 1, 2024	January 2, 2023	January 3, 2022
		(In thousands)	
Net Sales:			
PCB	$ 2,194,046	$ 2,437,942	$ 2,186,901
RF&S Components	38,521	57,104	58,583
Other [(1)]	—	—	3,256
Total net sales	$ 2,232,567	$ 2,495,046	$ 2,248,740
Operating Segment Income:			
PCB	$ 271,098	$ 317,316	$ 262,442
RF&S Components	(33,158)	23,534	22,035
Corporate and Other [(1)]	(134,048)	(87,811)	(117,097)
Total operating segment income	103,892	253,039	167,380
Amortization of definite-lived intangibles [(2)]	(61,576)	(42,631)	(41,389)
Total operating income	42,316	210,408	125,991
Total other expense, net	(42,019)	(27,545)	(55,938)
Income before income taxes	$ 297	$ 182,863	$ 70,053

	For the Year Ended		
	January 1, 2024	January 2, 2023	January 3, 2022
		(In thousands)	
Depreciation Expense:			
PCB	$ 90,957	$ 82,760	$ 76,380
RF&S Components	1,833	1,798	1,671
Corporate and Other [(1)]	6,365	6,718	7,891
Total depreciation expense	$ 99,155	$ 91,276	$ 85,942
Capital Expenditures:			
PCB	$ 193,992	$ 90,784	$ 74,028
RF&S Components	733	2,279	1,604
Corporate and Other [(1)]	4,001	4,345	6,735
Total capital expenditures	$ 198,726	$ 97,408	$ 82,367

	As of	
	January 1, 2024	January 2, 2023
	(In thousands)	
Segment Assets:		
PCB	$ 2,032,202	$ 1,890,723
RF&S Components	142,520	202,619
Corporate and Other [(1)]	1,148,941	1,230,262
Total assets	$ 3,323,663	$ 3,323,604

(1) Other represents results from the now closed SH E-MS and SZ facilities. For the year ended January 2, 2023, operating segment income includes the gain on sale of property occupied by the Company's former SH E-MS entity of $51,804.

(2) Amortization of definite-lived intangibles relates to the PCB and RF&S Components reportable segments. For the years ended January 1, 2024, January 2, 2023 and January 3, 2022, $12,901, $5,534 and $5,641, respectively, of amortization expense is included in cost of goods sold.

The Corporate category primarily includes operating expenses that are not included in the segment operating performance measures. Corporate consists primarily of corporate governance functions such as finance, accounting, information technology and human resources personnel, as well as global sales and marketing personnel, research and development costs, and acquisition and integration costs associated with acquisitions and divestitures.

The Company markets and sells its products in approximately 60 countries. Other than in the United States, the Company does not conduct business in any country in which its net sales in that country exceed 10% of the Company's total net sales. Net sales and long-lived assets are as follows:

	2023		2022		2021	
	Net Sales	Long-Lived Assets	Net Sales	Long-Lived Assets	Net Sales	Long-Lived Assets
	(In thousands)					
United States	$ 1,263,065	$ 1,235,255	$ 1,224,334	$ 1,363,754	$ 1,049,590	$ 1,131,663
China [1]	164,280	346,602	330,558	374,474	399,364	382,580
Other	805,222	165,256	940,154	34,450	799,786	28,754
Total	$ 2,232,567	$ 1,747,113	$ 2,495,046	$ 1,772,678	$ 2,248,740	$ 1,542,997

(1) Includes Hong Kong

Net sales are attributed to countries by country invoiced.

(18) (Loss) Earnings Per Share

The following is a reconciliation of the numerator and denominator used to calculate basic earnings per share and diluted earnings per share for the years ended January 1, 2024, January 2, 2023 and January 3, 2022:

	For the Year Ended		
	January 1, 2024	January 2, 2023	January 3, 2022
	(In thousands, except per share amounts)		
Net (loss) income	$ (18,718)	$ 94,583	$ 54,414
Basic weighted average shares	102,744	102,074	106,314
Dilutive effect of performance-based restricted stock units, restricted stock units and stock options	—	1,791	1,639
Dilutive effect of outstanding warrants	—	1	200
Diluted shares	102,744	103,866	108,153
(Loss) earnings per share:			
Basic	$ (0.18)	$ 0.93	$ 0.51
Diluted	$ (0.18)	$ 0.91	$ 0.50

For the year ended January 1, 2024, potential shares of common stock, consisting of stock options to purchase approximately 60 shares of common stock at exercise prices ranging from $11.83 to $16.60 per share, 3,527 RSUs, and 668 PRUs were not included in the computation of diluted earnings per share because the Company incurred a net loss and as a result, the impact would be anti-dilutive.

For the years ended January 2, 2023 and January 3, 2022, PRUs, RSUs and stock options to purchase 535 and 895 shares of common stock, respectively, were not included in the computation of diluted earnings per share. The PRUs were not included in the computation of diluted earnings per share because the performance conditions had not been met, and for RSUs and stock options, the options' exercise prices or the total expected proceeds under the treasury stock method was greater than the average market price of common stock during the applicable year and, as a result, the impact would be anti-dilutive.

There were warrants sold to purchase 707 shares of the Company's common stock for the year ended January 3, 2022.

(19) Share Repurchase Program

On May 3, 2023, the Company's Board of Directors authorized and approved a share repurchase program (the "2023 Repurchase Program"), under which the Company may repurchase up to $100,000 in value of the Company's outstanding shares of common stock from time to time through May 3, 2025. The Company may repurchase shares through open market purchases, privately-negotiated transactions, or otherwise in accordance with applicable federal securities laws, including Rule 10b-18 of the Securities Exchange Act of 1934, as amended (Exchange Act), which sets certain restrictions on the method, timing, price and volume of open market stock repurchases. In addition, the Company expects to adopt one or more trading plans in accordance with Rule 10b5-1 of the Exchange Act to facilitate certain purchases that may be effected under the share repurchase program. The timing, manner, price and amount of any repurchases will be determined at the Company's discretion, and the share repurchase program may be suspended, terminated or modified at any time for any reason. The repurchase program does not obligate the Company to acquire any specific number of shares.

During the year ended January 1, 2024, the Company repurchased 1,804 shares of common stock for a total cost of approximately

$24,432 (including commissions). As of January 1, 2024, the remaining amount in value available to be repurchased under the 2023 Repurchase Program was approximately $75,568.

(20) Restructuring Charges

On February 8, 2023, the Company announced a consolidation plan, pursuant to which the Company ceased operations at three of its manufacturing facilities during the year ended January 1, 2024 and consolidated the operations of those facilities into other Company facilities. The three manufacturing facilities are PCB operations located in Anaheim and Santa Clara, California, and Hong Kong. The Company recorded $20,775 of restructuring charges during 2023 since the February 8, 2023 announcement. In addition, the Company recorded $5,323 of accelerated depreciation expense in the consolidated statements of operations for the year ended January 1, 2024.

In addition to this consolidation plan, the Company recognized $3,577 of employee separation, contract termination and other costs during the year ended January 1, 2024 in connection with other global realignment restructuring efforts. Contract termination and other costs primarily represented plant closure costs.

The below table summarizes such restructuring costs by reportable segment for the years ended January 1, 2024, January 2, 2023, and January 3, 2022:

	For the Year Ended								
	January 1, 2024			January 2, 2023			January 3, 2022		
	Employee Separation/ Severance	Contract Termination and Other Costs	Total	Employee Separation/ Severance	Contract Termination and Other Costs	Total	Employee Separation/ Severance	Contract Termination and Other Costs	Total
	(In thousands)								
Reportable Segment:									
PCB	$ 13,780	$ 9,877	$ 23,657	$ 2,510	$ 1,036	$ 3,546	$ 504	$ 122	$ 626
RF&S Components	14	—	14	—	—	—	—	—	—
Corporate and Other [1]	305	376	681	31	517	548	415	3,204	3,619
	$ 14,099	$ 10,253	$ 24,352	$ 2,541	$ 1,553	$ 4,094	$ 919	$ 3,326	$ 4,245

Accrued restructuring costs are included as a component of other current liabilities in the consolidated balance sheet. The below table shows the utilization of the accrued restructuring costs during the year ended January 1, 2024:

	Employee Separation/ Severance	Contract Termination and Other Costs	Total
	(In thousands)		
Accrued as of January 3, 2022	$ —	$ 34	$ 34
Charged to expense	2,541	1,553	4,094
Amount paid	(31)	(1,584)	(1,615)
Accrued as of January 2, 2023	$ 2,510	$ 3	$ 2,513
Charged to expense	14,099	10,253	24,352
Amount paid, net of government contributions eligible for offsetting	(15,615)	(10,071)	(25,686)
Accrued as of January 1, 2024	$ 994	$ 185	$ 1,179

Exhibit 21.1

LIST OF SUBSIDIARIES OF
TTM TECHNOLOGIES, INC.

Name of Subsidiary	State/Country of Incorporation
TTM Iota Limited	Bermuda
TTM Technologies (Asia Pacific) Limited	Hong Kong
TTM Technologies Cayman Limited	Cayman Islands
TTM Technologies International Limited	Cayman Islands
Meadville Aspocomp (BVI) Holdings Limited	British Virgin Islands
Asia Rich Enterprises Limited	British Virgin Islands
Aspocomp Electronics India Private Limited	India
TTM Technologies China Limited	Hong Kong
OPC Manufacturing Limited	Hong Kong
TTM Technologies Trading (Guangzhou) Co., Ltd.	China
Dongguan Meadville Circuits Limited	China
TTM Technologies North America, LLC	Delaware
Wirekraft Industries, LLC	Delaware
TTM Technologies Europe Limited	United Kingdom
TTM Technologies Toronto, Inc.	Ontario
TTM Technologies Trading (Asia) Company Limited	Hong Kong
TTM Services (Singapore) PTE Ltd.	Singapore
Merix Printed Circuits Technology Limited	China
Viasystems BVI Limited	British Virgin Islands
TTM Technologies Services (BVI) Limited	British Virgin Islands
Viasystems Asia Pacific Company Limited	Hong Kong
TTM Technologies (Hong Kong) Co., Ltd.	Hong Kong
TTM Technologies Shared Services (Guangzhou) Co. Ltd.	China
TTM Technologies International (Switzerland) GmbH	Switzerland
Viasystems EMS (Shenzhen) Co. Ltd.	China
Shanghai Viasystems EMS Co. Ltd.	China
Guangzhou Termbray Electronics Technologies Company Limited	China
Kalex Multilayer Circuit Board (Zhongshan) Ltd.	China
Metropole A Limited	Hong Kong
Metropole B Limited	Hong Kong
Anaren, LLC	Delaware
Anaren Ceramics, Inc.	New Hampshire
Anaren Communication (Suzhou) Co. Ltd.	China
Anaren GP, Inc.	New York
Anaren Microwave, Inc.	Delaware
Unicircuit, Inc.	Colorado
TTM Technologies Japan Kabushiki Kaisha	Japan
TTM Printed Circuit Group, LLC	Delaware
TTM Technologies Malaysia SDN. BHD.	Malaysia
Telephonics Corporation	Delaware
ISC Farmingdale Corporation	New York
TTM Technologies Tel Aviv Ltd.	Israel
TTM RF & Specialty Components, LLC	Delaware

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the registration statements (Nos. 333-46454, 333-138219, 333-198117, 333-211744, and 333-272490) on Form S-8 of our report dated February 27, 2024, with respect to the consolidated financial statements of TTM Technologies, Inc. and the effectiveness of internal control over financial reporting.

/s/ KPMG LLP

Irvine, California
February 27, 2024

Exhibit 31.1

CERTIFICATION

I, Thomas T. Edman, certify that:

1. I have reviewed this annual report on Form 10-K of TTM Technologies, Inc.;

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.

/s/ Thomas T. Edman

Thomas T. Edman
President and Chief Executive Officer
(Principal Executive Officer)

February 27, 2024

Exhibit 31.2

CERTIFICATION

I, Daniel L. Boehle, certify that:

1. I have reviewed this annual report on Form 10-K of TTM Technologies, Inc.;

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.

/s/ Daniel L. Boehle

Daniel L. Boehle
Executive Vice President and Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)

February 27, 2024

Exhibit 32.1

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 on Form 10-K of TTM Technologies, Inc. (the "Company") for the year ended January 1, 2024, as filed with the Securities and Exchange Commission (the "Report"), I, Thomas T. Edman, President and Chief Executive Officer of the Company, certify, to the best of my knowledge, 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 (15 U.S.C. 78m(a) or 78o(d)); and

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

By: /s/ Thomas T. Edman

Thomas T. Edman
President and Chief Executive Officer
(Principal Executive Officer)

February 27, 2024

Exhibit 32.2

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 on Form 10-K of TTM Technologies, Inc. (the "Company") for the year ended January 1, 2024, as filed with the Securities and Exchange Commission (the "Report"), I, Daniel L. Boehle, Executive Vice President and Chief Financial Officer of the Company, certify, to the best of my knowledge, 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 (15 U.S.C. 78m(a) or 78o(d)); and

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

By: /s/ Daniel L. Boehle

Daniel L. Boehle
Executive Vice President and Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)

February 27, 2024

Exhibit 97

TTM Technologies, Inc. (“the Company”)
Executive Compensation Recoupment Policy
As amended and restated by the Board of Directors on November 15, 2023

Administration

This Policy shall be administered by the Compensation Committee (the “Committee”). Any determinations made by the Committee shall be final and binding on all affected individuals. This Policy is designed to comply with Section 10D of the Securities Exchange Act of 1934, as amended, and any applicable rules or standards adopted by the Securities and Exchange Commission or Nasdaq. This policy shall apply in addition to any right of recoupment against the Chief Executive Officer and Chief Financial Officer pursuant to Section 304 of the Sarbanes-Oxley Act of 2002.

Definitions

For purposes of this Policy, a “Covered Executive” is defined as any current or former officer of the Company that has been designated as such by the Committee pursuant to Section 16 of the Securities Exchange Act of 1934, as amended.

For purposes of this Policy, “Covered Compensation” shall include any compensation that is granted, earned, or vested based wholly or in part on the attainment of a “financial reporting measure,” including, but not limited to, the following: (i) annual cash incentive compensation paid to a Covered Executive under the TTM Incentive Plan adopted by the Committee (or any successor annual cash incentive plan adopted by the Committee), (ii) Performance Stock Units (“PSUs”), and/or the resulting shares vested to Covered Executives pursuant to such grant of PSUs. For the avoidance of doubt, Covered Compensation shall not include base salary or time vested Restricted Stock Units granted to Covered Executives.

“Financial reporting measures” include but are not limited to: (i) Company stock price, (ii) total shareholder return, (iii) revenues, (iv) net income, (v) EBITDA, (vi) liquidity measures such as working capital or operating cash flow, (vii) return measures such as return on assets and (viii) earnings measures such as earnings per share.

Recoupment in the Event of an Accounting Restatement

In the event that the Company is required to prepare an accounting restatement due to material non compliance by the Company with any financial reporting requirement under the U.S. Federal Securities laws (an “Accounting Restatement”), the Committee will require, and by the certification required by this Policy, each Covered Executive shall agree to, the reimbursement or forfeiture of any excess Covered Compensation received by any Covered Executive during the three completed fiscal years immediately preceding the date on which the Company is required to prepare an accounting restatement.

In the event of an Accounting Restatement, the amount to be recovered will be the excess of the Covered Compensation paid to the Covered Executive based on the erroneous data over the Covered Compensation that would have been paid to the Covered Executive had it been based on the restated results, as determined by the Committee.

If the Committee cannot determine the amount of excess Incentive Compensation received by the Covered Executive directly from the information in the accounting restatement (e.g., because it was based on stock price or total shareholder return), then it will make its determination based on a reasonable estimate of the effect of the accounting restatement, and it will document and keep record of the method by which it reaches such estimate.

Recoupment for Violations of Code of Conduct

In the event of a material and intentional violation of the Company's Code of Conduct by a Covered Executive, the Committee may require, as and to the extent it deems appropriate at the sole and absolute discretion of the Committee, and by the certification required by this Policy, each Covered Executive shall agree to the reimbursement or forfeiture of all types of compensation received by the Covered Executive during the three completed fiscal years immediately preceding the date of the material and intentional violation of the Code of Conduct. Further, the Company may take such other disciplinary action, including but not limited to actions under other Company policies, against any Covered Executive as it deems necessary and appropriate, including termination of employment.

Method of Recoupment

The Committee will determine, in its sole discretion, the method for recouping compensation hereunder which may include, without limitation:

- requiring reimbursement of cash compensation previously paid;
- seeking recovery of any gain realized on the vesting, exercise, settlement, sale, transfer, or other disposition of any equity-based awards;
- offsetting the recouped amount from any compensation otherwise owed by the Company to the Covered Executive;
- cancelling outstanding vested or unvested equity awards; and/or
- taking any other remedial and recovery action permitted by law, as determined by the Committee.

Certification and Waiver of Indemnification

All Covered Executives will be required to certify their understanding of, and agreement to comply with and return any compensation to the Company pursuant to this Policy, and in connection therewith irrevocably waive any right they may otherwise have to be indemnified by the Company against the loss of any compensation.

Other Recoupment Rights

The Board intends that this Policy will be applied to the fullest extent of the law. The Committee may require that any employment agreement, equity award agreement, or similar agreement, as a condition to the grant of any benefit thereunder, require a Covered Executive to agree to abide by the terms of this Policy. Any right of recoupment under this Policy is in addition to, and not in lieu of, any other remedies or rights of recoupment that may be available to the Company pursuant to the terms of any similar Policy in any employment agreement, equity award agreement, or similar agreement and any other legal remedies available to the Company.

Impracticability

The Committee shall recover any compensation in accordance with this Policy unless such recovery would be impracticable because (i) the direct costs of enforcing recovery would exceed the recoverable amount or (ii) recovery would violate the law of the Covered Executive’s home country.

Successors

This Policy shall be binding and enforceable against all Covered Executives and their beneficiaries, heirs, executors, administrators or other legal representatives.