

2023

Annual Report +
2024 Proxy



Dear Fellow Stockholders

We are entering a new era for the semiconductor value chain. Artificial intelligence (AI) is driving significant advances in compute, memory, packaging, and power management. By 2030 McKinsey & Company forecasts semiconductor sales will be \$1 trillion, growing from over \$500 billion in 2023, which is a compounded annual growth rate of 10%. Advanced packaging is a key enabler for much of this growth, from the 3D packaging used in high bandwidth memory to the 2.5D packaging positioning memory much closer to high-performance compute engines for AI products. Onto is proud to be serving this entire packaging eco-system, resulting in a third consecutive record year for our specialty and advanced packaging market.

In addition to the growth in packaging, our revenue from power semiconductor customers grew 40% in 2023, driven by our expanded tool/software footprint at Si, SiC, and GaN power customers. Our new portfolio of inspection, metrology, and software solutions underscores our strategy to support the entire value chain from front-end fabs to back-end packaging, with a synergistic approach to process control solutions.

In our advanced nodes markets, though spending was down, we announced several key wins for gate-all-around (GAA) R&D and pilot lines. These orders represent our qualified status of systems for both optical critical dimensional (OCD) metrology and planar films metrology. We believe our demonstrated value proposition in those pilot lines will result in order growth when those customers begin ramping up production.

New cost-savings initiatives that were started in 2023 are now expected to improve gross margins in 2024 and beyond, as permanent changes are being made to our component strategies that are purchased across various

platforms, along with consolidation of our supplier base. These activities are in preparation for an expected return to higher margins regardless of product mix effects.

In addition to progressing toward our financial and business goals, we made important strides in our journey to contribute to a more sustainable future. In 2023, we surpassed our 2025 goal by reducing our carbon footprint per person by 48% compared to our 2020 base year. We also increased our use of renewable energy to 37%. Additionally, we are helping our customers reduce their carbon footprint through reductions in overall power consumption per wafer and other necessary utilities. The outlook for semiconductors and semiconductor capital equipment has never been stronger. With secular drivers in AI and the “electrification of everything,” our customers are innovating rapidly and depend on companies like Onto Innovation to realize their vision. The challenges presented by the increasing complexity of our customers’ new products, ranging from stringent bare wafer process control requirements to intricate new memory and logic transistor structures to revolutionary new packaging technologies, are creating new demands for process control solutions. Onto Innovation is well established across this entire value chain, and we are excited to be working closely with our customers to ensure we continue to provide the mission critical solutions necessary to realize their future innovations.

And finally, on behalf of the entire team at Onto Innovation and the board of directors, we thank you for your dedicated support and investment.

Sincerely,



Michael P. Plisinski
Chief Executive Officer



Christopher A. Seams
Chairman of the Board



Safe Harbor

Certain statements in this document may be considered "forward-looking statements" or may be based on "forward-looking statements," including, but not limited to, those concerning: our business momentum and future growth; technology development, product introduction and acceptance of our products and services; our manufacturing practices and ability to deliver both products and services consistent with our customers' demands and expectations and to strengthen our market position, including our ability to source components, materials, and equipment due to supply chain delays or shortages; our expectations of the semiconductor market outlook; future revenue, gross profits, research and development and engineering expenses, selling, general and administrative expenses, and cash requirements; the effects of political, economic, legal, and regulatory changes or conflicts on our global operations; the effects of natural disasters or public health emergencies, on the global economy and on our customers, suppliers, employees, and business; our dependence on certain significant customers and anticipated trends and developments in and management plans for our business and the markets in which we operate; and our ability to be successful in managing our cost structure and cash expenditures and results of litigation. Statements contained or incorporated by reference in this document that are not purely historical are forward-looking statements and are subject to safe harbors created under Section 27A of the Securities Act of 1933, as amended, Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and the Private Securities Litigation Reform Act of 1995. Forward-looking statements may be identified by words such as, but not limited to, "anticipate," "believe," "continue," "estimate," "expect," "intend," "plan," "should," "may," "could," "will," "would," "forecast," "project" and words or phrases of similar meaning, as they relate to our management or us. Forward-looking statements contained herein reflect our current expectations, assumptions and projections with respect to future events and are subject to certain risks, uncertainties and assumptions, such as those identified in Part I, Item 1A. "Risk Factors" of our Form 10-K for the fiscal year ended December 30, 2023. Actual results may differ materially and adversely from those included in such forward-looking statements. Forward-looking statements reflect our position as of the date hereof and we undertake no obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

Stockholder Information

LOCATION

HEADQUARTERS

Onto Innovation
16 Jonspin Road
Wilmington, Massachusetts 01887
Phone 978.253.6200
ontoinnovation.com

OTHER LOCATIONS

View all locations on our website:
<https://ontoinnovation.com/company/locations>

TRANSFER AGENT

MAIL CORRESPONDENCE TO

Computershare Trust Company, N.A.
Stockholder Services
P.O. Box 43006
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SEND OVERNIGHT CORRESPONDENCE TO

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150 Royall St., Suite 101
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ONLINE INQUIRIES

www-us.computershare.com/investor/contact

PHONE

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INVESTOR INFORMATION

GENERAL STOCKHOLDER AND INVESTOR QUESTIONS MAY BE DIRECTED TO

Onto Innovation
Attn: Investor Relations
16 Jonspin Road
Wilmington, Massachusetts 01887
investors@ontoinnovation.com

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Ernst & Young, LLP
Iselin, New Jersey

STOCK SYMBOL

Common stock is traded on the New York Stock Exchange under the symbol: ONTO

ANNUAL MEETING

Stockholders are invited to attend the Annual Meeting at 8:00 a.m. (PT) on Wednesday, May 22, 2024 at our offices, located at:
1550 Buckeye Drive
Milpitas, CA 95035

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**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549**

FORM 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the Fiscal Year Ended December 30, 2023

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 No. 001-39110

ONTO INNOVATION INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

94-2276314
(I.R.S. Employer
Identification Number)

16 Jonspin Road, Wilmington, MA 01887
(Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code: (978) 253-6200

SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:

Title of Each Class	Trading Symbol	Name of Exchange on Which Registered
Common Stock, \$0.001 par value per share	ONTO	New York Stock Exchange (NYSE)

SECURITIES REGISTERED PURSUANT TO SECTION 12(g) OF THE ACT:

None

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

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

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

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

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

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

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

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

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

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

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

The aggregate market value of the registrant's voting Common Stock held by non-affiliates of the registrant was approximately \$5,659,828,744 based on the closing price of the Common Stock on the New York Stock Exchange on June 30, 2023.

The number of shares of the registrant's Common Stock outstanding as of February 5, 2024 was 49,130,018.

DOCUMENTS INCORPORATED BY REFERENCE

Items 10, 11, 12, 13 and 14 of Part III of this Annual Report on Form 10-K incorporate by reference information from the definitive proxy statement for the registrant's annual meeting of stockholders scheduled to be held on May 22, 2024.

TABLE OF CONTENTS

<u>Item No.</u>		<u>Page</u>
PART I		
1.	Business	2
1A.	Risk Factors	11
1B.	Unresolved Staff Comments	28
1C.	Cybersecurity	28
2.	Properties	30
3.	Legal Proceedings.....	30
4.	Mine Safety Disclosures	30
PART II		
5.	Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	31
6.	[Reserved].....	32
7.	Management’s Discussion and Analysis of Financial Condition and Results of Operations.....	33
7A.	Quantitative and Qualitative Disclosures About Market Risk	40
8.	Financial Statements and Supplementary Data	40
9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	40
9A.	Controls and Procedures	40
9B.	Other Information	41
9C.	Disclosure Regarding Foreign Jurisdictions that Prevent Inspection	41
PART III		
10.	Directors, Executive Officers and Corporate Governance	42
11.	Executive Compensation	42
12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters ...	42
13.	Certain Relationships and Related Transactions, and Director Independence	42
14.	Principal Accountant Fees and Services	42
PART IV		
15.	Exhibits and Financial Statement Schedules	43
Signatures		

FORWARD-LOOKING STATEMENTS

Certain statements in this Annual Report on Form 10-K (this “Form 10-K”), or incorporated by reference in this Form 10-K, of Onto Innovation Inc. (referred to in this Form 10-K, together with its consolidated subsidiaries, unless otherwise specified or suggested by the context, as the “Company,” “Onto Innovation,” “we,” “our” or “us”) may be considered “forward-looking statements” or may be based on “forward-looking statements,” including, but not limited to, those concerning:

- our business momentum and future growth;
- technology development, product introduction and acceptance of our products and services;
- our manufacturing practices and ability to deliver both products and services consistent with our customers’ demands and expectations and to strengthen our market position, including our ability to source components, materials, and equipment due to supply chain delays or shortages;
- our expectations of the semiconductor market outlook;
- future revenue, gross profits, research and development and engineering expenses, selling, general and administrative expenses, and cash requirements;
- the effects of political, economic, legal, and regulatory changes or conflicts on our global operations;
- the effects of natural disasters or public health emergencies on the global economy and on our customers, suppliers, employees, and business;
- our dependence on certain significant customers and anticipated trends and developments in and management plans for our business and the markets in which we operate; and
- our ability to be successful in managing our cost structure and cash expenditures and results of litigation.

Statements contained or incorporated by reference in this Form 10-K that are not purely historical are forward-looking statements and are subject to safe harbors created under Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and the Private Securities Litigation Reform Act of 1995. Forward-looking statements may be identified by words such as, but not limited to, “anticipate,” “believe,” “continue,” “estimate,” “expect,” “intend,” “plan,” “should,” “may,” “could,” “will,” “would,” “forecast,” “project” and words or phrases of similar meaning, as they relate to our management or us.

Forward-looking statements contained herein reflect our current expectations, assumptions and projections with respect to future events and are subject to certain risks, uncertainties and assumptions, such as those identified in Part I, Item 1A. “Risk Factors” and elsewhere in this Form 10-K. Actual results may differ materially and adversely from those included in such forward-looking statements. Forward-looking statements reflect our position as of the date of this report and we undertake no obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

PART I

Item 1. Business.

General

Onto Innovation is a worldwide leader in the design, development, manufacture and support of metrology and inspection tools for the semiconductor industry, including process control tools that perform optical metrology on patterned and unpatterned wafers, wafer macro-defect inspection, including macro-inspection of both 2D and 3D wafer features, wafer substrate and panel substrate lithography systems, and process control analytical software. Our products are primarily used by silicon wafer manufacturers, semiconductor integrated circuit (“IC”) fabricators, and advanced packaging manufacturers operating in the semiconductor market. Our products are also used for process control in a number of other specialty device manufacturing markets, including light emitting diodes (“LED”), vertical-cavity surface-emitting lasers (“VCSEL”), micro-electromechanical systems (“MEMS”), CMOS image sensors (“CIS”), silicon and compound semiconductor (SiC and GaN) power devices, analog devices, RF filters, data storage, and certain industrial and scientific applications.

We provide process and yield management solutions used in bare silicon wafer production and wafer processing facilities, often referred to as “front-end” manufacturing, and advanced packaging of chips and test facilities, or “back-end” manufacturing, through a portfolio of standalone systems for optical metrology, macro-defect inspection, packaging lithography, as well as transparent and opaque thin film measurements. Our automated and integrated metrology systems measure critical dimensions, device structures, topography, shape, and various thin film compositions, including three-dimensional features and film thickness, as well as optical and material properties. Our primary areas of focus include products that provide critical yield-enhancing and actionable information, which is used by microelectronic device manufacturers to improve yield and time to market of their next-generation devices. Our systems feature sophisticated software and production-worthy automation. In addition, our advanced process control software portfolio includes powerful solutions for standalone tools, groups of tools, and factory-wide and enterprise-wide suites to enhance productivity and achieve significant cost savings. Our systems are backed by worldwide customer service and applications support.

Industry Background

We participate in the sale, design, manufacture, marketing and support of process control systems for optical critical dimension (“OCD”) metrology, thin film metrology, silicon wafer inspection, 2D and 3D macro inspection and lithography tools for advanced packaging and advanced analytical software for semiconductor manufacturing as well as inspection systems for certain industrial applications and scientific research. Our principal market is semiconductor capital equipment. Semiconductors packaged as ICs, or “chips”, are used in consumer electronics, server and enterprise systems, mobile computing (including smart phones and tablets), data storage devices, and embedded automotive and control systems. Our core focus is the measurement and control of the structure, composition, and geometry of semiconductor devices as they are fabricated on silicon wafers to improve device performance and manufacturing yields. Our end customers manufacture many types of ICs for a multitude of applications, each having unique manufacturing challenges. This includes ICs to enable information processing and management (logic ICs), memory storage (NAND, 3D-NAND, and DRAM), analog devices (e.g., Wi-Fi and 5G radio ICs, power devices), MEMS sensor devices (accelerometers, pressure sensors, microphones), CMOS image sensors, and other specialty end markets including components for hard disk drives, LEDs, and power management devices.

Current Trends

Markets

Advanced Nodes. “Advanced Nodes” refers to leading-edge ICs where the sizes of transistors and other features continue to shrink. Advanced nodes are associated with transistor dimensions less than 16 nanometers (nm). Our metrology systems used to measure and characterize these small features are generally purchased when a customer is beginning to manufacture at a new, smaller node, in order to set up and test new manufacturing equipment being installed for the new node. Our process control/metrology equipment is generally installed prior to the installation of the actual process equipment for that reason. Additional process control equipment is normally purchased when the initial process yields have been stabilized and more manufacturing capacity is required to meet production demands. Therefore, our sales to customers for advanced nodes is generally higher when manufacturing lines for new nodes are being established and may not represent continuous sales revenue until our initial systems reach high levels of utilization driven by the need for greater capacity.

Demand for our products continues to be driven by our customers’ desire for higher overall chip performance enabled by a greater number of transistors per square millimeter, while improving power efficiency, logic processing capability, data storage volume and manufacturing yield. To achieve these goals, our customers have increased their use of more complex

materials and processing methods in their manufacturing flow. The primary path for performance gains is geometric scaling, known as node shrinks, or scaling of transistor dimensions. In some cases, our customers are implementing new materials and methods in high volume manufacturing, including materials and device architectures to reduce power consumption. To scale NAND memory, for example, a 3D layered architecture has been implemented for several customers with more than 150 storage cell layers for devices in production. Additional innovation continues in Data Storage, Power Devices, MEMS, and Image Sensors. We believe the use of these new materials and manufacturing methods has increased demand for our products such as the Atlas® product line, which is capable of measuring advanced nodes as certain features shrink beyond 7nm, to 5nm, 3nm and in the most advanced of cases, 2 nm or less.

To shrink features, new methods, including multiple patterning lithography and extreme ultra-violet (“EUV”) lithography, have been developed. The EUV process is driving significantly higher requirements for the silicon wafers that are entering the EUV chamber. Small particles on the backside of the wafer measuring a few micrometers (microns) can distort the images being projected onto the top side. Our NovusEdge® inspection tool has been installed at major silicon wafer manufacturers to detect backside contamination and edge cracking as a final quality control mechanism before wafers are shipped to the semiconductor fabrication processes. The top side of wafers used for the EUV process is covered with an epitaxial layer, which must also be scanned for any impurities. This compositional analysis may be measured using our Element® system using Fourier Transform Infrared (“FTIR”) algorithms.

Advanced Packaging. “Advanced Packaging” refers to a variety of technologies that enable the miniaturization of electronic products, such as smartphones, watches, and tablets. Historically, IC packaging refers to the final stage of semiconductor device fabrication, in which a single circuit made from semiconducting material (a die or chip) is encased in a molded package using small wires to provide connections to a carrier that can be soldered to a printed circuit board and also prevents physical damage and corrosion to the chip. Advanced Packaging refers loosely to the multi-layer conductors and chip structures (other than wires) that often interconnect multiple die, feed them with electric power and create signal paths to and from the Printed Circuit (“PC”) board, dissipate their heat, and protect them from damage. Today, the drive to pack more functions into a small space and reduce their power requirements demands that chip packages do much more than ever before to combine multiple chips and functions into a single molded package.

One example of the technology used in Advanced Packaging is the 3D integration of semiconductors. This technology involves stacking individual chips in one integrated package. Through-silicon vias (“TSVs”) are vertical copper interconnects that are embedded from the bottom surface of a die to the top surface and use small copper/solder “bumps” to connect one chip to another. TSVs allow power and communication to be shared among the individually stacked components. This offers the advantages of shorter signal paths and, in turn, reduced power consumption, enhanced bandwidths, integration of heterogeneous components such as memory and logic chips, and smaller surface area. The processes required for 3D integration vary from one manufacturer to another and many continue to be optimized for yield and to ensure the functioning of individual stacked chips.

Heterogeneous integrated (“HI”) packaging is another advanced packaging technology using copper pillars/bumps to vertically connect a wide variety of stacked die for 2.5D, and 3D integration techniques as well as horizontally connected chips and is considered the next disruptive technology for several reasons. First, HI packages using 3D stacking can significantly reduce the space needed inside an electronic device, such as a smartphone, by combining multiple chips/functions into a “system in a package” (“SIP”). Next, HI packages also improve a system’s performance by reducing power and signal conductor lengths, which previously were routed from package to package through a PC board using thin redistribution layers (“RDLs”) to connect chips that are side-by-side. Lastly, the technology is currently considered the preferred vehicle for next generation uses, such as SIP, and package on package formats. As a result of the small overall form factor, HI packages provide the functionality needed in high-end mobile and wearable products.

Our inspection systems and software are used for process control and detection of potential reliability failures in nearly all of these packages. Inspection rates for advanced packages are high throughout the assembly process to avoid a single defective chip from being assembled into a relatively expensive package. Thus, unlike the cyclical nature of our metrology equipment associated with node shrinks, our sales revenue for advanced packaging is generally driven by assembly volumes.

Panel Substrate Manufacturing. One current process to manufacture advanced packaging involves attaching known good die to a 300mm wafer. SIP packages can often contain side-by-side die, meaning the package can be large and limit the number of packages being placed on a wafer. In order to meet the growing demand at reduced average selling prices, manufacturers are looking to scalable technology. Advanced packaging facilities looking to improve Cost of Ownership and increase productivity are transitioning from 300mm wafers to large rectangular panels, which can be as large as 650mm x 650mm. This larger size enables companies manufacturing large area packages to increase the number of devices being processed at each step as they are no longer limited to operating within the constraints of a round wafer. By responding to market opportunities and addressing the stringent demands of customers’ technical roadmaps, we believe that Onto Innovation is optimally positioned to capitalize on the emerging market of high-volume manufacturing of advanced IC substrates. For

example, the JetStep® X500 lithography system, having emerged from the flat panel display market, is readily capable of processing RDLs on very thin advanced organic laminate panels in the semiconductor advanced packaging market. The Firefly® series of panel level macro inspection tools, designed for high resolution inspection, can provide defect detection and location information to the JetStep X500 tool for each die, which greatly improves lithography throughput using our exclusive StepFAST™ process. It also delivers a combination of defect classification and process throughput in a single software platform. It reduces capital investment requirements and provides a reliable pathway to transition from wafer to panel-based processes.

Technology

We believe that our expertise in our core technologies of optics and software and our combined investment in research and development will enable us to rapidly develop new technologies and products in order to quickly respond to emerging industry trends and competitive challenges. The breadth of our technology enables us to offer a diverse combination of metrology, inspection, and process control solutions. Unique features have been designed into our lithography systems to meet our customers' changing process requirements. Our metrology and inspection technologies provide process control for the majority of advanced node wafers processed today in a semiconductor wafer fab. In front-end processes, OCD metrology, thin film metrology, wafer stress metrology and macro defect detection and classification technologies allow yield enhancement for critical processes such as photolithography, diffusion, etch, chemical mechanical planarization ("CMP") and outgoing quality control. Within the back-end manufacturing processes, our 2D/3D advanced macro defect inspection provides our customers with critical quality assurance and process information. Defects may be created during probing, bumping, dicing, assembly processes (RDLs, TSVs, copper pillars, etc.) or general handling and can have a major impact on device and process quality. Lastly, we turn the gathered data into useful knowledge for our customers to make yield-enhancing decisions, which lower their scrap cost and environmental impact and improve their margins.

Onto Innovation's Products

Automated Metrology Systems. The Atlas family of products represents our line of high-performance automated metrology systems providing OCD and thin film metrology and wafer stress metrology for transistor and interconnect metrology applications. The thin film and OCD technology is supported by our suite of solutions including our latest introductions of AI Diffract™ software, SpectraProbe™ software and NanoGen™ scalable computing engine, which enables visualization, modeling, and analysis of complex structures.

AI Diffract is a modeling, visualization and analysis software that takes signals from the metrology systems, providing critical dimension, thickness, and optical properties from in-line measurements. The software has an intuitive three-dimensional modeling interface to provide visualization of today's advanced and complex semiconductor devices. There are proprietary fitting algorithms in AI Diffract that enable very accurate and very fast calculations for signal processing for high fidelity model-based measurements. SpectraProbe is a model-less fitting engine that enables fast time to solution for in-line excursion detection and control. SpectraProbe complements the high-fidelity modeling of AI Diffract with a simple machine learning interface for rapid recipe deployment. The software is supported by NanoGen, an enterprise scale computing hardware system that is deployed to run the computing intensive analysis software. NanoGen leverages commercial server chips and networking architecture and is optimized to support the workload of AI Diffract and SpectraProbe analysis.

Integrated Metrology Systems. Our integrated metrology ("IM") systems are installed directly onto wafer processing equipment to provide near real-time measurements for improved process control and maximum throughput. Our IM systems are sold directly to end user customers. The IMPULSE® family of products includes the latest technology for OCD, and thin film metrology, and has been successfully qualified on multiple independent wafer fabrication equipment suppliers' platforms.

Silicon Wafer All-surface Inspection/Characterization. "All-surface" refers to inspection of the wafer frontside, edge, and backside as well as wafer's locator notch. The edge inspection process focuses on the area near the wafer edge, an area that poses difficulty for traditional wafer frontside inspection technology due to its varied topography and process variation. Edge bevel inspection looks for defects on the side edge of a wafer. Edge bead removal and edge exclusion metrology involve a topside surface measurement required exclusively in the lithography process, primarily to determine if wafers have been properly aligned for the edge exclusion region. The primary reason for wafer backside inspection is to determine if contamination has been created that may spread throughout the wafer fab. For instance, it is critical that the wafer backside be free of defects prior to the EUV lithography process to prevent focus and exposure problems on the wafer frontside.

Our materials characterization products include systems that are used to monitor the physical, optical, and material characteristics of discrete electronic industry, opto-electronic, HB-LED (high brightness LEDs), solar PV (solar photovoltaics), compound semiconductor, strained silicon and silicon-on-insulator ("SOI") devices, including composition, crystal structure, layer thickness, dopant concentration, contamination and electron mobility.

We have a broad portfolio of products for materials characterization including photoluminescence mapping and Fourier Transform Infrared (“FTIR”) spectroscopy in automated and manual systems for substrate quality and epitaxial thickness metrology. The NanoSpec® line supports thin film measurement across all applications in both low volume production and research applications.

Macro Defect Inspection. Chip manufacturers deploy advanced macro defect inspection throughout the production line to monitor key process steps, gather process-enhancing information and ultimately, lower manufacturing costs. Field-established tools such as the F30™, NSX®, Firefly®, and the latest Dragonfly® G3 inspection systems are found in the wafer fab (front-end) and packaging (back-end) facilities around the world. These high-speed tools incorporate features such as wafer-less recipe creation, tool-to-tool correlation and multiple inspection resolutions. Using Discover® yield management software, the vast amounts of data gathered through automated inspection can be analyzed and classified to determine trends and locate root causes that directly affect yield.

Automated Defect Classification and Pattern Analysis. Automating the defect detection and classification process is best done by a system that can mimic, or even extend, the response of the human eye, but at a much higher speed, with higher resolution and more consistency. To do this, our systems capture full-color whole wafer images using simultaneous dark and bright field illumination. The resulting bright and dark field images are compared to those from an “ideal” wafer having no defects using our Automated Defect Classification (“ADC”) software. When a difference is detected, its image is broken down into mathematical vectors that allow rapid and accurate comparison with a library of known classified defects stored in the tool’s database. Patented and proprietary enhancements of this approach enable very fast and highly repeatable image classification. The system is pre-programmed with an extensive library of local, global, and color defects and can also store a virtually unlimited amount of new defect classes. This allows customers to define defects based on their existing defect classification system, provides more reliable automated rework decisions and enables more accurate statistical process control data. Reviewing defects using ADC enables automated inspection systems to maintain their utilization for high throughput inspection. Using defect image files captured by automated inspection systems, operators are able to view high-resolution defect images to determine defects that cause catastrophic failure of a device, known as killer defects. Combining the review process with classifying defects enables faster analysis by grouping defects found together as one larger defect, a scratch for example, and defects of similar types across a wafer lot to be grouped based on size, repeating defects, and other user-defined specifications.

Yield Analysis. Using wafer maps, charts and graphs, the massive amounts of data gathered through automated inspection can be analyzed to determine trends across bumps, die, wafers and lots. This analysis may determine where a process variation or deviation has occurred, allowing process engineers to make corrections or enhancements to increase yields. Defect data analysis is performed to identify, analyze and locate the source of defects and other manufacturing process excursions. Using either a single wafer map or a composite map created from multiple wafer maps, this analysis enables identification of defect patterns and distribution. When combined with inspection data from inspection points placed strategically, this analysis may pinpoint the source of the defects so corrective action can be taken.

Opaque Film Metrology. The MetaPULSE® and Echo™ systems allow customers to simultaneously measure the thickness and other properties of up to six metal or non-metallic opaque film layers without physically contacting product wafers. PULSE™ technology uses an ultra-fast laser to generate acoustic waves that pass down through a stack of opaque films such as those used in copper or aluminum interconnect processes, as well as the hard mask layer in 3D NAND chips, sending back to the surface a reflected signal (echo) that indicates film thickness, density, and other process critical parameters. We believe we are a leader in providing systems that can measure opaque thin-film stacks non-destructively with the speed and accuracy semiconductor device manufacturers demand in order to achieve high yields with the latest fabrication processes. The technology is ideal for characterizing copper interconnect structures. The MetaPULSE and Echo systems, used for fast and accurate measurements of metal interconnect in front-end wafer fabs, have now been chosen by back-end manufacturers to perform system measurements in new process applications such as RF filters and modules, driven by the need for on-product metrology as feature sizes decrease and pattern densities increase.

Industrial, Scientific, and Research Markets — 4D Technology®. The 4D business offers a line of interferometry systems for the measurement and inspection of high precision surfaces. End markets include high precision optics surfaces and components, aerospace and defense components, and unique research and scientific instrumentation that requires the unique high-speed results of the 4D systems.

Advanced Packaging Lithography. Our lithography steppers use projection optics to expose circuit patterns from a mask or reticle onto a substrate to expose images with optimal fidelity. These systems employ a bright light that is transmitted through a mask or reticle containing display circuit patterns. Substrates are aligned on the system and the mask is imaged through a projection lens onto photoresist material coated on the substrate. The substrate is then moved, or “stepped,” to a second position to expose an adjacent area. The system repeats the step and exposure process until the entire substrate is patterned. Once the exposure process has been completed, the substrate is developed with an alkali solution to reveal the underlying material. The

imaged photoresist serves as a stencil barrier that allows for the processing of the underlying metal or insulating layers. The substrates then continue through the etching, stripping and deposition processes until multi-layer circuits are completed.

In order to deal with increased input/output (“I/O”) resulting from devices with enhanced functionality, increased power distribution efficiency, and higher frequency, IDMs and outsourced semiconductor assembly and test (“OSATs”) facilities must incorporate lithography capabilities to create RDLs for their advanced packaging technologies. However, the associated substrates and processes are significantly different than those used in front-end wafer processing. For advanced packaging, the lithography system must perform in a completely different application, with significantly different operating parameters. For example, most packaging is an additive process, while wafer processing is subtractive, and thick films, rather than thin films, are used to enable the creation of features. In order for equipment to effectively function in this environment, it must overcome these challenges. Our JetStep® systems have been specifically designed to meet these challenges head on. The new JetStep X500 System is designed for rectangular substrates (panels), which when combined with user-selectable wavelength options, maximizes throughput while not limiting resolution when needed. High-fidelity optics are able to image the fine features required while at the same time achieving superior depth of field to minimize non-flatness that is typical for advanced packaging applications. On-the-fly auto focus and an innovative reticle management system improve yield and utilization. These features result in a revolutionary lithography system specifically designed to meet advanced packaging challenges.

Process Control Software. We provide a wide range of advanced process control solutions, which are designed to improve factory profitability, including run-to-run control, fault detection, classification and tool automation. We are a leading provider of process control software in the semiconductor industry. Advanced process control (“APC”) employs software to automatically detect or predict tool failure (fault detection) as well as calculate recipe settings for a process that will drive the yielded output to meet and exceed the target, despite variations in the incoming material and minor instabilities within the process equipment. Process control software enables the factory to increase capacity and yield while decreasing rework and scrap. It enables reduced production costs by lowering consumables, process engineering time and manufacturing cycle time.

Yield Management Software. Semiconductor manufacturers use yield management software (“YMS”) to obtain valuable process yield and equipment productivity information. The data necessary to generate productivity information comes from many different sources throughout the wafer fab: inspection and metrology systems, tool sensors, tool recipes, electrical tests and the fab environment. As the complexity and cost of manufacturing processes increase, the value of faster, better analysis to support critical manufacturing decisions grows. As a result, customers are demanding robust yield management systems that can analyze large, complex data sets quickly and effectively. Our fully integrated YMS is designed to analyze data from disparate sources and multiple sites to maximize productivity across the entire value chain.

Customers

Over 220 customers purchased Onto Innovation tools or software in 2023. We support a diverse customer base in terms of both geographic location and type of device manufactured. Our customers are located in over 28 countries. The following chart identifies our customers that represented 10% or more of total revenue for each of the last three fiscal years:

	2023	2022	2021
Samsung Semiconductor.....	*	*	*
Taiwan Semiconductor Manufacturing Co. Ltd.	*	*	*
SK Hynix Inc.	^	*	^

* The customer accounted for 10% or more of total revenue during the period.

^ The customer accounted for less than 10% of total revenue during the period.

Sales, Customer Service and Application Support

We believe that the capability for direct sales and support is beneficial for developing and maintaining close customer relationships and for rapidly responding to changing customer requirements. We provide local direct sales, service and application support through our worldwide offices located in the United States, South Korea, Japan, Taiwan, China, Vietnam Singapore and Europe, and work with selected dealers and sales representatives on a more limited basis in various countries. Our applications team is composed of technically experienced sales engineers who are knowledgeable in the use of metrology systems generally and the unique features and advantages of our specific products. Supported by our technical applications team, our sales and support teams work closely with our customers to offer cost-effective solutions to complex measurement and process problems.

We believe that customer service and technical support for our systems are crucial factors that distinguish us from our competitors and are essential to building and maintaining close, long-term relationships with our customers. We generally provide a warranty for our products that ranges from twelve to fourteen months to cover defects in material and workmanship. We provide system support to our customers through factory technical support and globally deployed field service personnel.

The factory technical support operations provide customers with telephonic technical support access, direct training programs, operating manuals and other technical support information to enable effective use of our metrology and measurement instruments and systems. We have field service operations based in various locations throughout the United States, South Korea, Taiwan, China, Japan, Vietnam, Malaysia, Singapore, Israel, and Europe.

Competition

The global semiconductor equipment industry is intensely competitive and we have multiple established and potential competitors in the markets in which we participate. Our industry is driven by rapid technological adoption cycles, with new entrants from overseas and domestic sources competing for our customers' business. Our ability to compete effectively depends upon our ability to continuously improve our existing products, applications and services, and our ability to develop new products, applications and services that meet constantly evolving customer requirements. In order to continuously improve and develop new products and maintain customer service and support centers worldwide, we believe that we will require significant resources; however, some of our competitors may have greater financial, research, engineering, manufacturing and marketing resources than we have.

In automated systems for the semiconductor industry, our principal competitors are KLA Corporation ("KLA") and Nova Ltd. (formerly Nova Measuring Instruments Ltd.) ("Nova") for thin film and critical dimension OCD metrology. Our principal competitors for advanced packaging inspection are KLA and Camtek Ltd. ("Camtek"). While the advanced packaging lithography market is served by various competitors, our primary competitors are Ushio, Inc. ("Ushio") and Canon, Inc. ("Canon"). Our primary competitor for inspection in the panel market is GigaVis Co. Ltd. The primary competitor for our software products is PDF Solutions, Inc. ("PDF Solutions") and our primary competitor for integrated metrology systems for the semiconductor industry is Nova. The opto-electronics, discrete device and industrial and scientific markets are addressed primarily by our material characterization and 4D systems, served by numerous competitors, of which no single competitor or group of competitors has established a majority position.

We believe that our competitive position in each of our markets is based on the ability of our products and services to address customer requirements related to numerous competitive factors. Competitive selections are based on many factors involving technological innovation, productivity, total cost of ownership of the system, including impact on end of line yield, price, product performance and throughput capability, quality, reliability and customer support.

Manufacturing

Our manufacturing operations are in Milpitas, California; Tucson, Arizona; Wilmington, Massachusetts; Bloomington, Minnesota; and at various contract manufacturers around the world. It is our strategy to outsource the assemblies that do not contain elements that we believe lead to a direct competitive advantage. Most of our automated and integrated products are currently manufactured at our Milpitas and Bloomington facilities. We currently do not expect our manufacturing operations to require additional major investments in capital equipment.

We manufacture key modular assemblies and integrated tools and make reasonable efforts to ensure that externally purchased parts or raw materials are available from multiple suppliers, if possible. Certain components, subassemblies and services necessary for the manufacture of our systems are obtained either from a sole supplier or limited group of suppliers. We also have long-term supply agreements with strategic suppliers for the supply of key assemblies for use in our products. For more information, please see "Part I, Item IA - Risk Factors - If we do not manage our supply chain effectively, our operating results may be adversely affected, and any increases in material, labor, supplier, logistics and other operating costs, or supply chain delays and shortages, could lower our margins or result in lost sales".

Research and Development

We continue to invest in research and development to provide our customers with products that add value to their manufacturing processes and that provide a better and differentiated solution than our competitors so that our products stay in the forefront of current and future market demands. Whether it is for an advancement of current technology, yield and manufacturing improvement, enabling new end device technology, or the development of a new application in our core or emerging markets, we are committed to product excellence and longevity.

The markets for equipment and systems for manufacturing semiconductor devices and for performing OCD metrology, macro-defect inspection, advanced packaging lithography and thin film transparent and opaque process control metrology are characterized by continuous technological development and product innovations. We believe that the rapid and ongoing development of new products and enhancements to existing products are critical to our success. Accordingly, we devote a significant portion of our technical, management and financial resources to research and development programs.

Intellectual Property

We believe that our success will depend to a great degree upon innovation, technological expertise and our ability to adapt our products to new technology. As a result, we have a policy of seeking patents on inventions governing new products or technologies as part of our ongoing research, development, and manufacturing activities. As of December 30, 2023, we have been granted, or hold exclusive licenses to, 398 U.S. and foreign patents. The patents we own, jointly own or exclusively license have expiration dates ranging from 2024 to 2042. We also have 175 pending patent applications in the United States and other countries. Our patents and patent applications principally cover various aspects of metrology, macro-defect detection and classification, altered material characterization, lithography techniques, automation, artificial intelligence, and machine learning.

To protect our intellectual property, we rely on a combination of patents, copyrights, trademarks, trade secret laws, contractual provisions and licenses and non-disclosure agreements. There can be no assurance that our intellectual property will provide us competitive advantage or that we will be able to fully protect our intellectual property. For more information, please see “Part I, Item IA - We may fail to adequately protect our intellectual property and, therefore, lose our competitive advantage.” Additionally, others may obtain patents or trademarks and assert them against us. We may find it necessary to engage in litigation regarding intellectual property rights or contractual rights, which will be costly and time consuming without guarantee that it will yield the result we seek. For more information, please see “Part I, Item IA - Protection of our intellectual property rights, or the efforts of third parties to enforce their own intellectual property rights against us, may result in costly and time-consuming litigation, substantial damages, lost product sales and/or the loss of important intellectual property rights.”

Human Capital and Talent

As of December 30, 2023, we had approximately 1,497 staff globally, 377 in research and development, 280 in operations, 181 in administration and 659 in sales, applications and service support. A large percentage of our employees have technical backgrounds and undergraduate and/or advanced degrees. Many of our employees have specialized skills and experience that are of value to our business, products and services. Our future success will depend, in large part, upon our ability to attract, motivate and retain our highly skilled, technical, operational and managerial team members, who are in great demand in our industry and business communities.

Approximately 59% of our employees are located in the United States, 37% in Asia Pacific and 4% in Europe. None of our employees are represented by a union and we have never experienced a work stoppage because of union actions. We consider our employee relations to be favorable.

Purpose and Culture. All of our employees are expected to uphold the following core values which are foundational to our culture:

- Passion – ownership, pride and caring in our work
- Integrity – honesty, dependable, predictable and accountable
- Collaboration – working together toward a common goal
- Results – meeting and exceeding goals, focused toward innovation and growth

These core values define the way we do business in our everyday actions and choices. We strive to create a respectful work environment characterized by mutual trust and the absence of intimidation, oppression, discrimination and exploitation.

Talent Development and Acquisition. Successful execution of our strategy is dependent on attracting, developing and retaining key employees and members of our management and leadership teams. The skills, experience and industry knowledge of our employees significantly benefit our operations and performance. We continuously evaluate, modify, and enhance our internal processes, tools and technologies to increase employee engagement, productivity, quality and efficiency. We offer employees access to internal and external training and development courses to support individual development. We review succession plans and focus on promoting internal talent to help grow our employees, both professionally and personally.

We strive to promote and cultivate an inclusive and diverse culture that welcomes and celebrates everyone without bias. In addition, we look to actively engage within our communities to foster and attain social equity.

Compensation Philosophy. Our compensation philosophy creates the framework and building blocks for our rewards and recognition programs. We have a pay-for-performance culture that ties compensation to the performance of the individual and the Company. We provide balanced compensation programs that focus on the following five key elements:

- Pay-for-performance - Reward those who achieve or exceed set goals and objectives, while also recognizing those making significant, impactful contributions;

- External market based - Pay levels that are competitive with respect to the labor market in which we compete for talent;
- Internal equity - Providing fair compensation programs within the Company;
- Fiscal responsibility - Providing programs which can be responsibly supported by our operations; and
- Legal compliance - Ensure compliance with the applicable laws of the states and countries in which we operate in all material respects.

Safety, Health and Wellness. We strive to provide an environment which is safe and where our employees can be productive. We have rigorous health and safety programs focused on awareness, recognition, risk assessment and management, as well as teamwork.

Our benefit plans are competitive and comprehensive. We provide each of our employees educational programs and initiatives focused on holistic wellness supporting nutritional, physical, emotional, mental and financial wellbeing.

Corporate Social Responsibility

Our stakeholders are essential to our business – shareholders, customers, suppliers, employees, communities as well as the environment and society. We are working to make our workforce more inclusive, our business more sustainable, and our communities more engaged by maintaining strong environmental, social and governance (“ESG”) practices. Actions we have taken in pursuit of these commitments include the following environmental and social programs:

- Demanded excellence in our environmental performance, as illustrated in our annual ESG reports.
- Demanded excellence in our quality performance, as demonstrated through our product and process qualification commitments, including ISO 9001 Quality Management;
- Set goals to reduce our environmental impact, including an increase in our use of renewable energy, a decrease in hazardous waste landfill, an increase in recycling materials and beneficial reuse, and a reduction in our freshwater usage;
- Committed to RBA Code of Conduct and humane treatment of all at Onto Innovation both upstream and downstream. We established policies and practices to ensure that: working conditions are safe; workers are treated with respect and dignity; and manufacturing processes are environmentally responsible.
- Produced systems responsibly by offering tool trade-in, refurbishment and technology upgrade programs;
- Provided corporate matching for employee donations to qualified nonprofit organizations; and
- Engaged in community service projects in our communities globally.

We encourage you to review our 2022 ESG Report (located on our website at <https://ontoinnovation.com/company/environmental-social-governance>) for more detailed information regarding our ESG initiatives. Nothing on our website, including our ESG Report or sections thereof, is deemed incorporated by reference into this Form 10-K.

Compliance with Governmental Regulations

We are subject to international, federal, state and local regulations that are customary to businesses in the semiconductor capital equipment manufacturing industry. Such regulations include, but are not limited to:

- The Restriction of Hazardous Substances Directive (“RoHS”), which restricts the use of certain hazardous substances in electrical and electronic equipment;
- General Data Protection Regulation (“GDPR”), which provides guidelines for the collection and processing of personal information from individuals who live in the European Union, and similar laws and regulations in other jurisdictions in which we operate;
- The U.S. Foreign Corrupt Practices Act (“FCPA”), which prohibits companies and their individual officers from influencing foreign officials with any personal payments or rewards;
- Conflict minerals reporting, which imposes disclosure requirements regarding the use of “conflict” minerals mined from the Democratic Republic of Congo and adjoining countries in products; and

- Export regulations.

Our compliance with export regulations has negatively impacted our ability to compete for the business of domestic customers in China, which has adversely affected our results of operations. For additional discussion of the impact of trade policies and export regulations on our competitive position, see “Part I, Item IA - Risk Factors - Tariffs, export regulations, and other market barriers have impacted and may continue to impact our ability to compete for the business of domestic customers in China and other jurisdictions, and our results of operations.”

Available Information

Our Internet website address is <http://www.ontoinnovation.com>. The information on our website is not incorporated into this Form 10-K. Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K (and any amendments to those reports) are made available free of charge, on or through our Internet website, as soon as reasonably practicable after such material is electronically filed with or furnished to the United States Securities and Exchange Commission (the “SEC”). All filings we make with the SEC are also available free of charge via EDGAR through the SEC’s website at <http://www.sec.gov>. In addition, the historic reports and materials that were filed by Nanometrics and Rudolph with the SEC are available at our investor relations website at <https://investors.ontoinnovation.com>. These filings may also be obtained through the SEC’s website. Documents that are not available through the SEC’s website may also be obtained by submitting an online request to the SEC at <http://www.sec.gov>.

We also make available, free of charge, through our investor relations website, our corporate governance guidelines, Code of Business Conduct and Ethics, charters of the committees of our Board of Directors, and other information and materials, including information about how to contact our Board of Directors.

Investors and others should also note that we announce material financial information to our investors using our investor relations website, SEC filings, press releases, public conference calls and webcasts. We use these channels as well as social media to communicate with the public about the Company, our products and services and other matters. It is possible that the information we post on social media could be deemed to be material information. Therefore, we encourage investors, the media, and others interested in the Company to review the information we post on the social media channels listed on our investor relations website.

Item 1A. Risk Factors.

Below is a summary of the principal factors and uncertainties that make investing in our company risky. You should read this summary together with the more detailed description of each risk factor contained further below.

Risks Related to Our Operations

- If we do not manage our supply chain effectively, our operating results may be adversely affected, and any increases in material, labor, supplier, logistics and other operating costs, or supply chain delays and shortages, could lower our margins or result in lost sales.
- Variations in the amount of time it takes for us to sell our systems may cause fluctuations in our operating results, which could cause our stock price to decline.
- We are subject to order and shipment uncertainties. Our profitability will decline if we fail to accurately forecast customer demand when managing inventory.
- If we deliver systems with defects, our credibility will be harmed, and the sales and market acceptance of our systems will decrease.
- Our integrated metrology systems are integrated with systems sold independently by wafer fabrication equipment suppliers, and a decrease in sales by these suppliers, or the development of competing systems by these suppliers, could harm our business.
- We must attract and retain experienced senior executives and other key personnel with knowledge of semiconductor device manufacturing and inspection, metrology or lithography equipment and related software to help support our future growth, and competition for such personnel in our industry is high.
- Any prolonged disruption in the operations of our manufacturing facilities could have a material adverse effect on our revenue.
- We outsource select manufacturing activities to third-party service providers, which decreases our control over the performance of these functions, may result in lower quality and functionality of our products, and exposes us to additional supply chain risks.
- Our ability to fulfill our backlog may have an effect on our long-term ability to procure contracts and fulfill current contracts.

Risks Related to Our Customers

- Our largest customers account for a substantial portion of our revenue, and our revenue and cash flows could decline considerably if one or more of these customers were to purchase significantly fewer of our systems or delay or cancel a large order.

Risks Related to Product Development

- If we are not successful in developing new and enhanced products for the semiconductor device manufacturing industry, we will lose sales and market share to our competitors.
- If new products developed by us do not gain general market acceptance, we will be unable to generate revenue and recover our investments, which may result in a write down of inventory.
- Even if we are able to develop new products that gain market acceptance, sales of these new products could impair our ability to sell existing products.
- If our relationships with our large customers deteriorate, our product development activities could be adversely affected.

Risks Related to Intellectual Property and Data Security

- We may fail to adequately protect our intellectual property and, therefore, lose our competitive advantage.
- Protection of our intellectual property rights, or the efforts of third parties to enforce their own intellectual property rights against us, may result in costly and time-consuming litigation, substantial damages, lost product sales and/or the loss of important intellectual property rights.

- If our network security measures are breached and unauthorized access is obtained to a customer's data, to our data, or to our information technology systems, we may incur significant legal and financial exposure and liabilities and may experience disruptions in our operations.
- Compliance with data protection laws may be costly and may impede development of new products, and any failure to comply with, or inquiries under, these laws could have a material adverse effect on our business, results of operations and financial condition.

Risks Related to Competition

- Some of our current and potential competitors have significantly greater resources than we do, and increased competition could impair sales of our products or cause us to reduce our prices.
- Because of the high cost of switching equipment vendors in our markets, it is sometimes difficult for us to win new customers from our competitors even if our systems are superior to theirs.

Risks Related to Our International Operations

- Tariffs, export regulations, and other market barriers have impacted and may continue to impact our ability to compete for the business of domestic customers in China and other jurisdictions, which has adversely affected and may continue to adversely affect our, business, financial condition and results of operations.
- We are subject to compliance with domestic and foreign laws and regulations, and the burden of complying with such laws and regulations, or any failure to comply, has adversely affected and may continue to adversely affect our business, financial condition and results of operations.
- Political and economic instability may result in reduced demand for our products.
- Natural disasters, changes in climate, public health crises, and geo-political conflicts could materially adversely affect our worldwide operations (or those of our business partners).
- We may face difficulties in staffing and managing foreign branch operations due to political tensions or cultural differences.
- Currency fluctuations may impact our international sales or expose us to exchange rate risk.
- Our internal controls with respect to anti-corruption laws may not be effective, and any failure to comply with such laws may result in severe sanctions and liabilities, which may negatively affect our business, operating results and financial condition.

Risks Related to Laws, Legal Proceedings, Financial Markets and the Environment

- Changes in tax rates or tax liabilities could affect results.
- Turmoil or fluctuations in the credit markets and the financial services industry may negatively impact our business, results of operations, financial condition or liquidity, and our factoring arrangements may expose us to additional risks.
- We are subject to various environmental laws and regulations that could impose substantial costs upon us, and failure to comply with such laws and regulations may harm our business, operating results and financial condition.
- Legal proceedings, claims and investigations may expose us to increased costs and may negatively affect our business and results of operations.

Risks Related to Growth and Acquisitions

- We may choose to acquire new and complementary businesses, products or technologies instead of developing them ourselves, and we may be unable to complete these acquisitions or may not be able to successfully integrate an acquired business in a cost-effective and non-disruptive manner.
- If we cannot effectively manage growth, our business may suffer.

Risks Related to the Global Economy and the Semiconductor Industry

- Cyclicalities in the semiconductor device industry has led to substantial decreases in demand for our systems in the past and may, from time to time, continue to do so.

- Our future rate of growth is highly dependent on the development and growth of the market for microelectronic device inspection, lithography and metrology equipment.

General Risk Factors

- Provisions of our charter documents and of Delaware law could discourage potential acquisition proposals and/or delay, deter or prevent a change in control of our company.
- Our stock price is volatile.

Risks Related to Our Operations

If we do not manage our supply chain effectively, our operating results may be adversely affected, and any increases in material, labor, supplier, logistics and other operating costs, or supply chain delays and shortages, could lower our margins or result in lost sales.

We need to continually evaluate our global supply chains and assess opportunities to reduce costs. We must also enhance quality, speed and flexibility to meet changing demand for our products and product mix and uncertain market conditions. Our success also depends in part on refining our cost structure and supply chains so that we have flexibility and can maintain and improve profitability. Deterioration in the tariff environment, political instability or changes in suppliers may cause our costs to increase and, if we are not able to offset the increased costs by charging higher sales prices, will cause a decline in our margins. To improve margins on our products, we would need to negotiate price reductions with our vendors. But we cannot be certain that we will be able to do so in a timely manner, or at all. Failure to achieve the desired level of cost reductions could adversely affect our financial results. Despite our efforts to control costs and increase efficiency in our facilities, changes in demand could still cause us to realize lower operating margins and profitability.

Further, our gross margins and financial performance may be adversely affected by increases in our operating costs, such as material, labor, supplier costs, logistics and energy costs, all of which have been and may continue to be subject to inflationary pressures. Operating costs have increased and may continue to increase further as a result of supply chain disruptions in connection with the sourcing of components, materials, equipment, engineering support, and services, labor shortages, high inflation rates, and cost increases attributable to the COVID-19 pandemic and the effects of the Russia-Ukraine conflict. In addition, we source components for certain of our tools from a supplier in Israel. If the conflict in Israel and the surrounding area escalates, it could disrupt our supply chain, resulting in a material adverse impact on our business.

These risks may be heightened because we obtain some of the components and subassemblies included in our systems from a limited group of suppliers and do not have long-term contracts with many of our suppliers. Our dependence on limited-source suppliers of components and our lack of long-term contracts with certain of our suppliers expose us to several risks, including a potential inability to obtain an adequate supply of components, price increases, late deliveries and poor component quality. A significant number of our suppliers are the sole source or single source for certain components or subassemblies. If such a supplier is unable or unwilling to manufacture and deliver components to us on the time schedule and of the quality or quantity that we require, we may be forced to seek to engage an additional or replacement supplier or redesign our product to use alternative components, which could result in additional expenses and delays in product development or shipment of product to our customers. Disruption or termination of the supply of components has delayed and could in the future delay shipments of some of our systems. Such delays may damage our customer relationships and reduce our sales. The lead time required for shipments of some of our components can be greater than six months. In addition, the lead time required to qualify new suppliers for lasers and certain optics could be as long as a year, and the lead time required to qualify new suppliers of other components could be as long as nine months. In some cases, we may need to purchase components in advance of receiving customer orders for product. If we are unable to accurately predict our component needs, or if our component supply is disrupted, we may miss market opportunities by not being able to meet the demand for our systems. Further, a significant increase in the price of one or more of these components or subassemblies could seriously harm our results of operations and cash flows.

Our efforts to mitigate any cost increases, labor impacts and supply chain delays and shortages may not be successful, and we cannot predict the duration of these current trends or other future increases in operating costs. We may not be able to pass cost increases through to our customers fully (or at all), and if supply chain delays and shortages delay delivery of our products, our customers may seek to purchase from our competitors. Any such occurrence may have a material adverse impact on our gross margins and business, financial position, results of operations and cash flows.

Variations in the amount of time it takes for us to sell our systems may cause fluctuations in our operating results, which could cause our stock price to decline.

Variations in the length of our sales cycles could cause our revenue and cash flows, and consequently, our business, financial condition, operating results and cash flows to fluctuate widely from period to period. This variation could cause our stock price to decline. Our customers generally take a long time to evaluate our inspection and/or film metrology systems and many people are involved in the evaluation process. We expend significant resources educating and providing information to our prospective customers regarding the uses and benefits of our systems in the semiconductor fabrication process. The length of time it takes for us to make a sale depends upon many factors, including, but not limited to:

- the efforts of our sales force;
- the complexity of the customer's fabrication processes;
- the internal technical capabilities and sophistication of the customer;
- the customer's budgetary constraints; and
- the quality and sophistication of the customer's current metrology, inspection or lithography equipment.

Because of the number of factors influencing the sales process, the period between our initial contact with a customer and the time when we recognize revenue from that customer and receive payment, if ever, varies widely in length. Our sales cycles, including the time it takes for us to build a product to customer specifications after receiving an order to the time we recognize revenue, typically range from three to twenty-four months. Sometimes our sales cycles can be much longer, particularly with customers in Asia. During these cycles, we commit substantial resources to our sales efforts in advance of receiving any revenue, and we may never receive any revenue from a customer despite our sales efforts. If we do make a sale, our customers often purchase only one of our systems, the performance of which they then evaluate for a lengthy period before purchasing any more of our systems. The number of additional products a customer purchases, if any, depends on many factors, including the customer's capacity requirements. The period between a customer's initial purchase and any subsequent purchases can vary from three months to a year or longer, and variations in the length of this period could cause further fluctuations in our operating results and, possibly, in our stock price.

We are subject to order and shipment uncertainties. Our profitability will decline if we fail to accurately forecast customer demand when managing inventory.

We typically plan production and inventory levels based on internal forecasts of customer demand, which can be highly unpredictable and can fluctuate substantially, which could lead to excess inventory write-downs and result in negative impacts on gross margin and net income. We have limited visibility into our customers' inventories, future customer demand and the product mix that our customers will require, which could adversely affect our production forecasts and operating margins. Certain of our customers have publicly stated their intent to decrease their memory product inventory levels as lead time for components begins to decrease. This has and could continue to result in a temporary decrease in demand for our products as customers delay capacity expansions until inventory levels are sufficiently reduced. In addition, innovation in our industry could render significant portions of our inventory obsolete. If we overestimate our customers' requirements, we may have excess inventory, which could lead to obsolete inventory and unexpected costs. Conversely, if we underestimate our customers' requirements, or if we experience sustained disruptions to our supply chain or shipping delays, we may have inadequate inventory, which could lead to foregone revenue opportunities, loss of potential market share and damage to customer relationships as product deliveries may not be made on a timely basis, disrupting our customers' production schedules. In response to anticipated long lead times to obtain inventory and materials from outside suppliers and foundries, we periodically order materials in advance of customer demand. This advance ordering has in the past and may in the future result in excess inventory levels or unanticipated inventory write-downs if expected orders fail to materialize, or other factors make our products less saleable. In addition, any significant future cancellation or deferral of product orders could adversely affect our revenue and margins, increase inventory write-downs due to obsolete inventory, and adversely affect our operating results and stock price.

Our earnings could be negatively affected, and our inventory levels could materially increase, if we are unable to predict our inventory needs in an accurate and timely manner and adjust our orders for parts and subcomponents in the event that our needs increase or decrease materially due to unexpected increases or decreases in demand for our products. Any material increase in our inventories could result in an adverse effect on our financial position, while any material decrease in our ability to procure needed inventories could result in an inability to supply customer demand for our products, thus adversely affecting our revenue.

If we deliver systems with defects, our credibility will be harmed, and the sales and market acceptance of our systems will decrease.

Our systems are complex and have occasionally contained errors, defects and bugs when introduced. Defects may be created during probing, bumping, dicing or general handling, and can have a major impact on device and process quality. When this occurs, our credibility and the market acceptance and sales of our systems could be harmed. Further, if our systems contain errors, defects or bugs, computer viruses or malicious code as a result of cyber-attacks to our computer networks, we may be required to expend significant capital and resources to alleviate these problems. Defects could also lead to product liability as a result of product liability lawsuits against us or against our customers. We have agreed to indemnify our customers under certain circumstances against liability arising from defects in our systems provided that we also include a cap on our liability in the related sales agreements. Our product liability insurance policy currently provides both aggregate coverage as well as an overall umbrella coverage. In the event of a successful product liability claim, we could be obligated to pay damages significantly in excess of our product liability insurance limits.

Our integrated metrology systems are integrated with systems sold independently by wafer fabrication equipment suppliers, and a decrease in sales by these suppliers, or the development of competing systems by these suppliers, could harm our business.

We believe that sales of integrated metrology systems will continue to be an important source of our net revenues. Sales of our integrated metrology systems depend upon the ability of a small number of wafer fabrication equipment suppliers to sell semiconductor manufacturing equipment products that are compatible with our metrology systems as components. If these suppliers are unable to sell such products, if they choose to focus their attention on products that do not integrate with our systems, or if they choose to develop competing systems, our business could suffer.

We must attract and retain experienced senior executives and other key personnel with knowledge of semiconductor device manufacturing and inspection, metrology or lithography equipment and related software to help support our future growth, and competition for such personnel in our industry is high.

Our success depends, to a significant degree, upon the continued contributions of our key executive management, engineering, sales and marketing, customer support, finance and manufacturing personnel. The loss of any of these key personnel, each of whom would be extremely difficult to replace, through resignations, retirement or other circumstances, could harm our business and operating results. Despite our employment and noncompetition agreements with key members of our senior management team, these individuals or other key employees may still leave us, which could have a material adverse effect on our business. We do not have key person life insurance on any of our executives. In addition, to support our future growth, we will need to attract and retain additional qualified employees. Competition for such personnel in our industry is intense, and we may not be successful in attracting and retaining qualified employees.

The expansion of high technology companies worldwide and growth in the demand for semiconductors have increased demand and competition for qualified personnel. Competition for engineering and other technical personnel in some of the markets in which we operate is especially intense due to continued increases in the number of technology companies worldwide. In order to attract and retain executives and other key employees, we must provide a competitive compensation package, including cash and stock-based compensation. If the anticipated value of our stock-based incentive awards does not materialize so that they cease to be viewed as valuable, if our profits decrease, or if our total compensation package is not viewed as competitive, our ability to attract, retain and motivate executives and key employees could be weakened.

Any prolonged disruption in the operations of our manufacturing facilities could have a material adverse effect on our revenue.

We produce the majority of our systems in our manufacturing facilities located in Wilmington, Massachusetts, Milpitas, California and Bloomington, Minnesota. We also use contract manufacturers in China, Japan and the United States. Our manufacturing processes are highly complex and require sophisticated and costly equipment and a specially designed facility. As a result, any prolonged disruption in the operations of our manufacturing facilities could seriously harm our ability to satisfy our customer order deadlines. Restrictions on our access to or operation of manufacturing facilities or on our support operations or workforce, or similar limitations for our vendors and suppliers, may impact our ability to meet customer demand and could have a material adverse effect on our financial condition and results of operations. If we cannot timely deliver our systems, our results from operations and cash flows could be materially and adversely affected.

We outsource select manufacturing activities to third-party service providers, which decreases our control over the performance of these functions, may result in lower quality and functionality of our products, and exposes us to additional supply chain risks.

We outsource select product manufacturing to third-party service providers. Outsourcing reduces our control over the performance of the outsourced functions. Dependence on outsourcing may also adversely affect our ability to bring new products to market. If we do not effectively manage our outsourcing strategy or if third-party service providers do not perform as anticipated, we may experience operational difficulties, increased costs, manufacturing interruptions or inefficiencies in the operation of our supply chain, any or all of which could delay our delivery of products to our customers, and materially and adversely affect our business, financial condition, and results of operations.

Our third-party service providers could also be, and certain of our service providers have been, subject to cybersecurity incidents or other events that negatively impact their operations and their ability to perform services for us in a timely manner or at all. Such disruptions could impact our ability to manufacture products in a timely manner or force us to work with another service provider at a higher cost. Any such event could materially and adversely affect our business, financial condition, and results of operations. In addition, some of our third-party party services providers also have product designs, know-how, data files and other important confidential information regarding our products. If a third-party service provider experiences a cybersecurity event in which such confidential information is publicly exposed or shared with bad actors, it could materially and adversely impact our competitive position in the market.

Our ability to fulfill our backlog may have an effect on our long-term ability to procure contracts and fulfill current contracts.

Our ability to fulfill our backlog may be limited by our ability to devote sufficient financial and human capital resources and may be limited by available material supplies and our suppliers' own supply chain issues. If we do not fulfill our backlog in a timely manner, we may experience delays in product delivery, which would postpone receipt of revenue from those delayed deliveries. Delayed fulfillment also increases the risk that a customer may change or cancel an order due to evolution of the customer's technological, production or market needs, which would result in a loss of revenue. Additionally, if we are consistently unable to fulfill our backlog, this may be a disincentive to customers to award large contracts to us in the future until they are comfortable that we can effectively manage our backlog.

Risks Related to Our Customers

Our largest customers account for a substantial portion of our revenue, and our revenue and cash flows could decline considerably if one or more of these customers were to purchase significantly fewer of our systems or delay or cancel a large order.

Sales to end user customers that individually represent at least ten percent of our revenue typically account for, in the aggregate, a considerable amount of our revenue. We operate in the highly concentrated, capital-intensive semiconductor device manufacturing industry. Historically, a substantial portion of our revenue in each quarter and year has been derived from sales to relatively few customers, and this trend is expected to continue. If any of our key customers were to purchase significantly fewer of our systems in the future, or if they delay or cancel a large order, our revenue and cash flows could meaningfully decline. We expect that we will continue to depend on a small number of large customers for a sizable portion of our revenue. In addition, as large semiconductor device manufacturers seek to establish closer relationships with their suppliers, we expect that our customer base will become even more concentrated.

Risks Related to Product Development

If we are not successful in developing new and enhanced products for the semiconductor device manufacturing industry, we will lose sales and market share to our competitors.

We operate in an industry that is highly competitive and subject to evolving industry standards, rapid technological changes, rapid changes in consumer demands and the rapid introduction of new, higher performance systems with shorter product life cycles. To be competitive in our demanding market, we must continually design, develop and introduce in a timely manner new lithography, inspection and metrology process control systems that meet the performance and price demands of semiconductor device manufacturers. We must also continue to refine our current systems so that they remain competitive. We expect to continue to make significant investments in our research and development activities and at times may make inventory investments prior to commercialization. We may experience difficulties or delays in our development efforts with respect to new systems, and we may not ultimately be successful in our product enhancement efforts to improve and advance products or in responding effectively to technological change, as not all research and development activities result in viable commercial

products. In addition, we cannot provide assurance that we will be able to develop new products for the most opportunistic new markets and applications. Any significant delay in releasing new systems could cause our products to become obsolete, adversely affect our reputation, give a competitor a first-to-market advantage or cause a competitor to achieve greater market share. Our competitors may also develop products, including through the use of artificial intelligence, that may have performance advantages over systems we currently offer or may offer in the future, which could similarly weaken our competitive position.

Further, customers that may otherwise desire to purchase our products from us and purchase other products from our competitors may nevertheless purchase competing products from our competitors rather than purchase our products due to a variety of reasons, including to gain favorable or volume pricing from our competitors.

If new products developed by us do not gain general market acceptance, we will be unable to generate revenue and recover our investments, which may result in a write down of inventory.

Inspection, lithography and metrology product development is inherently risky because it is difficult to foresee developments in semiconductor device manufacturing technology, coordinate technical personnel, and identify and eliminate system design flaws. Further, our products are leading edge and complex, and often the applications to our customers' businesses are unique. Any new systems we introduce may not achieve or sustain a significant degree of market acceptance and sales.

We expect to spend a significant amount of time and resources developing new systems and refining our existing systems. In light of the long product development cycles inherent in our industry, these expenditures will be made well in advance of the prospect of deriving revenue from the sale of those systems. The long lead times for some components may also require us to place orders for components and accumulate inventory in advance of market acceptance of our products.

Our ability to commercially introduce and successfully market new systems is subject to a wide variety of challenges during the development cycle, including start-up bugs, design defects, and other matters that could delay introduction of these systems. Since our customers are not obligated by long-term contracts to purchase our systems, our anticipated product orders may not materialize, or orders that are placed may be canceled.

If we do not achieve market acceptance of new products, we may be unable to generate sufficient revenue and cash flow to recover our research and development costs and may experience a write down of our investments in inventory. As a result, our market share, revenue, operating results or stock price could be negatively impacted.

Even if we are able to develop new products that gain market acceptance, sales of these new products could impair our ability to sell existing products.

Competition from our new systems could have a negative effect on sales of our existing systems and the prices that we could charge for these systems. We may also divert sales and marketing resources from our current systems in order to successfully launch and promote our new or next generation systems. This diversion of resources could have a further negative effect on sales of our current systems and the value of inventory.

If our relationships with our large customers deteriorate, our product development activities could be adversely affected.

The success of our product development efforts depends on our ability to anticipate market trends and the price, performance and functionality requirements of semiconductor device manufacturers. In order to anticipate these trends and ensure that critical development projects proceed in a coordinated manner, we must continue to collaborate closely with our largest customers. Our relationships with these and other customers provide us with access to valuable information regarding trends in the semiconductor device industry, which enables us to better plan our product development activities. If our current relationships with our large customers are impaired, or if we are unable to develop similar collaborative relationships with important customers in the future, our product development activities could be adversely affected.

Risks Related to Intellectual Property and Data Security

We may fail to adequately protect our intellectual property and, therefore, lose our competitive advantage.

Our future success and competitive position depend in part upon our ability to obtain and maintain proprietary technology for our principal product families. If we fail to adequately protect our intellectual property, it will give our competitors a significant advantage. We own or have licensed a number of patents relating to our metrology, lithography, wafer and defect inspection systems, as well as artificial intelligence and machine learning systems, and software, including both

embedded and application software, and have filed applications for additional patents. Any of our pending patent applications may be rejected, however, and we may be unable to develop additional proprietary technology that is patentable in the future. In addition, the patents that we do own or that have been issued or licensed to us may not provide us with competitive advantages and/or may be invalidated, enforceable and/or challenged by third parties. Third parties may also design around our patents or copy our patented inventions without our knowledge.

In addition to patent protection, we rely upon copyrights for protection of our proprietary software and documentation, trademarks for protection of our brand and source of goods, and trade secret law and confidentiality and non-compete agreements for protection of our confidential and proprietary information and technology. These measures do not guarantee protection of our intellectual property, however. We can give no assurance that our copyrights will be upheld or will successfully deter infringement by third parties. There can be no assurances that our confidentiality agreements with employees and other third parties will be sufficient to protect our trade secrets and proprietary information or that such information will not be disclosed, that others will not independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets, or that we can fully protect our trade secrets and proprietary information. Violations by others of our confidentiality agreements and the loss of employees who have specialized knowledge and expertise could harm our competitive position and cause our sales and operating results to decline as a result of increased competition. It is also possible that third parties will misappropriate our trade secrets or other confidential information. We may be subject to cybersecurity breaches in which a third party obtains our confidential information. Third parties may also reverse engineer our products to copy our technology. Failure to protect our trademarks can lead to other companies selling products using confusing similar names, thereby damaging our brand. In some countries, it can be difficult to register trademarks because of the strict examination process or blocking trademarks for other goods. Costly and time-consuming litigation might be necessary to enforce and determine the scope of our intellectual property rights, and failure to obtain or maintain trade secret protection might adversely affect our ability to continue our research or bring products to market. Any of these circumstances could result in harm to our competitive position in the market.

Monitoring and preventing unauthorized use are also difficult and the measures we take to protect our intellectual property rights may not be adequate. There is a risk that we may be unable to adequately protect our intellectual property rights in certain foreign countries. For example, our competitors may independently develop similar technology or duplicate our products. If this occurs, it could be easier for our competitors to develop and sell competing products in these countries. Accordingly, infringement of our intellectual property rights poses a serious risk to our ability to conduct business.

Protection of our intellectual property rights, or the efforts of third parties to enforce their own intellectual property rights against us, may result in costly and time-consuming litigation, substantial damages, lost product sales and/or the loss of important intellectual property rights.

From time to time, we may be required to initiate litigation in order to enforce our intellectual property rights or to determine the noninfringement, scope or validity of a third party's intellectual property rights. Any litigation, regardless of outcome, could be expensive and time consuming and could subject us to significant liabilities or require us to re-engineer our products or obtain expensive licenses from third parties. There can be no assurance that any patents, copyrights or other intellectual property rights issued to or licensed by us will not be challenged, invalidated or circumvented, or that the rights granted thereunder will provide us with a competitive advantage. Furthermore, there is no assurance that any litigation we are involved in will yield the result that we seek as (i) the lawsuit may be dismissed or there could be an adverse finding, (ii) we may not be able to pursue the lawsuit due to the laws of the applicable country or (iii) there may be a subsequent unfavorable change in law that limits our ability to pursue the lawsuit. For example, litigation discovery practice in China, Japan, South Korea, continental Europe and Taiwan is not as robust as in the United States, so it can be more difficult to determine if a company is infringing on our patents and more challenging to bring a lawsuit.

In addition, our commercial success depends in part on our ability to avoid infringing or misappropriating patents or other intellectual property rights owned by third parties. From time to time, we receive communications from third parties asserting that our products or systems infringe, or may infringe, on the intellectual property rights of these third parties. These claims of infringement may lead to protracted and costly litigation, which could require us to pay substantial damages or have the sale of our products or systems stopped by an injunction. Infringement claims could also cause product or system delays or require us to redesign our products or systems, and these delays could result in the loss of substantial revenue. We may also be required to obtain a license from the third party or cease activities utilizing the third party's intellectual property rights. We may not be able to enter into such a license or such a license may not be available on commercially reasonable terms. Accordingly, the loss of an intellectual property dispute could hinder our ability to sell our products or systems or make the sale of our products or systems more expensive, which could lead to reduced revenue or lower margins, respectively.

If our network security measures are breached and unauthorized access is obtained to a customer’s data, to our data, or to our information technology systems, we may incur significant legal and financial exposure and liabilities and may experience disruptions in our operations.

As part of our business, we store our data and certain data about our customers, vendors and employees in our information technology system. We also rely on our information technology system for business operations. If there is a breach as a result of third-party action, including through the use of artificial intelligence, employee error, malfeasance, break-ins or otherwise, of our security measures designed to protect this information and prevent data loss and other security breaches, and someone obtains unauthorized access to our customers’, vendors’ or employees’ data or disrupts our access to our own data and systems, we could face loss of business, regulatory investigations or court orders or damage to our reputation, and we could be required to expend significant capital and other resources to alleviate the problem, as well as incur significant costs and liabilities, including due to litigation, indemnity obligations, damages for contract breach, penalties for violation of applicable laws or regulations, and costs for remediation and other incentives offered to customers.

Cyber-attacks and other malicious internet-based activities continue to increase. The Russia–Ukraine conflict and related sanctions imposed by the U.S. government may expose government entities and public and private U.S. companies to attempted or actual cybersecurity attacks launched in retaliation, and these attacks could materially disrupt our supply chain or our systems and operations or those of our customers and suppliers.

As the techniques used to obtain unauthorized access or sabotage systems change frequently and generally are not identified until they are launched against a target, our ability to anticipate these techniques or to implement adequate preventative measures is reduced. In addition, third parties have made attempts to fraudulently induce employees or users to disclose information to gain access to our data or our customers’ data. As a result of any of these events, our or our customers’ and vendors’ information could be accessed or disclosed improperly. In addition, cybersecurity incidents affecting our customers could result in substantial delays in our ability to ship to those customers or install our products, which could result in delays in revenue recognition or the cancellation of orders. As discussed herein under the heading “We outsource select manufacturing activities to third-party service providers, which decreases our control over the performance of these functions and may result in lower quality and functionality of our products,” cybersecurity incidents affecting our service providers could negatively impact our ability to timely and cost-effectively produce products and/or negatively impact our competitive position in the market. Likewise, cybersecurity events impacting our suppliers could result in substantial delays in our ability to obtain necessary components for our products from those suppliers, which could hamper our ability to ship our products to our customers, harming our results of operations and our customer relationships. Any or all of the above issues could negatively affect our ability to attract new customers, cause existing customers to choose to purchase from our competitors, result in reputational damage or subject us to third-party lawsuits, regulatory fines or other action or liability, which could adversely affect our operating results.

Compliance with data protection laws may be costly and may impede development of new products, and any failure to comply with, or inquiries under, these laws may could have a material adverse effect on our business, results of operations, and financial condition.

The General Data Protection Regulation (“GDPR”) is a regulation in European Union (“EU”) law on data protection and privacy for the individuals within the EU and the European Economic Area (“EEA”). It also addresses the export of personal data outside the EU and EEA areas. The United Kingdom has adopted legislation that substantially implements the GDPR and provides for a similar penalty structure. We are also subject to the California Consumer Privacy Act of 2018 (“CCPA”) and the California Privacy Rights Act (“CPRA”), an amendment and expansion of the CCPA. We may also be subject to other data privacy laws in the United States and the other countries in which we operate. In many cases, these laws apply not only to third-party transactions, but also to transfers of information between us and our subsidiaries, and among the subsidiaries and other parties with which we have commercial relations. The introduction of new products or expansion of our activities in certain jurisdictions may subject us to additional laws and regulations. These U.S. federal and state and foreign laws and regulations, including GDPR which can be enforced by private parties or government entities, are constantly evolving and can be subject to significant change. In addition, the application and interpretation of these laws and regulations, including GDPR, are often uncertain, particularly in our evolving industry, and may be interpreted and applied differently from country to country. Appropriate technical and organizational measures are necessary to implement these data protection principles. These laws and regulations can be costly to comply with and may delay or impede the development of new products, result in negative publicity, increase our operating costs, require significant management time and attention, or subject us to inquiries or investigations, claims or other remedies, including fines, which may be significant, or demands that we modify or cease existing business practices. A failure by us, our suppliers, or other parties with whom we do business to comply with posted privacy policies or with other federal, state, or international privacy-related or data protection laws and regulations, including GDPR, CCPA, CPRA and other new or changing privacy laws and regulations, could result in proceedings against

us by governmental entities or others, which could have a material adverse effect on our business, results of operations, and financial condition.

Risks Related to Competition

Some of our current and potential competitors have significantly greater resources than we do, and increased competition could impair sales of our products or cause us to reduce our prices.

The market for semiconductor capital equipment is highly competitive. We face substantial competition from established companies in each of the markets we serve. We principally compete with KLA, Nova, Camtek, Ushio, Canon, and PDF Solutions. Each of our products also competes with products that use different metrology, inspection or lithography techniques. Some of our competitors have greater financial, engineering, manufacturing and marketing resources, broader product offerings and service capabilities and larger installed customer bases than we do. As a result, these competitors may be able to respond more quickly to new or emerging technologies or market developments by devoting greater resources to the development, promotion and sale of products, which, in turn, could impair sales of our products. Further, there may be significant merger and acquisition activity among our competitors and potential competitors, which, in turn, may provide them with a competitive advantage over us by enabling them to rapidly expand their product offerings and service capabilities to meet a broader range of customer needs.

Many of our existing and potential customers in the semiconductor device manufacturing industry are large companies that require global support and service for their semiconductor capital equipment. Some of our competitors have more extensive support and service infrastructures than we do, which could place us at a disadvantage when competing for the business of global semiconductor device manufacturers. Many of our competitors are investing heavily in the development of new systems that will compete directly with our systems. We have, from time to time, selectively reduced prices on our systems in order to protect our market share, and competitive pressures may necessitate further price reductions. We expect our competitors in each product area to continue to improve the design and performance of their products and to introduce new products with competitive prices and performance characteristics. These product introductions would likely require us to decrease the prices of our systems and increase the level of discounts that we grant our customers. Price reductions or lost sales as a result of these competitive pressures would reduce our total revenue and could adversely impact our financial results.

Because of the high cost of switching equipment vendors in our markets, it is sometimes difficult for us to win new customers from our competitors even if our systems are superior to theirs.

We believe that once a semiconductor device manufacturer has selected one vendor's capital equipment for a production-line application, the manufacturer generally relies upon that capital equipment and, to the extent possible, subsequent generations of the same vendor's equipment for the life of the application. Once a vendor's equipment has been installed in a production line application, a semiconductor device manufacturer must often make substantial technical modifications and may experience production-line downtime in order to switch to another vendor's equipment. Accordingly, unless our systems offer performance or cost advantages that outweigh a customer's expense of switching to our systems, it will be difficult for us to achieve significant sales to that manufacturer once it has selected another vendor's capital equipment for an application.

Risks Related to Our International Operations

Tariffs, export regulations, and other market barriers have impacted and may continue to impact our ability to compete for the business of domestic customers in China and other jurisdictions, which has adversely affected and may continue to adversely affect our, business, financial condition and results of operations.

The semiconductor device industry is a high-visibility industry in many of the European and Asian countries in which we sell our products. Because the governments of these countries have provided extensive financial support to our semiconductor device manufacturing customers in these countries, we believe that our customers could be disproportionately affected by any trade embargoes, excise taxes, tariffs, or other restrictions imposed by their governments on trade with U.S. companies such as ourselves, particularly with respect to the ongoing tensions between the United States and China.

Over the last several years, the U.S. government has significantly expanded export controls on certain technologies and commodities to certain markets, particularly with respect to semiconductor and other high technology exports to China. For example, the U.S. Department of Commerce (“DoC”) has imposed export controls on the transfer of certain U.S. products and technologies to “military end users” in China, as well as restrictions on the transfer of U.S. products to certain companies, including Huawei Technologies Co., Ltd., and its affiliates. Most recently, in 2022, the DoC imposed new export controls related to the Chinese semiconductor manufacturing, advanced computing, and supercomputer industries. In 2022, the DoC also added a number of companies in China to the Unverified List and Entity List of the Export Administration Regulations (“EAR”), including Yangtze Memory Technologies Co., Ltd (YMTC). In October 2023, the DoC revised and expanded the 2022 export controls.

The effect of these changes, among others, is that Onto Innovation is required to conduct additional end-use diligence and in some instances obtain export licenses before providing products to certain customers. There can be no assurance that export licenses applied for by us or our customers will be granted in a timely manner or at all. We have experienced and may continue to experience a temporary loss of revenues while we are obtaining licenses with certain customers affected by export controls. Failure to obtain any required license could result in a reduction of anticipated revenues until we are able to replace unlicensed orders with other customer orders for which a license has been obtained or is not required, and there can be no assurance that replacement orders will be obtained on favorable terms, in a timely manner, or at all. In addition, any licenses that are granted to us or to our customers may have a short duration or require us to satisfy various conditions. Any of these occurrences could have a material adverse effect on our revenues, business, financial condition and results of operations. Further, we hold inventory of products that may be affected by these recent U.S. government actions, including potential order cancellations. If the sale of these products is delayed or we are unable to return or dispose of our inventory on favorable economic terms, we may incur additional carrying costs for the inventory or otherwise record charges associated with this inventory.

The administrative processing, attendant delays and risk of ultimately not obtaining required export approvals also put us at a disadvantage relative to our non-U.S. competitors who may not be required to comply with U.S. export controls. This difficulty and uncertainty has adversely affected our ability to compete for and win business from domestic customers in China.

It is possible that the U.S. government will impose additional export controls on our products or systems, which could lead to further revenue losses. Such changes could result in additional restrictions on our ability to sell products to customers in China and other jurisdictions. Foreign customers affected by current or future U.S. government sanctions, controls or threats of sanctions or controls may respond by developing their own solutions to replace our products or by utilizing our foreign competitors’ products (who are not subject to the same export controls and can fulfill the orders). In addition, these export controls may also reduce overall global demand for our customers’ products or for other products produced or manufactured in the U.S. or based on U.S. technology, in turn reducing demand for our products, which could have a material adverse effect on our business, financial condition and results of operations. Increased restrictions on China exports may also lead to regulatory retaliation by the Chinese government, which may adversely impact our business. International trade disputes could result in increases in tariffs and other trade restrictions and protectionist measures that could adversely impact our operations and reduce the competitiveness of our products relative to local and global competitors.

We are subject to compliance with domestic and foreign laws and regulations, and the burden of complying with such laws and regulations, or any failure to comply, has adversely affected and may continue to adversely affect our business, financial condition and results of operations.

Our business is subject to risks inherent in doing business internationally, including compliance with, inconsistencies among, and unexpected changes in, a wide variety of foreign laws and regulatory environments, including, among other issues, with respect to employees, protection of our intellectual property, and a wide variety of operational regulations and trade and export controls under domestic, foreign, and international law.

We are faced with various risks that may be associated with our compliance with existing, new, different, inconsistent or conflicting laws, regulations and rules enacted by governments and/or their regulatory agencies in the countries in which we operate as well as rules and policies implemented at our customer sites. These laws, regulations, rules and policies could relate to any of an array of issues including, but not limited to, environmental, tax, intellectual property, trade secrets, product liability, contracts, antitrust, employment, securities, import/export and unfair competition. The cost of maintaining compliance under multiple and changing regulatory regimes may adversely affect our business, financial condition and results of operations, and, in the case of export controls, has adversely affected and may continue to adversely affect our results of operations. As discussed herein under the heading “Tariffs, export regulations, and other market barriers have impacted and may continue to impact both our ability to compete for the business of domestic customers in China and our results of operations,” the U.S. government issued new export control rules in 2022 and 2023 aimed at restricting China’s access to semiconductor equipment and advanced computing technology, among other things. To comply with the new rules, Onto Innovation has had to expend time and resources that might otherwise have been used for revenue generating activities. Further regulatory changes could require additional diversion of resources to compliance efforts. In addition, in the event that we fail to comply with or violate U.S. or foreign laws or regulations or customer policies, we could be subject to civil or criminal claims or proceedings that may result in monetary fines, penalties or other costs against us or our employees, which may adversely affect our operating results, financial condition, customer relations and ability to conduct our business.

Political and economic instability may result in reduced demand for our products.

We are subject to various global risks related to political and economic instabilities in countries in which we derive sales. If terrorist activities, armed conflict, civil or military unrest or political instability occurs outside of the United States, these events may result in reduced demand for our products or adversely affect our supply chain. For example, the Ukraine–Russia geographic region is a major source of critical raw materials used for semiconductor manufacturing (such as neon and palladium), and any supply chain disruptions or shortages of such materials due to the ongoing conflict in that region could impact our customers in a manner that reduces demand for our products. Similarly, if the conflict in Israel and the surrounding area escalates further, it could result in disruptions to our supply chain and/or the operations of our customers in a manner that reduces demand for our products.

In addition, due to the complex relationships among China, Hong Kong, Taiwan, and the United States, there is risk that political, diplomatic, and national security influences might lead to trade, technology, or capital disputes, or disruptions affecting the semiconductor industry. In particular, the escalation of geopolitical tensions between China and Taiwan may cause disruptions in the markets in which we operate and lead to a decreased demand for our products, which could adversely affect our business in Asia or have a negative impact on the regional or global economy.

Furthermore, an outbreak of hostilities or other political upheaval in China, Taiwan, Japan, or South Korea, or an economic downturn in Asia or globally, would likely harm the operations of our customers in these countries. The effect of these types of events on our revenue and cash flows could be material because we derive substantial revenue from sales to semiconductor device foundries in Taiwan such as Taiwan Semiconductor Manufacturing Company Ltd., from memory chip manufacturers in South Korea such as Samsung Electronics Co., Ltd., and from semiconductor device manufacturers in Japan such as Toshiba Corporation.

Natural disasters, changes in climate, public health crises, and geo-political conflicts could materially adversely affect our worldwide operations (or those of our business partners).

The occurrence of one or more natural disasters, such as hurricanes, tropical storms, fires, cyclones, earthquakes, tsunamis, flooding, typhoons, volcanic eruptions and weather conditions such as major or extended winter storms, droughts and tornadoes, whether as a result of climate change or otherwise, may disrupt manufacturing or other operations. For example, our Milpitas operations are located near major earthquake fault lines in California. We cannot provide any assurance that alternate means of conducting our operations (whether through alternate production capacity or service providers or otherwise) would be available if a major disruption were to occur or that, if such alternate means were available, they could be obtained on favorable terms.

Our business may also be affected by public health issues (for example, an outbreak of a contagious disease such as COVID-19, avian influenza, measles or Ebola). The effects of the public health crisis caused by the COVID-19 pandemic and the resulting economic impact have affected, and may continue to affect, our operations and those of our suppliers, third-party service providers, and customers. The extent to which the economic effects of the COVID-19 pandemic could continue to impact our business, results of operations, and financial conditions is difficult to predict and depends on numerous evolving factors including any future resurgences of the pandemic and the intensity and duration of any resulting adverse macroeconomic conditions. The COVID-19 pandemic exposed our business, results of operations, and financial condition to the following adverse impacts: disruptions to our supply chain in connection with the sourcing of materials, support, and services; disruption

of operations due to unavailability of employees as a result of illness, travel restrictions and other factors; and a decrease in demand for our products; Additional sustained or prolonged outbreaks of COVID-19, or any ongoing, worsening or recurring supply chain disruptions or macroeconomic effects of the pandemic could have a material adverse effect on our business, results of operations, legal exposure, or financial condition and may also heighten many of the other risks described in this “Risk Factors” section.

There may also be conflict or uncertainty in the countries in which we operate, including safety issues, , disruptions of service from utilities, nuclear power plant accidents or general economic or political unrest, including war, civil unrest or terrorist attacks. We have no material operations in Russia, Belarus, Ukraine, or Israel. Consequently, to date, our operations have not been materially adversely affected by Russia’s invasion of Ukraine, or the Israel-Hamas conflict. However, if the Russia-Ukraine or Israel-Hamas conflicts escalate further and/or the U.S. or other jurisdictions impose additional sanctions on the governments or entities involved, this could result in disruptions to the global economy and/or supply chains that could adversely affect our business.

We may face difficulties in staffing and managing foreign branch operations due to political tensions or cultural differences.

During periods of tension between the governments of the United States and certain other countries, it is often difficult for U.S. companies such as ours to staff and manage operations in such countries. Language and other cultural differences may also inhibit our sales and marketing efforts and create internal communication problems among our U.S. and foreign research and development teams, increasing the difficulty of managing multiple remote locations performing various development, quality assurance, and yield ramp analysis projects.

Currency fluctuations may impact our international sales or expose us to exchange rate risk.

A substantial portion of our international sales are denominated in U.S. dollars. As a result, if the dollar rises in value in relation to foreign currencies, our systems will become more expensive to customers outside the United States and may be less competitive with systems produced by competitors outside the United States. These conditions could negatively impact our international sales. Foreign sales also expose us to collection risk in the event it becomes more expensive for our foreign customers to convert their local currencies into U.S. dollars. Additionally, in the event a larger portion of our revenue becomes denominated in foreign currencies, we would be subject to a potentially significant exchange rate risk, and any failure to sufficiently hedge or otherwise manage these risks could materially and adversely affect our financial condition, results of operations, and liquidity.

Our internal controls with respect to anti-corruption laws may not be effective, and any failure to comply with such laws may result in severe sanctions and liabilities, which may negatively affect our business, operating results and financial condition.

We are subject to the Foreign Corrupt Practices Act of 1977, as amended (the “FCPA”), and other laws that prohibit improper payments or offers of payments to foreign governments and their officials and political parties by U.S. persons and issuers as defined by the statute, for the purpose of obtaining or retaining business. Also, similar worldwide anti-bribery laws, such as the U.K. Bribery Act and Chinese anti-corruption laws, generally prohibit companies and their intermediaries from making improper payments to non-U.S. officials for the purpose of obtaining or retaining business. Some of our distribution partners are located in parts of the world that have experienced governmental corruption to some degree and, in certain circumstances, strict compliance with anti-bribery laws may conflict with local customs and practices. The policies and procedures we have implemented to discourage these practices by our employees, our existing safeguards and any future improvements may prove to be ineffective, and our employees, consultants, sales agents or distributors may engage in conduct for which we might be held responsible. Violations of the FCPA or international anti-corruption laws may result in severe criminal or civil sanctions, and we may be subject to other liabilities, which could negatively affect our business, operating results and financial condition. In addition, the U.S. government may seek to hold us liable for successor liability FCPA violations committed by companies in which we invest or that we acquire. We cannot assure you that our internal control policies and procedures will protect us from reckless or negligent acts committed by our employees, distributors, partners, consultants or agents.

Risks Related to Laws, Legal Proceedings, Financial Markets and the Environment

Changes in tax rates or tax liabilities could affect results.

As a global company, we are subject to taxation in the United States and various other countries. Significant judgment is required to determine and estimate worldwide tax liabilities. Our future annual and quarterly tax rates could be affected by

numerous factors, including changes in the (1) applicable tax laws; (2) composition of earnings in countries with differing tax rates; or (3) recoverability of our deferred tax assets and liabilities. Beginning in 2022, the U.S. Tax Cuts and Jobs Act of 2017 (“TCJA”) eliminated the existing option to deduct research and development expenditures and requires taxpayers to amortize them over five years pursuant to IRC Section 174. Although Congress is considering legislation that would defer the amortization requirement to later years, we have no assurance that the provision will be repealed or otherwise modified. The requirement reduced our cash flows for 2022 and 2023, and may continue to reduce our cash flows unless repealed. In addition, recent proposals to increase the U.S. corporate income tax rate, increase U.S. taxation of international business operations and impose a global minimum tax could have a negative impact on our tax position depending upon the terms of the final enacted legislation. Based on the nature of the uncertainties around specific legislation to be enacted, we have not quantified the impact of this risk. Many countries and organizations such as the Organization for Economic Cooperation and Development are also actively considering changes to existing tax laws or have proposed or enacted new laws that could increase our tax obligations in countries where we do business or cause us to change the way we operate our business. Any of these developments or changes in federal, state, or international tax laws or tax rulings could adversely affect our effective tax rate and our results of operations.

In addition, we are subject to regular examination of our income tax returns by the Internal Revenue Service and other tax authorities. We regularly assess the likelihood of favorable or unfavorable outcomes resulting from these examinations to determine the adequacy of our provision for income taxes. Although we believe our tax estimates are reasonable, there can be no assurance that any final determination will not be materially different from the treatment reflected in our historical income tax provisions and accruals, which could materially and adversely affect our results of operations.

In December 2021, the Organization for Economic Co-operation and Development (“OECD”), released guidance covering various topics, including country-by-country reporting, definitional changes to permanent establishment and Base Erosion and Profit Shifting (“BEPS”), an initiative that aims to standardize and modernize global tax policy. The proposed guidance also established a global minimum tax of 15%. Depending on the final form of guidance adopted by OECD members and legislation ultimately enacted, if any, there may be significant consequences for us due to our international business activities, including, but not limited to, an increase in our tax uncertainty and adverse effects on our provision for income taxes.

Turmoil or fluctuations in the credit markets and the financial services industry may negatively impact our business, results of operations, financial condition or liquidity, and our factoring arrangements may expose us to additional risks.

In the past, global credit markets and the financial services industry have experienced periods of turmoil and upheaval characterized by the tightening of the credit markets, the weakening of the global economy and an unprecedented level of intervention from the United States and other governments. Adverse economic conditions, such as sustained periods of economic uncertainty or a crisis in the financial markets may have a material adverse effect on our liquidity and financial condition if our ability to obtain credit from the capital financial markets, or from trade creditors was impaired. If banks and financial institutions with whom we have banking relationships enter receivership or become insolvent in the future, we may be unable to access, and we may lose, some or all of our existing cash, cash equivalents and investments to the extent those funds are not insured or otherwise protected by the FDIC. In addition, a worsening economy or an economic crisis could also adversely impact our customers’ ability to finance the purchase of systems from us or our suppliers’ ability to provide us with product, either of which may negatively impact our business and results of operations.

We are subject to various environmental laws and regulations that could impose substantial costs upon us, and failure to comply with such laws and regulations may harm our business, operating results and financial condition.

Some of our operations use substances regulated under various federal, state, local, and international laws governing the environment, including those relating to the storage, use, discharge, disposal, labeling, and human exposure to hazardous and toxic materials. We could incur costs, fines and civil or criminal sanctions, third-party property damage or personal injury claims, or could be required to incur substantial investigation or remediation costs, if we were to violate or become liable under environmental laws. Liability under environmental laws can be joint and several and without regard to comparative fault. Compliance with current or future environmental laws and regulations could restrict our ability to expand our facilities or require us to acquire additional expensive equipment, modify our manufacturing processes, or incur other significant expenses. For example, we are or expect to become subject to various new or proposed climate-related and other sustainability laws and regulations, including, for example, the state of California's new climate change disclosure requirements, the EU's new Corporate Sustainability Reporting Directive and proposed climate-change disclosure requirements from the SEC. Compliance with such laws and regulations, as well as the overall increased focus and scrutiny from the SEC and other regulators, investors, customers, vendors, employees, and other stakeholders concerning environmental, social and governance ("ESG") and climate matters, could impose additional costs on us. We may unintentionally violate environmental laws or regulations in the future as a result of human error, equipment failure or other causes. In addition to the potential adverse effects on our business operations of such an event, we are committed to maintaining safe working conditions for our employees and sourcing, manufacturing, and distributing our products in a responsible and environmentally friendly manner, and any failure on our part to do so may cause reputational harm for the Company.

Legal proceedings, claims and investigations may expose us to increased costs and may negatively affect our business and results of operations.

We have been from time to time, and in the future may be, involved in legal proceedings or claims regarding any number of matters, including intellectual property infringement, contract disputes, trade compliance, antitrust, environmental regulations, privacy and data protection, securities, product performance, product liability, employment and workplace safety, and other matters. In addition, we may receive, and have received, inquiries, warrants, subpoenas, and other requests for information in connection with government investigations of potential or suspected violations of law by our company and/or other companies that we work with. We have also received, and may receive in the future, claims from customers who believe we owe them product warranty protection, indemnification or other obligations.

Legal proceedings, claims, and government investigations, whether with or without merit, may be time-consuming and expensive to respond to and defend. They may also divert management's attention and our other resources from day-to-day operational matters; constrain our ability to sell products and services; result in adverse judgments for damages, injunctive relief, penalties and fines; and negatively affect our business and results of operations. We cannot predict the outcome of current or future legal proceedings, claims or investigations.

Risks Related to Growth and Acquisitions

We may choose to acquire new and complementary businesses, products or technologies instead of developing them ourselves, and we may be unable to complete these acquisitions or may not be able to successfully integrate an acquired business in a cost-effective and non-disruptive manner.

Our success depends on our ability to continually enhance and broaden our product offerings in response to customer-anticipated process changes, strategic opportunities for growth, and industry technology trends. To this end, we have, from time to time, engaged in the process of identifying, analyzing and negotiating possible acquisition transactions, and, from time to time, acquiring one or more businesses, and we expect to continue to do so in the future. We may choose to acquire new and complementary businesses, products, technologies and/or services instead of developing them ourselves. We may, however, face competition for acquisition targets from larger and more established companies with greater financial resources, making it more difficult for us to complete acquisitions. We cannot provide any assurance that we will be successful in consummating future acquisitions on favorable terms or that we will realize the benefits that we anticipate from one or more acquisitions that we consummate. Integrating any business, product, technology or service into our current operations could be expensive and time-consuming and/or disrupt our ongoing business. Further, there are numerous risks associated with acquisitions and potential acquisitions, including, but not limited to:

- diversion of management's attention from day-to-day operational matters and current products and customers;
- lack of synergy or the inability to successfully integrate the new business or to realize expected synergies;

- integration of acquired businesses and their operations, including enterprise resource planning systems, may be costly and time-consuming and divert resources away from other projects;
- failure to commercialize the new technology or business;
- failure to meet the expected performance of the new technology or business;
- failure to retain key employees and customer or supplier relationships;
- lower-than-expected market opportunities or market acceptance of any new products; and
- unexpected reduction of sales of existing products as a result of the introduction of new products.

Our inability to consummate one or more acquisitions on favorable terms, or our failure to realize the intended benefits from one or more acquisitions, could have a material adverse effect on our business, liquidity, financial position and/or results of operations, including as a result of our incurrence of indebtedness and related interest expense and our assumption of unforeseen contingent liabilities. We might need to raise additional funds through public or private equity or debt financings to finance any acquisition. In that event, we could be forced to obtain financing on terms that are not favorable to us and, in the case of equity financing, that result in dilution to our stockholders. In addition, any impairment of goodwill or other intangible assets, amortization of intangible assets, write-down of other assets or charges resulting from the costs of acquisitions and purchase accounting could harm our business and operating results.

If we cannot effectively manage growth, our business may suffer.

Over the long-term, we intend to grow our business by increasing our sales efforts and completing strategic acquisitions. To effectively manage growth, we must, among other things:

- engage, train and manage a larger sales force and additional service personnel;
- expand the geographic coverage of our sales force;
- expand our information systems;
- identify and successfully integrate acquired businesses into our operations; and
- administer appropriate financial and administrative control procedures.

Growth of our business will likely challenge our management, financial, operational, technical, sales, administrative, and other resources. Any failure to effectively manage our growth may cause our business to suffer and our stock price to decline.

Risks Related to the Global Economy and the Semiconductor Industry

Cyclicality in the semiconductor device industry has led to substantial decreases in demand for our systems in the past and may, from time to time, continue to do so.

Our operating results are subject to significant variation due to global economic conditions and the cyclical nature of the semiconductor device industry. Our business depends upon the capital expenditures of semiconductor device manufacturers, which, in turn, depend upon the current and anticipated market demand for semiconductors and products using semiconductors. The timing, length and severity of the up-and-down cycles in the semiconductor equipment industry are difficult to predict. In recent history, the industry has experienced significant downturns, generally in connection with declines in economic conditions. This cyclical nature of the industry in which we operate affects our ability to accurately predict future revenue and, thus, future expense levels. When cyclical fluctuations result in lower-than-expected revenue levels, operating results may be adversely affected, and cost reduction measures may be necessary in order for us to remain competitive and financially sound. During a down cycle, we must be in a position to adjust our cost and expense structure to prevailing market conditions and to continue to motivate and retain our key employees. In addition, during periods of rapid growth, we must be able to increase manufacturing capacity and personnel to meet customer demand. We can provide no assurance that these objectives can be met in a timely manner in response to industry cycles, and we cannot predict when and to what extent sales may normalize, or when and to what extent gross margins may improve, following any such occurrence. If we fail to respond to industry cycles, our business could be seriously harmed.

We may also experience supplier or customer issues as a result of adverse macroeconomic conditions. If our customers have difficulties in obtaining capital or financing, this could result in lower sales. Customers with liquidity issues could also

result in an increase in bad debt expense. These conditions could also affect our key suppliers, which could affect their ability to supply parts and result in delays of our customer shipments.

Our future rate of growth is highly dependent on the development and growth of the market for microelectronic device inspection, lithography and metrology equipment.

We target our products to address the needs of microelectronic device manufacturers for defect inspection, metrology and lithography. If for any reason the market for microelectronic device inspection, lithography or metrology equipment fails to grow in the long term, we may be unable to maintain current revenue levels in the short term and maintain our historical growth in the long term. Growth in the inspection market is dependent to a large extent upon microelectronic manufacturers replacing manual inspection with automated inspection technology. Growth in the metrology market is dependent to a large extent upon new chip designs and capacity expansion of microelectronic manufacturers. Growth in the lithography market is dependent on the development of cost-effective packaging with high fine pitch RDLs, ultimately migrating to multi-die, large, form-factor packages. There can be no assurance that manufacturers will undertake these actions at the rate we expect.

General Risk Factors

Provisions of our charter documents and of Delaware law could discourage potential acquisition proposals and/or delay, deter or prevent a change in control of our company.

Provisions of our certificate of incorporation and by-laws may inhibit changes in control of our company not approved by our Board of Directors. These provisions also limit the circumstances in which a premium can be paid for our common stock and in which a proxy contest for control of our board may be initiated. These provisions provide for:

- a prohibition on stockholder actions through written consent;
- a requirement that special meetings of stockholders be called only by the chairperson of our Board of Directors or majority of our directors;
- advance notice requirements for stockholder proposals and director nominations by stockholders;
- the authority of our Board of Directors to issue, without stockholder approval, preferred stock with such terms as the Board may determine; and
- the authority of our board, without stockholder approval, to adopt a stockholder rights plan.

We are also entitled to avail ourselves of the protections of Section 203 of the Delaware General Corporation Law, which could inhibit changes in control of the Company.

Our stock price is volatile.

The market price of our common stock has fluctuated widely. Consequently, the current market price of our common stock may not be indicative of future market prices, and we may be unable to sustain or increase the value of an investment in our common stock. Factors affecting our stock price may include:

- variations in operating results from quarter to quarter;
- changes in earnings estimates by analysts or our failure to meet analysts' expectations;
- changes in the market price per share of our public company customers;
- market conditions in the semiconductor and other industries into which we sell products;
- general economic conditions;
- political changes, hostilities or natural disasters such as hurricanes and floods;
- the impact of infectious disease pandemics, on the global economy and on our customers, suppliers, employees, and business;
- low trading volume of our common stock; and
- the number of firms making a market in our common stock.

In addition, the stock market has experienced periods of significant price and volume fluctuations. These fluctuations have particularly affected the market prices of the securities of high technology companies like ours. Any such market fluctuations in the future could adversely affect the market price of our common stock.

Item 1B. Unresolved Staff Comments.

None.

Item 1C. Cybersecurity

Cybersecurity Risk Management and Strategy

We rely heavily on information technology (IT) systems in all aspects of our operations, and data security plays an important role in the protection of our proprietary information and that of our customers and suppliers. For these reasons, we take a number of steps to protect Onto Innovation's IT systems from internal and external cybersecurity threats.

Identifying and assessing cybersecurity risk is integrated into our overall risk management systems and processes. Cybersecurity risks related to our business, technical operations, and privacy and compliance issues are identified and addressed through a multi-faceted approach including third-party assessments, IT security, governance, risk and compliance reviews. To defend, detect and respond to cybersecurity incidents, we, among other things: conduct proactive cybersecurity reviews of systems and applications, perform penetration testing using external third-party tools and techniques to test security controls, conduct employee training, monitor emerging laws and regulations related to data protection and information security and implement appropriate changes.

We have implemented incident response processes which have four overarching and interconnected stages: 1) preparation for a cybersecurity incident, 2) detection and review of an incident, 3) containment and remediation, and 4) post-incident review and analysis. Cybersecurity incident responses are managed by our Corporate Incident Response Team and overseen by our Vice President of IT.

Security events and data incidents are evaluated, ranked by severity and prioritized for response and remediation. Incidents are evaluated to determine materiality as well as operational and business impact, and reviewed for privacy impact.

We also conduct tabletop exercises to simulate responses to cybersecurity incidents. Our team of cybersecurity professionals then collaborate with technical and business stakeholders across our business units to further analyze the risk to the company, and form detection, mitigation and remediation strategies.

As part of the above processes, we regularly engage external auditors and subject matter experts to assess our internal cybersecurity programs and compliance with applicable practices and standards. Since 2021, our Information Security Management System has been certified to conform to the requirements of ISO/IEC 27001:2013.

Our cybersecurity program also includes third-party assessments to identify and mitigate risks from third parties such as vendors, suppliers, and other business partners associated with our use of third-party service providers. Cybersecurity risks are evaluated when determining the selection and oversight of applicable third-party service providers and potential risks when handling and/or processing our employee, business or customer data. In addition to new vendor onboarding, we perform risk assessments during third-party cybersecurity compromise incidents to identify and mitigate risks to us from third-party incidents.

Our individual employees also play an important role in our information security systems. All employees are required to familiarize themselves with the Company's information security policies and, at least annually, employees are required to participate in an information security training program, which is designed to help employees identify potentially threats and train them on how to respond. Throughout the year, the IT department conducts phishing campaigns and other simulated hacking attacks with employees as a way of reminding them of their security obligations and ensuring that our SETA (security education and training awareness) has been effective.

As of the date of this Form 10-K, no risks from cybersecurity threats, including as a result of any previous cybersecurity incidents, have materially affected or are reasonably likely to materially affect us, including our business strategy, results of operations, or financial condition.

For more information on the cybersecurity risks we face that could adversely impact us, please see "Part I, Item IA - Risk Factors - If our network security measures are breached and unauthorized access is obtained to a customer's data, to our data,

or to our information technology systems, we may incur significant legal and financial exposure and liabilities and may experience disruptions in our operations”.

Cybersecurity Governance

The Company’s Board of Directors has oversight of information security matters at the Company, including reviewing the Company’s cybersecurity practices. At least annually, the Vice President of IT presents the Company’s information security policies and programs to the Board. Our Audit Committee is tasked with overseeing the risks from cybersecurity threats. Members of the Audit Committee receive updates on cybersecurity matters on a quarterly basis from one or more representatives from the Company’s Cyber Security Council (“CSC”), which is composed of our business unit general managers, other members of senior management, our Vice President of IT and our IT Security Manager. These updates include a discussion of existing and new cybersecurity risks (if any), updates on how management is addressing and/or mitigating those risks, and the status of information security initiatives. Other Board members also engage in conversations with management on cybersecurity-related news events and discuss any updates to our cybersecurity risk management and strategy programs outside of the scheduled meetings.

The CSC is also responsible for the executive level supervision of the Company’s cybersecurity risk, information security, and technology risk, as well as the IT department’s actions to identify, assess, mitigate, and remediate cyber related issues. The CSC receives regular quarterly reports from the Vice President of IT on the Company’s cybersecurity risk profile and enterprise cybersecurity program.

We have also established a process whereby potentially material cybersecurity incidents are escalated to a Cybersecurity Disclosure Committee (“CDC”) consisting of our CEO, CFO, Vice President and General Counsel, Vice President of IT and Corporate Controller. The Cybersecurity Disclosure Committee is tasked with evaluating whether such incidents have material impact on the Company, and thus require disclosure, as well as any other actions that may be appropriate in response to the incident. The CDC promptly notifies the Audit Committee if it determines that an incident is likely to have a material impact on the Company and updates the Audit Committee on a quarterly basis of any incidents that it determined were not material.

The Vice President of IT acts as our head of information security in leading our information security organization. Our VP of IT has over 20 years of industry experience, including serving in similar roles leading and overseeing cybersecurity programs at other public companies. Team members who support our information security program have relevant educational and industry experience, including holding similar positions at large technology companies.

Item 2. Properties.

Our principal executive office building is located at 16 Jonspin Road in Wilmington, Massachusetts. We own our Milpitas facility and lease facilities for corporate, engineering, manufacturing, sales and service-related purposes in the United States and seven other countries - China, Japan, South Korea, Singapore, Taiwan, Malaysia and Vietnam. The following table indicates the location, the general purpose and the square footage of our material facilities. Our leases expire at various times through July 1, 2029.

<u>Location</u>	<u>Facility Purpose</u>	<u>Approximate Square Footage</u>
Wilmington, Massachusetts.....	Corporate Headquarters, Engineering, Manufacturing and Service	77,500
Milpitas, California.....	Engineering, Manufacturing, Service and Administration	134,600
Budd Lake, New Jersey	Engineering, Service and Administration	49,000
Bloomington, Minnesota	Engineering, Manufacturing, Service and Administration	98,700
Bend, Oregon.....	Engineering and Service	12,700
Hillsboro, Oregon.....	Engineering and Service	10,000
Snoqualmie, Washington.....	Engineering and Service	20,300
Tucson, Arizona	Engineering, Manufacturing and Service.....	18,900
Taiwan	Sales and Service	37,600
China.....	Sales, Service and Engineering	26,200
South Korea	Sales and Service	29,200
Japan	Sales and Service	14,000
Singapore.....	Sales and Service	9,800

We also lease office space for other smaller sales and service offices in several locations throughout the world.

We believe that our existing facilities and capital equipment are adequate to meet our current requirements and that suitable additional or substitute space is available on commercially reasonable terms if needed.

Item 3. Legal Proceedings.

The information set forth under the heading “Legal Matters” in Note 8, “Commitments and Contingencies” to the Consolidated Financial Statements is incorporated herein by reference.

Item 4. Mine Safety Disclosures.

None.

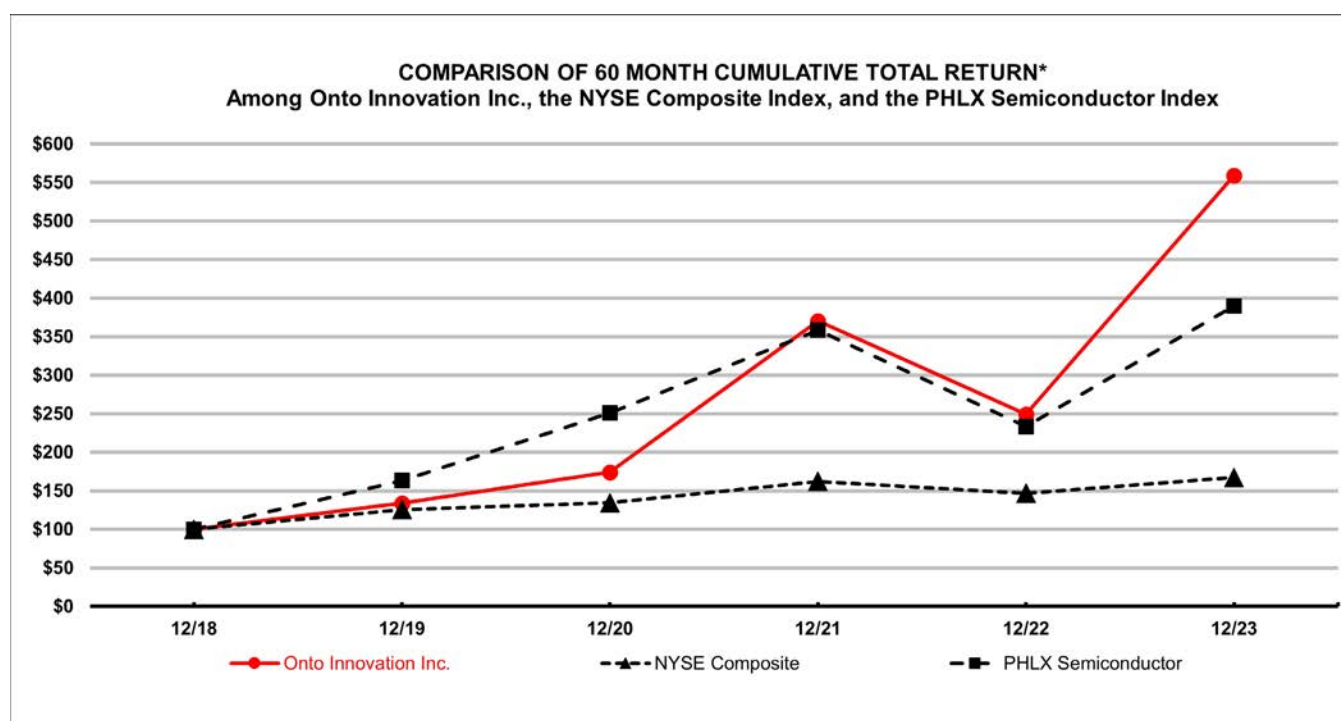
PART II

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

Our common stock, \$0.01 par value per share, is quoted on the New York Stock Exchange (“NYSE”) under the symbol “ONTO.” As of February 5, 2024, there were approximately 106 stockholders of record. On October 25, 2019, we became Onto Innovation Inc. upon the effectiveness of the merger (the “2019 Merger”) between Nanometrics Incorporated (“Nanometrics”) and Rudolph Technologies, Inc. (“Rudolph”). Prior to the 2019 Merger, Nanometrics’ common stock was quoted on the Nasdaq Global Select Market under the symbol “NANO” and Rudolph’s common stock was quoted on the NYSE under the symbol “RTEC.” Set forth below is a line graph comparing the annual percentage change in the cumulative return to the stockholders of the Company’s common stock with the cumulative return of the NYSE Composite Index and an industry specific index, the PHLX Semiconductor Index, for the period commencing on December 31, 2018 and ending on December 31, 2023. Historical data for Onto Innovation in the line graph for the period commencing on December 31, 2018 and ending on October 25, 2019 reflects the cumulative return to the stockholders of Nanometrics.

The information contained in the performance graph shall not be deemed to be “soliciting material” or to be “filed” with the SEC, nor shall such information be incorporated by reference into any future filing under the Securities Act or the Exchange Act, except to the extent that the Company specifically incorporates it by reference into such filing.

The graph assumes that \$100 was invested on December 31, 2018 in the Company’s common stock and in each index. Stockholder returns over the indicated period should not be considered indicative of future stockholder returns.



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	12/18	12/19	12/20	12/21	12/22	12/23
Onto Innovation Inc.....	100.0	133.7	173.9	370.3	249.0	559.1
NYSE Composite	100.0	125.5	134.3	162.0	146.9	167.1
PHLX Semiconductor.....	100.0	163.3	250.9	358.4	233.4	389.7

We have never declared or paid a cash dividend on our common stock and we currently do not intend to do so. The declaration of any future dividends by us is within the discretion of our Board of Directors and will be dependent on our earnings, financial condition and capital requirements as well as any other factors deemed relevant by our Board of Directors.

In November 2020, the Onto Innovation Board of Directors approved a share repurchase authorization, which allows us to repurchase up to \$100 million worth of shares of our common stock. Repurchases may be made through both public market

and private transactions from time to time with shares purchased being subsequently retired. During the twelve months ended December 30, 2023, we repurchased 46 thousand shares of our common stock. The amount paid to repurchase the shares in excess of par value, including transaction costs, is recorded directly as a decrease to additional paid-in capital and accumulated earnings. At December 30, 2023, there was \$31.6 million available for future share repurchases under the share repurchase authorization.

For further information, see Note 16 in the accompanying Notes to the Consolidated Financial Statements included in this Form 10-K.

In addition to our share repurchase program, we withhold common stock shares associated with net share settlements to cover tax withholding obligations upon the vesting of restricted stock unit awards under the Company's equity incentive program. During the three and twelve months ended December 30, 2023, we withheld 3 thousand and 125 thousand shares through net share settlements, respectively. For the three and twelve month periods ended December 30, 2023, net share settlements cost \$0.4 million and \$10.8 million, respectively. Please refer to Note 10 of the Notes to the Consolidated Financial Statements included in this Form 10-K for further discussion regarding our equity incentive plan.

The following table provides details of common stock purchased during the three-month period ended December 30, 2023 (in thousands, except per share data):

Period	Total Number of Shares Purchased (1)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Program	Maximum Approximate Dollar Value of Shares that May Yet Be Purchased Under the Program
October 1, 2023 - October 30, 2023	2	\$ 121.77	—	\$ 31,577
October 31, 2023 - November 30, 2023	1	\$ 133.33	—	\$ 31,577
December 1, 2023 - December 30, 2023	—	\$ —	—	\$ 31,577
Three Months Ended December 30, 2023	<u>3</u>		<u>—</u>	

¹ Includes shares withheld through net share settlements.

Item 6. [Reserved]

Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations.

Executive Summary

We are a worldwide leader in the design, development, manufacture and support of process control tools that perform macro-defect inspection and metrology, lithography systems, and process control analytical software used by semiconductor and advanced packaging device manufacturers. We deliver comprehensive solutions throughout the semiconductor fabrication process with our families of proprietary products that provide critical yield-enhancing information, enabling microelectronic device manufacturers to drive down costs and time to market of their devices. We provide process and yield management solutions used in both wafer processing facilities, often referred to as “front-end” manufacturing, and in device packaging and test facilities, commonly referred to as “back-end” manufacturing. Our advanced process control software portfolio includes powerful solutions for standalone tools, groups of tools, or factory-wide suites to enhance productivity and achieve significant cost savings.

Our principal market is semiconductor capital equipment. Semiconductors packaged as integrated circuits (“ICs”), or “chips”, are used in consumer electronics, server and enterprise systems, mobile computing (including smart phones and tablets), data storage devices, and embedded automotive and control systems. Our core focus is the measurement and control of the structure, composition, and geometry of semiconductor devices as they are fabricated on silicon wafers to improve device performance and manufacturing yields.

Our products and services are used by our customers who manufacture many types of ICs for a multitude of applications, each having unique manufacturing challenges. This includes ICs to enable information processing and management (logic ICs), memory storage (NAND, 3D-NAND, NOR, and DRAM), analog devices (e.g., Wi-Fi and 5G radio ICs, power devices), MEMS sensor devices (accelerometers, pressure sensors, microphones), image sensors, and other end markets including components for artificial intelligence, hard disk drives, LEDs, and power management.

The semiconductor and electronics industries have also been characterized by constant technological innovation. We believe that, over the long term, our customers will continue to invest in advanced technologies and new materials to enable smaller design rules and higher density applications that fuel demand for process control equipment.

The following table summarizes certain key financial information for the periods indicated below (in thousands, except per share and percent data):

	Year Ended	
	December 30, 2023	December 31, 2022
Revenue.....	\$ 815,868	\$ 1,005,183
Gross profit.....	\$ 420,254	\$ 539,221
Gross profit as a percent of revenue.....	52%	54%
Total operating expenses.....	\$ 304,176	\$ 302,507
Net income	\$ 121,159	\$ 223,334
Diluted earnings per share.....	\$ 2.46	\$ 4.49

- In fiscal 2023, revenue decreased 19% compared to fiscal 2022, primarily due to a decrease in sales to memory and foundry customers in advanced nodes. The decreases were partially offset by increases in sales to wafer substrate, memory and discrete & specialty customers in specialty device and advanced packaging applications.
- Gross profit as a percentage of revenue decreased to 52% for fiscal 2023 from 54% for fiscal 2022. This was primarily driven by decreased revenue volume, unfavorable product mix, and increased manufacturing costs due to inflationary pressures.
- The increase in operating expenses in fiscal 2023 compared to fiscal 2022 was primarily due to higher general and administrative expenses related to litigation and restructuring charges which included reductions in workforce.

Our cash, cash equivalents and marketable securities balance increased to \$697.8 million at the end of fiscal 2023 compared to \$547.8 million at the end of fiscal 2022. This increase was primarily the result of \$172.0 million of cash generated from operating activities, partially offset by cash used for capital expenditures of \$22.6 million and \$10.8 million of cash used for tax payments related to net share settlement of employee stock-based compensation plans.

In 2022 and 2023, the United States government implemented additional export regulations for U.S. semiconductor technology sold in China. We have applied for export licenses to continue doing business with our customers that are affected

by the new export rules. However, the new export controls have resulted in lower net sales in China for fiscal 2023 compared to the prior fiscal year.

For a discussion of the risks related to our business and operations, see Part I, Item 1A – Risk Factors of this Annual Report on Form 10-K.

Results of Operations

The following table sets forth, for the periods indicated, our results of operations as percentages of our revenue. Our results of operations are reported as one business segment.

	Year Ended		
	December 30, 2023	December 31, 2022	January 1, 2022
Revenue.....	100.0 %	100.0 %	100.0 %
Cost of revenue	48.5 %	46.4 %	45.6 %
Gross profit	51.5 %	53.6 %	54.4 %
Operating expenses:			
Research and development.....	12.7 %	11.2 %	12.2 %
Sales and marketing	7.6 %	6.5 %	7.3 %
General and administrative	10.2 %	6.9 %	8.6 %
Amortization	6.7 %	5.5 %	6.5 %
Total operating expenses.....	37.2 %	30.1 %	34.6 %
Operating income	14.3 %	23.5 %	19.8 %
Interest income, net	2.5 %	0.5 %	0.1 %
)		
Other expense, net.....	(0.5)%	—%	(0.2)%
Income before provision for income taxes.....	16.3 %	24.0 %	19.7 %
Provision for income taxes.....	1.4 %	1.8 %	1.7 %
Net income	14.9 %	22.2 %	18.0 %

Results of Operations for 2023, 2022 and 2021

Revenue. Our revenue is derived from the sale of our systems and software, spare parts, and services. Our revenue was \$815.9 million, \$1,005.2 million and \$788.9 million for the years ended December 30, 2023, December 31, 2022 and January 1, 2022, respectively. This represents a decrease of 18.8% from 2022 to 2023 and an increase of 27.4% from 2021 to 2022.

The following table lists, for the periods indicated, the different sources of our revenue in dollars (thousands) and as percentages of our total revenue:

	Year Ended					
	December 30, 2023		December 31, 2022		January 1, 2022	
Systems and software.....	\$ 683,316	84 %	\$ 865,707	86 %	\$ 669,114	85 %
Parts	74,604	9 %	84,266	8 %	72,753	9 %
Services	57,948	7 %	55,210	6 %	47,032	6 %
Total revenue	<u>\$ 815,868</u>	<u>100 %</u>	<u>\$ 1,005,183</u>	<u>100 %</u>	<u>\$ 788,899</u>	<u>100 %</u>

Total systems and software revenue decreased \$182.4 million for the year ended December 30, 2023, as compared to the year ended December 31, 2022, primarily due to a decrease in units shipped of our metrology product lines to customers in advanced nodes applications. This decline was partially offset by an increase in units shipped of our inspection and lithography product lines to customers in specialty devices and advanced packaging applications. Parts and services revenue is generated from part sales, maintenance service contracts, and system upgrades, as well as time and material billable service calls. During fiscal 2023, the decrease in total parts and services revenue was primarily due to lower factory utilization by several of our customers resulting in a decline in their spare parts requirements.

Total systems and software revenue increased \$196.6 million for the year ended December 31, 2022, as compared to the year ended January 1, 2022, primarily due to an increase in overall demand for our products from semiconductor industry customers, particularly in advanced nodes applications, and specialty devices and advanced packaging. The year-over-year change in systems revenue was primarily due to an increase in units shipped in our metrology and inspection product lines. Parts and services revenue is generated from part sales, maintenance service contracts, and system upgrades, as well as time

and material billable service calls. During fiscal 2022, the increase in parts and services revenue was primarily due to increased spending by our customers on system upgrades and repairs of existing systems.

The following table sets forth, for the periods indicated, our revenue by geographic region as percentages of our revenue.

	Year Ended		
	December 30, 2023	December 31, 2022	January 1, 2022
Revenue.....	\$ 815,868	\$ 1,005,183	\$ 788,899
South Korea.....	21 %	22 %	20 %
Taiwan.....	17 %	20 %	25 %
China.....	17 %	25 %	19 %
United States.....	16 %	12 %	16 %
Japan.....	11 %	6 %	8 %
Southeast Asia.....	11 %	7 %	4 %
Europe.....	7 %	8 %	8 %
Total revenue.....	<u>100 %</u>	<u>100 %</u>	<u>100 %</u>

The overall Asia region continues to account for a majority of our revenues as a substantial amount of the worldwide capacity investments for semiconductor manufacturing continue to occur in this region and we expect that trend to continue.

Gross Profit. Our gross profit has been and will likely continue to be affected by a variety of factors, including manufacturing efficiencies, provision for excess and obsolete inventory, pricing by competitors or suppliers, new product introductions, production volume, inventory step-up from purchase accounting, customization and reconfiguration of systems, international and domestic sales mix, system and software product mix, and parts and services margins. Our gross profit was \$420.3 million, \$539.2 million and \$429.1 million for the years ended December 30, 2023, December 31, 2022, and January 1, 2022, respectively. Our gross profit represented 51.5%, 53.6% and 54.4% of our revenue for the years ended December 30, 2023, December 31, 2022, and January 1, 2022, respectively. The decrease in gross profit as a percentage of revenue from 2022 to 2023 was primarily due to decreased revenue volume, unfavorable product mix, and increased manufacturing costs due to inflationary pressures during the 2023 fiscal period. The decrease in gross profit as a percentage of revenue from 2021 to 2022 was primarily due to supply chain cost increases in the 2022 fiscal period, partially offset by higher factory utilization associated with increased sales volume during the 2022 fiscal period.

Operating Expenses.

Our operating expenses consist of:

- *Research and Development.* We believe that it is critical to continue to make substantial investments in research and development to ensure the availability of innovative technology that meets the current and projected requirements of our customers' most advanced designs. We have maintained, and intend to continue, our commitment to investing in research and development in order to continue to offer new products and technologies. Accordingly, we devote a significant portion of our technical, management and financial resources to research and development programs. Research and development expenditures consist primarily of salaries and related expenses of employees engaged in research, design and development activities. They also include consulting fees, the cost of related supplies and legal costs to defend our intellectual property. Our research and development expenses were \$104.4 million, \$112.0 million and \$96.1 million in fiscal years 2023, 2022 and 2021, respectively. The year-over-year dollar decrease from 2022 through 2023 was primarily due to decreases of \$4.6 million for the write-off of acquired in-process research and development assets and cost containment initiatives of \$3.3 million, partially offset by increases in depreciation expenses of \$0.6 million and travel expenses of \$0.3 million. The year-over-year dollar increase from 2021 through 2022 was primarily due to higher compensation costs of \$7.4 million for increased headcount and variable compensation costs, the write-off of purchased in process research and development assets of \$4.6 million and increased costs related to new product initiatives of approximately \$3.3 million. We continue to maintain our commitment to investing in new product development and enhancement to existing products.
- *Sales and Marketing.* Sales and marketing expenses are primarily comprised of salaries and related costs for sales and marketing personnel, as well as commissions and other non-personnel related expenses. Our sales and marketing expenses were \$61.8 million, \$65.7 million and \$57.2 million in fiscal years 2023, 2022 and 2021, respectively. The year-over-year dollar decrease from 2022 through 2023 was primarily due to a decrease in total compensation costs of \$1.5 million on lower headcount and variable compensation plan elements, a decrease in

outside service expenses of \$0.8 million and a decrease in depreciation expense of \$0.7 million, partially offset by an increase in travel expenses of \$0.3 million. The year-over-year dollar increase from 2021 through 2022 was primarily due to increased total compensation costs of \$5.8 million for higher headcount and variable compensation plan costs. Higher travel related expenses of approximately \$0.4 million contributed to the overall increase.

- *General and Administrative.* General and administrative expenses are primarily comprised of salaries and related costs for general administrative personnel, as well as other non-personnel related expenses. Our general and administrative expenses were \$83.1 million, \$69.6 million and \$68.0 million in fiscal years 2023, 2022 and 2021, respectively. The year-over-year dollar increase from 2022 through 2023 was primarily due increased litigation expenses of \$7.4 million, restructuring charges of \$3.6 million for employee severance costs during the 2023 period, an increase in depreciation expense of \$1.9 million and an increase in facilities expenses of \$0.4 million. The year-over-year dollar increase from 2021 through 2022 was primarily due to increased facilities expenses of \$5.0 million, partially offset by a decrease of \$3.8 million in depreciation expense.
- *Amortization of Identifiable Intangible Assets.* Amortization of identifiable intangible assets, primarily purchased technology, was \$54.8 million, \$55.3 million and \$51.4 million in fiscal years 2023, 2022 and 2021, respectively. The year-over-year dollar decrease from 2022 through 2023 was primarily due to certain assets becoming fully amortized. The year-over-year dollar increase from 2021 through 2022 was primarily due to a full year of amortization being included in the 2022 fiscal period for in-process research and development that became classified as an identifiable intangible asset in the second half of 2021.

Interest income, net. In fiscal years 2023, 2022 and 2021, net interest income was \$20.4 million, \$5.0 million and \$1.2 million, respectively. The increases in net interest income from 2022 to 2023 and from 2021 to 2022 were due to higher average balances and higher interest rates during both the 2023 and 2022 periods, respectively.

Income taxes. The following table provides details of income tax (dollars in millions):

	Year Ended		
	December 30, 2023	December 31, 2022	January 1, 2022
Income before provision for income taxes.....	\$ 132.6	\$ 241.6	\$ 155.7
Provision for income taxes.....	\$ 11.4	\$ 18.3	\$ 13.3
Effective tax rate	8.6%	7.6%	8.6%

The income tax provision differs from the federal statutory income tax rate of 21% for 2023 primarily due to a benefit related to the Foreign Derived Intangible Income Deduction (“FDII”) of \$13.0 million, excess benefits related to stock compensation of \$3.4 million, tax benefits for research and development credits of \$6.4 million, and a one-time benefit of \$1.6 million related to the recognition of a tax benefit associated with the lapse of a statute of limitations. These benefits were partially offset by the inclusion of U.S. tax on foreign source income of \$0.5 million and non-deductible officer’s compensation of \$2.3 million, and an increase to the Company’s valuation allowance of \$2.9 million.

The income tax provision differs from the federal statutory income tax rate of 21% for 2022 primarily due to a benefit related to the Foreign Derived Intangible Income Deduction (“FDII”) of \$25.4 million, excess benefits related to stock compensation of \$3.5 million, tax benefits for research and development credits of \$7.1 million, and a one-time benefit of \$1.5 million related to the recognition of a tax benefit associated with the lapse of a statute of limitations. These benefits were partially offset by the inclusion of U.S. tax on foreign source income of \$1.4 million and non-deductible officer’s compensation of \$1.9 million.

The income tax provision differs from the federal statutory income tax rate of 21% for 2021 primarily due to a benefit related to the Foreign Derived Intangible Income Deduction (“FDII”) of \$11.1 million, excess benefits related to stock compensation of \$3.8 million, tax benefits for research and development credits of \$3.6 million, tax benefit from foreign income being taxed at lower rates of \$3.8 million, and a one-time benefit of \$2.0 million from a reduction to recorded tax reserve related to a lapse of a statute of limitations. These benefits were partially offset by the inclusion of U.S. tax on foreign source income of \$1.7 million.

Our future effective income tax rate depends on various factors, such as tax legislation, the geographic composition of our pre-tax income, the amount of our pre-tax income as business activities fluctuate, non-deductible expenses incurred in connection with acquisitions and research and development credits as a percentage of aggregate pre-tax income.

Liquidity and Capital Resources

Our cash, cash equivalents and marketable securities consist of the following:

	Year Ended	
	December 30, 2023	December 31, 2022
Cash and cash equivalents	\$ 233,508	\$ 175,872
Marketable securities	464,303	371,912
Total cash, cash equivalents and marketable securities	<u>\$ 697,811</u>	<u>\$ 547,784</u>

Sources and Uses of Cash

A summary of cash provided by (used in) operating, investing, and financing activities is as follows:

	Year Ended		
	December 30, 2023	December 31, 2022	January 1, 2022
Cash provided by operating activities	\$ 171,973	\$ 136,703	\$ 175,281
Cash used in investing activities	\$ (103,387)	\$ (55,691)	\$ (141,793)
Cash (used in) provided by financing activities	\$ (9,475)	\$ (68,350)	\$ 2,670

Operating Activities

Cash provided by operating activities during fiscal 2023 was \$172.0 million, which reflects net income, adjusted to exclude the effect of non-cash operating charges, of \$204.5 million. Significant non-cash operating charges included depreciation, amortization, share-based compensation, provision for inventory valuation and deferred income taxes. Cash provided by operating activities in fiscal 2023 increased compared to fiscal 2022 primarily due to improved inventory management and lower income tax payments.

Our working capital was \$1,135.5 million at December 30, 2023 and \$974.3 million at December 31, 2022.

Investing Activities

We used \$103.4 million, \$55.7 million and \$141.8 million of cash in investing activities in fiscal 2023, 2022 and 2021, respectively. Capital expenditures, net of proceeds in fiscal 2023, 2022 and 2021 were \$19.8 million, \$18.4 million and \$12.0 million. Capital expenditures were primarily for investments in facility improvements, demonstration and testing equipment, manufacturing and network equipment. Purchases of marketable securities, net of proceeds from sales and maturities of marketable securities, for fiscal 2023, 2022 and 2021 was \$83.6 million, \$4.6 million and \$23.8 million, respectively. Net cash paid for acquisitions in fiscal 2022 and 2021 were \$4.6 million and \$23.8 million, respectively. There were no acquisitions in fiscal 2023.

From time to time, we evaluate whether to acquire new or complementary businesses, products or technologies. We may fund all of or a portion of the price of these investments or acquisitions in cash, stock, or a combination of cash and stock.

Financing Activities

We used \$9.5 million and \$68.4 million of cash in financing activities for fiscal 2023 and 2022, respectively. Financing activities provided \$2.7 million in fiscal 2021. Repurchases of common stock were \$3.2 million and \$65.3 million in fiscal 2023 and 2022, respectively. There were no repurchases of common stock in 2021. Tax withholding payments for vested equity awards, partially offset by proceeds from sales of shares through share-based compensation plans were \$5.5 million and \$0.8 million for fiscal 2023 and 2022, respectively. In fiscal 2021 proceeds received from sales of shares through share-based compensation plans, partially offset by tax withholding payments for vested equity award, provided cash of \$2.7 million. Payments for contingent consideration for acquired business were \$0.8 million and \$2.3 million in fiscal 2023 and 2022. There were no payments for contingent consideration for acquired business in fiscal 2021.

We have a credit agreement with a bank that provides for a line of credit that is secured by the marketable securities we have with the bank. We are permitted to borrow up to 70% of the value of eligible securities held at the time the line of credit is accessed. As of December 30, 2023, the available line of credit was approximately \$100.0 million with an available interest rate of 7.0%. The credit agreement is available to us until such time that either party terminates the arrangement at its discretion. To date, we have not utilized the line of credit.

Our future capital requirements will depend on many factors, including the timing and amount of our revenue and our investment decisions, which will affect our ability to generate additional cash. We expect that our existing cash, cash equivalents, marketable securities and availability under our line of credit will be sufficient to meet our anticipated cash requirements for working capital, capital expenditures and other cash needs for the next 12 months following the filing of this Form 10-Q. Thereafter, if cash generated from operations and financing activities is insufficient to satisfy our working capital requirements, we may seek additional funding through bank borrowings, sales of securities or other means. In addition, a reduction in or volatility with respect to our stock price or a general market downturn could materially impact our ability to sell securities on favorable terms or at all. There can be no assurance that we will be able to raise any such capital on terms acceptable to us or at all.

Contractual Obligations

The following table summarizes our significant contractual obligations at December 30, 2023, and the effect such obligations are expected to have on our liquidity and cash flows in future periods. We are currently unable to provide a reasonably reliable estimate of the amount or periods when cash settlement of this liability may occur (dollars in thousands).

	Payments due by period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Operating lease obligations	\$ 21,673	\$ 5,929	\$ 9,429	\$ 5,192	\$ 1,123
Purchase obligations ⁽¹⁾	437,105	426,087	11,018	—	—
Total.....	<u>\$ 458,778</u>	<u>\$ 432,016</u>	<u>\$ 20,447</u>	<u>\$ 5,192</u>	<u>\$ 1,123</u>

⁽¹⁾ Represents our agreements to purchase goods and services consisting of outstanding purchase orders for goods and services.

Critical Accounting Policies and Estimates

Management’s discussion and analysis of our financial condition and results of operations are based upon our Consolidated Financial Statements included in this Form 10-K, which have been prepared in accordance with accounting principles generally accepted in the United States. Note 2 of Notes to Consolidated Financial Statements describes the significant accounting policies used in the preparation of the consolidated financial statements. Certain of these significant accounting policies are considered to be critical accounting policies and involve critical accounting estimates. We review the accounting policies we use in reporting our financial results on a regular basis. The preparation of the financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses and related disclosure of contingent assets and liabilities. On an ongoing basis, we evaluate our estimates, including those related to revenue recognition, accounts receivable, inventories, business acquisitions, intangible assets, share-based payments, income taxes and warranty obligations. We base our estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Results may differ from these estimates due to actual outcomes being different from those on which we based our assumptions. These estimates and judgments are regularly reviewed by management on an ongoing basis at the end of each quarter prior to the public release of our financial results.

Management believes that the following are critical accounting estimates:

Revenue Recognition. Revenue is recognized when control of the promised goods or services are transferred to our customers in an amount that reflects the consideration we expect to be entitled to receive in exchange for those goods or services. We account for a contract when it has approval and commitment from both parties, the rights of the parties and payment terms are identified, the contract has commercial substance and collectability of consideration is probable.

Contracts with customers may include multiple performance obligations. For such arrangements, we allocate revenue to each performance obligation based on its relative standalone selling price. We generally determine standalone selling prices based on the prices charged to customers or the expected cost-plus margin.

Revenue from systems is recognized when we transfer control of the product to our customer. To indicate transfer of control, we must have a present right to payment, legal title must have passed to the customer and the customer must have the significant risks and rewards of ownership. We generally transfer control for system sales when the customer or the customer’s agent picks up the system at our facility. We provide an assurance warranty on our systems for a period of twelve to fourteen months against defects in material and workmanship. We provide for the estimated cost of product warranties at the time revenue is recognized.

Depending on the terms of the systems arrangement, we may also defer the recognition of a portion of the consideration expected to be received because we have to satisfy a future obligation (e.g., installation and extended warranties). We use an observable price to determine the standalone selling price for separate performance obligations or a cost-plus margin approach when one is not available.

Revenue from software licenses, which is primarily sold without systems, is recognized upfront at the point in time when the software is made available to the customer. Software licenses provide the customer with limited rights to use the software. Revenue from licensing support and maintenance is recognized as the support and maintenance are provided, which is over the contract period.

Revenue from parts is recognized when we transfer control of the product, which typically occurs when we ship the product from our facilities to the customer.

Revenue from services primarily consists of service contracts, which provide additional maintenance coverage beyond our assurance warranty on our products, service labor, consulting and training. Revenue from service contracts is recognized ratably over the term of the service contract. Revenue from service labor and consulting is recognized as services are performed.

We record contract liabilities when the customer has been billed in advance of completing our performance obligations. These amounts are recorded as deferred revenue in the Consolidated Balance Sheets.

Inventory Valuation. Inventories are stated at the lower of cost or net realizable value. Net realizable value is the estimated selling prices in the ordinary course of business, less predictable costs of completion, disposal and transportation. Cost is generally determined on a first-in, first-out basis, and includes material, labor and manufacturing overhead costs. We review and set standard costs as needed, but at a minimum, on an annual basis, at current manufacturing costs in order to approximate actual costs. We maintain reserves for our excess and obsolete inventory equal to the difference between the cost of inventory and the estimated market value based upon assumptions about future product lifecycles, product demand and market conditions. If actual product lifecycles, product demand and market conditions are less favorable than those originally projected by management, additional inventory write-downs may be required.

Long-Lived Assets. Goodwill is tested for impairment during the fourth quarter, or whenever events or circumstances indicate that its carrying value may not be recoverable. Goodwill impairment is tested at the reporting unit level, which is defined as an operating segment or one level below the operating segment. Goodwill is reviewed for impairment using either a qualitative assessment or a quantitative goodwill impairment test. If the Company chooses to perform a qualitative assessment and determine the fair value more likely than not exceeds the carrying value, no further evaluation is necessary. When the Company performs the quantitative goodwill impairment test, it compares fair value to carrying value, which includes goodwill. If fair value exceeds carrying value, the goodwill is not considered impaired. If the carrying value is higher than the fair value, the difference would be recognized as an impairment loss.

For other long-lived assets, we periodically review long-lived assets, other than goodwill, for impairment whenever changes in events or circumstances indicate that the carrying amount of an asset may not be recoverable. Assumptions and estimates used in the determination of impairment losses, such as future cash flows and disposition costs, may affect the carrying value of long-lived assets and the impairment of such long-lived assets, if any, could have a material effect on our consolidated financial statements.

Income Taxes. As part of the process of preparing our consolidated financial statements, we are required to estimate our current tax exposure together with our temporary differences resulting from differing treatment of items for tax and accounting purposes. These temporary differences result in deferred tax assets and liabilities, which are included within our consolidated balance sheet. We must assess the likelihood that our deferred tax assets will be recovered from future taxable income and to the extent we believe that recovery is not likely, we must establish a valuation allowance. Management judgment is required in determining our provision for income taxes and any valuation allowance recorded against our deferred tax assets. The need for a valuation allowance is based on our estimates of taxable income by jurisdiction in which we operate and the period over which our deferred taxes will be recoverable. In the event that actual results differ from these estimates or we adjust these estimates in future periods, we may need to adjust the valuation allowance, which could materially impact our financial position and results of operations.

We recognize liabilities for uncertain tax positions based on a two-step process. The first step requires us to determine if the weight of available evidence indicates that the tax position has met the threshold for recognition; therefore, we must evaluate whether it is more likely than not that the position will be sustained on audit, including resolution of any related appeals or litigation processes. The second step requires us to measure the tax benefit of the tax position taken, or expected to be taken, in an income tax return as the largest amount that is more than 50% likely of being realized when effectively settled. This measurement step is inherently difficult and requires subjective estimations of such amounts to determine the probability of various possible outcomes. We reevaluate the uncertain tax positions each quarter based on factors including, but not limited

to, changes in facts or circumstances, changes in tax law, effectively settled issues, and new audit activity. Such a change in recognition or measurement could result in the recognition of a tax benefit or an additional charge to the tax provision in the period.

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

Interest Rate and Credit Market Risk

We are exposed to changes in interest rates and market liquidity including our investments in certain available-for-sale securities. Our available-for-sale securities consist of fixed and variable rate income investments, such as municipal notes, municipal bonds and corporate bonds. We continually monitor our exposure to changes in interest rates, market liquidity and credit ratings of issuers for our available-for-sale securities. It is possible that we are at risk if interest rates, market liquidity or credit ratings of issuers change in an unfavorable direction. The magnitude of any gain or loss will be a function of the difference between the fixed or variable rate of the financial instrument and the market rate, and our financial condition and results of operations could be materially affected. Based on a sensitivity analysis performed on our financial investments held as of December 30, 2023, a hypothetical increase of 100 basis points in interest rates would result in a decrease of \$3.0 million in the fair value of our available-for-sale debt securities and would not have a material impact on our consolidated financial position, results of operations or cash flows.

Foreign Currency Risk

We enter into foreign currency forward contracts to minimize the short-term impact of exchange rate fluctuations on certain foreign currency denominated monetary assets and liabilities, primarily cash and intercompany receivables and payables. In addition, we hedge certain anticipated foreign currency cash flows, primarily on revenues denominated in Japanese yen. These forward contracts are not designated as accounting hedges, so the change in fair value of the forward exchange contracts is recognized under the caption “Other expense, net” in the Consolidated Statements of Operations for each reporting period. As of December 30, 2023, and December 31, 2022, we had thirty-eight and six outstanding forward contracts, respectively, with a total notional contract value of \$51.6 million and \$27.9 million, respectively. We do not use derivative financial instruments for trading or speculative purposes.

Item 8. Financial Statements and Supplementary Data.

The consolidated financial statements and related information required by this Item are set forth on the pages indicated in Item 15(a) of this Form 10-K.

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

None.

Item 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time period specified in SEC rules and forms. These controls and procedures are also designed to ensure that such information is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure. In designing and evaluating disclosure controls and procedures, we have recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. Management is required to apply judgment in evaluating its controls and procedures.

We performed an evaluation under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, to assess the effectiveness of the design and operation of our disclosure controls and procedures under the Exchange Act as of December 30, 2023. Based on that evaluation, our management, including our principal executive officer and principal financial officer, concluded that our disclosure controls and procedures were effective as of December 30, 2023 at the reasonable assurance level.

Management’s Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f). 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 accounting principles generally accepted in the United States of America. Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in *Internal Control — Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework). Based on our evaluation, our management concluded that our internal control over financial reporting was effective as of December 30, 2023.

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 be circumvented or deteriorate.

Attestation Report of the Registered Public Accounting Firm

Our consolidated financial statements as of and for the year ended December 30, 2023 have been audited by Ernst & Young LLP, our independent registered public accounting firm, in accordance with the standards of the Public Company Accounting Oversight Board (United States). Ernst & Young LLP has also audited our internal control over financial reporting as of December 30, 2023, as stated in its attestation report included elsewhere in this Form 10-K.

Changes in Internal Control over Financial Reporting

There have been no changes in our internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) that occurred during our fiscal quarter ended December 30, 2023 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information.

Rule 10b5-1 Plan Elections

The table below provides the details of all trading plans adopted or terminated by a director or officer during the Company’s last fiscal quarter. Each of the trading plans is intended to satisfy the affirmative defense conditions of Rule 10b5-1(c) of the Exchange Act.

<u>Officer's name</u>	<u>Title</u>	<u>Adoption date</u>	<u>Expiration date</u>	<u>Aggregate number of securities to be sold</u>
Michael P. Plisinski ...	Chief Executive Officer	12/13/2023	9/30/2024	40,000
Yoon Ah Oh	Vice President, General Counsel & Corporate Secretary	12/15/2023	12/13/2024	4,370

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspection.

Not applicable.

PART III

Certain information required by Part III is omitted from this Form 10-K because we expect to file a definitive proxy statement within one hundred twenty (120) days after the end of our fiscal year pursuant to Regulation 14A (the “Proxy Statement”) for our Annual Meeting of Stockholders currently scheduled for May 22, 2024, and the information included in the Proxy Statement is incorporated herein by reference, as specified below.

Item 10. Directors, Executive Officers and Corporate Governance.

The information required by this Item with respect to directors and executive officers is incorporated by reference to the information under the headings “Proposal 1: Election of Directors,” “Executive Officer Biographies” and “Corporate Governance Principles and Practices” in the Proxy Statement. Information regarding compliance with Section 16 of the Exchange Act is incorporated by reference to the information under the heading “Delinquent Section 16(a) Reports” in the Proxy Statement, if any.

Code of Business Conduct and Ethics. We have adopted a code of business conduct and ethics that applies to our principal executive officer, principal financial officer and controller. This code of business conduct and ethics is posted on our internet website address at <http://investors.ontoinnovation.com>. We will post on our website any amendment to or waiver from a provision of our code of business conduct and ethics as may be required, and within the time period specified, by applicable SEC rules.

Item 11. Executive Compensation.

The information required by this Item is incorporated by reference to the information under the headings “Executive Officer Compensation,” “Compensation of Directors,” “Executive Officer Compensation Tables,” “Compensation Committee Report on Executive Officer Compensation,” “Stock Ownership/Retention Guidelines for Directors” and “Compensation Committee Interlocks and Insider Participation” in the Proxy Statement.

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

The information required by this Item is incorporated by reference to the information under the headings “Security Ownership of Certain Beneficial Owners” and “Equity Compensation Plan Information” in the Proxy Statement.

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

The information required by this Item is incorporated by reference to the information under the headings “Related Persons Transaction Policy” and “Board Independence” in the Proxy Statement.

Item 14. Principal Accountant Fees and Services.

The information required by this Item is incorporated by reference to the information under the heading “Proposal 3: Ratification of Appointment of Independent Registered Public Accounting Firm” in the Proxy Statement.

PART IV

Item 15. Exhibits and Financial Statement Schedule.

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

1. Financial Statements

The consolidated financial statements and consolidated financial statement information required by this Item are included on pages F-1 through F-9 of this report. The Reports of Independent Registered Public Accounting Firm appear on pages F-2 through F-4 of this report.

2. Financial Statement Schedule

See Index to financial statements on page F-1 of this report.

3. Exhibits

Exhibits are as set forth in the “Exhibit Index”, provided below. Where so indicated, exhibits, which were previously filed, are incorporated by reference.

<u>Exhibit No.</u>	<u>Exhibit Description</u>	<u>Form</u>	<u>File Number</u>	<u>Date of First Filing</u>	<u>Exhibit No./Appendix Reference</u>
3.1	Amended and Restated Certificate of Incorporation of Onto Innovation Inc.	8-K	001-39110	October 28, 2019	3.2
3.2	Amended and Restated Bylaws of Onto Innovation Inc.	8-K	001-39110	January 27, 2020	3.1
4.1	Form of Common Stock Certificate	10-K	001-39110	February 25, 2020	4.2
4.2	Description of Securities	10-K	001-39110	February 25, 2020	4.1
10.1*	Rudolph Technologies, Inc. 2018 Stock Plan	8-K	001-36226	May 16, 2018	10.1
10.2*	Form of Employee Restricted Stock Unit Purchase Agreement pursuant to the Rudolph Technologies, Inc. 2018 Stock Plan	10-Q	001-36226	August 2, 2018	10.1
10.3*	Onto Innovation Inc. 2020 Stock Plan	8-K	001-39110	May 14, 2020	10.1
10.4*	Form of Employee Stock Option Agreement for usage under the Onto Innovation Inc. 2020 Stock Plan	8-K	001-39110	May 14, 2020	10.1
10.5*	Form of Director Stock Option Agreement for usage under the Onto Innovation Inc. 2020 Stock Plan	8-K	001-39110	May 14, 2020	10.1
10.6*+	Form of Employee Restricted Stock Unit Agreement for usage under the Onto Innovation Inc. 2020 Stock Plan	-	-	-	-
10.7*+	Form of Director Restricted Stock Unit Purchase Agreement for usage under the Onto Innovation Inc. 2020 Stock Plan	-	-	-	-
10.8*	Form of Employee Performance Stock Unit Purchase Agreement for usage under the Onto Innovation Inc. 2020 Stock Plan	10-Q	001-39110	August 5, 2021	10.1
10.9*	Form of Employee Incentive Restricted Stock Unit Purchase Agreement for usage under the Onto Innovation Inc. 2020 Stock Plan	10-Q	001-39110	November 4, 2021	10.1

<u>Exhibit No.</u>	<u>Exhibit Description</u>	<u>Form</u>	<u>File Number</u>	<u>Date of First Filing</u>	<u>Exhibit No./Appendix Reference</u>
10.10*	Onto Innovation Inc. 2020 Employee Stock Purchase Plan	S-8	333-238492	May 19, 2020	10.2
10.11*	Form of Onto Innovation Inc. Indemnification Agreement	8-K	001-39110	September 13, 2021	10.1
10.12*	Employment Agreement, dated as of September 15, 2023, by and between Onto Innovation Inc. and Michael P. Plisinski* incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed with the SEC on September 15, 2023 (File No. 001-39110).	8-K	001-39110	September 15, 2023	10.1
10.13*	Offer Letter to Yoon Ah E. Oh, dated October 4, 2021, by and between Yoon Ah E. Oh and Onto Innovation Inc.	10-Q	001-39110	May 3, 2022	10.1
10.14*	Offer Letter to Mark Slicer, dated April 1, 2022, by and between Mark Slicer and Onto Innovation Inc.	8-K	001-39110	May 17, 2022	10.1
10.15*	Form of Executive Change in Control Agreement	10-K	001-39110	February 24, 2023	10.13
21.1+	Subsidiaries.	-	-	-	-
23.1+	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.	-	-	-	-
31.1+	Rule 13a-14(a) Certification of Chief Executive Officer of the Registrant pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.	-	-	-	-
31.2+	Rule 13a-14(a) Certification of Chief Financial Officer of the Registrant pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.	-	-	-	-
32.1+	Certification of the Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.	-	-	-	-
32.2+	Certification of the Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.	-	-	-	-
97+	Onto Innovation Inc. Incentive Compensation Recovery Policy	-	-	-	-
101.INS	Inline XBRL Instance Document				
101.SCH	Inline XBRL Taxonomy Extension Schema Document				
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document				
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document				
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document				
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document				
104	Cover Page Interactive Data File (formatted in inline XBRL and contained in Exhibit 101)				
*	Management contract, compensatory plan or arrangement.				
+	Filed herewith				

ONTO INNOVATION INC.
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS AND
FINANCIAL STATEMENT SCHEDULE

	Page
Consolidated Financial Statements:	
Reports of Independent Registered Public Accounting Firm (PCAOB ID Number 42)	F-2
Consolidated Statements of Operations for the years ended December 30, 2023, December 31, 2022 and January 1, 2022	F-5
Consolidated Statements of Comprehensive Income for the years ended December 30, 2023, December 31, 2022 and January 1, 2022	F-6
Consolidated Balance Sheets as of December 30, 2023 and December 31, 2022	F-7
Consolidated Statements of Cash Flows for the years ended December 30, 2023, December 31, 2022 and January 1, 2022	F-8
Consolidated Statements of Stockholders' Equity for the years ended December 30, 2023, December 31, 2022 and January 1, 2022	F-9
Notes to the Consolidated Financial Statements	F-10
Consolidated Financial Statement Schedule:	
Schedule of Valuation and Qualifying Accounts	F-30

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Onto Innovation Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Onto Innovation Inc. (the Company) as of December 30, 2023, and December 31, 2022, the related consolidated statements of operations, comprehensive income, stockholders' equity and cash flows for each of the three years in the period ended December 30, 2023, and the related notes and financial statement schedule listed in the Index at Item 15(a) (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 30, 2023 and December 31, 2022, and the results of its operations and its cash flows for each of the three years in the period ended December 30, 2023, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 30, 2023, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), and our report dated February 26, 2024, expressed an unqualified opinion thereon.

Basis for Opinion

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

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of the critical audit matter does not alter in any way our opinion on the 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 disclosure to which it relates.

Reserve for Excess and Obsolete Inventory

Description of the Matter

As described in Notes 2 and 7 to the consolidated financial statements, the Company records inventory net of a reserve for excess and obsolete inventory resulting in net inventories of \$328 million as of December 30, 2023. The valuation of certain of the Company's inventory is subject to risks associated with supply and demand. As described in Note 2 to the consolidated financial statements, the Company maintains reserves for excess and obsolete inventory equal to the difference between the cost of inventory and its estimated net realizable value based upon assumptions about historical and future demand for the Company's products and market conditions.

Auditing management's estimate of the excess and obsolete inventory reserve was subjective and required significant judgment as the excess and obsolete inventory reserve is sensitive to changes in the Company's operations and assumptions used to estimate the reserve including management's assumptions with regards to product life-cycles, product demand and market conditions, which includes historical usage,

expected future usage, on-hand quantities of individual materials, and anticipated engineering design changes or advancements.

*How We
Addressed the
Matter in Our
Audit*

We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's excess and obsolete inventory reserve process, including those over the validity and reasonableness of the data and assumptions used in estimating the excess and obsolete inventory reserve.

To test the adequacy of the Company's excess and obsolete inventory reserve, we performed audit procedures that included, among others, assessing methodologies and assumptions used, testing the completeness and accuracy of the underlying data used by management in its analysis including the usage of historical materials, considering potential product obsolescence, observing physical inventory on-hand and inspecting historical gross margins to assess whether any items are being sold at a loss or lower margins that may need to be included in the reserve. We assessed the historical accuracy of management's estimated excess and obsolete inventory reserve and performed sensitivity analyses to evaluate changes in the estimate that result from changes in the Company's significant assumptions.

/s/ Ernst & Young LLP

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

Iselin, New Jersey
February 26, 2024

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Onto Innovation Inc.

Opinion on Internal Control Over Financial Reporting

We have audited Onto Innovation Inc.'s internal control over financial reporting as of December 30, 2023, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Onto Innovation Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 30, 2023, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 30, 2023 and December 31, 2022, the related consolidated statements of operations, comprehensive income, stockholders' equity and cash flows for each of the three years in the period ended December 30, 2023, and the related notes and financial statement schedule listed in the Index at Item 15(a) and our report dated February 26, 2024 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible 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 internal control over financial reporting based on our audit. We are a public accounting firm registered with the 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 audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

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.

/s/ Ernst & Young LLP

Iselin, New Jersey
February 26, 2024

ONTO INNOVATION INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share data)

	Year Ended		
	December 30, 2023	December 31, 2022	January 1, 2022
Revenue.....	\$ 815,868	\$ 1,005,183	\$ 788,899
Cost of revenue	395,614	465,962	359,813
Gross profit	<u>420,254</u>	<u>539,221</u>	<u>429,086</u>
Operating expenses:			
Research and development.....	104,442	111,953	96,118
Sales and marketing	61,765	65,688	57,235
General and administrative	83,147	69,582	67,960
Amortization	54,822	55,284	51,366
Total operating expenses.....	<u>304,176</u>	<u>302,507</u>	<u>272,679</u>
Operating income.....	116,078	236,714	156,407
Interest income, net.....	20,356	5,011	1,163
Other expense, net.....	(3,852)	(141)	(1,888)
Income before provision for income taxes.....	132,582	241,584	155,682
Provision for income taxes.....	11,423	18,250	13,333
Net income	<u>\$ 121,159</u>	<u>\$ 223,334</u>	<u>\$ 142,349</u>
Earnings per share:			
Basic.....	\$ 2.47	\$ 4.52	\$ 2.89
Diluted.....	\$ 2.46	\$ 4.49	\$ 2.86
Weighted average number of shares outstanding:			
Basic.....	48,971	49,424	49,242
Diluted.....	49,318	49,764	49,728

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

ONTO INNOVATION INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(In thousands)

	Year Ended		
	December 30, 2023	December 31, 2022	January 1, 2022
Net income	\$ 121,159	\$ 223,334	\$ 142,349
Other comprehensive income (loss), net of tax:			
Change in net unrealized gains (losses) on available-for-sale marketable securities.....	3,660	(2,447)	(537)
Change in currency translation adjustments	(1,549)	(8,879)	(2,715)
Total other comprehensive income (loss), net of tax	<u>2,111</u>	<u>(11,326)</u>	<u>(3,252)</u>
Total comprehensive income	<u>\$ 123,270</u>	<u>\$ 212,008</u>	<u>\$ 139,097</u>

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

ONTO INNOVATION INC.
CONSOLIDATED BALANCE SHEETS
(In thousands, except per share data)

	December 30, 2023	December 31, 2022
ASSETS		
Current Assets:		
Cash and cash equivalents.....	\$ 233,508	\$ 175,872
Marketable securities	464,303	371,912
Accounts receivable, less allowance of \$2,659 at December 30, 2023 and \$1,572 at December 31, 2022	226,556	241,395
Inventories	327,773	324,282
Prepaid expenses and other current assets	31,127	21,411
Total current assets.....	1,283,267	1,134,872
Property, plant and equipment, net	103,611	91,980
Goodwill.....	315,811	315,811
Identifiable intangible assets, net	167,375	222,197
Deferred income taxes.....	18,836	4,778
Other assets	20,812	25,225
Total assets	\$ 1,909,712	\$ 1,794,863
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 49,869	\$ 54,526
Accrued liabilities	42,062	48,836
Deferred revenue	24,763	30,163
Other current liabilities	31,032	27,033
Total current liabilities	147,726	160,558
Deferred and other tax liabilities.....	—	7,366
Other non-current liabilities	25,451	30,513
Total liabilities	173,177	198,437
Commitments and contingencies (Note 8)		
Stockholders' equity:		
Preferred stock, \$0.001 par value, 3,000 shares authorized, no shares issued and outstanding	—	—
Common stock, \$0.001 par value, 97,000 shares authorized, 49,086 and 48,684 issued and outstanding at December 30, 2023 and December 31, 2022, respectively.	49	49
Additional paid-in capital.....	1,262,029	1,243,631
Accumulated other comprehensive loss.....	(7,899)	(10,010)
Accumulated earnings.....	482,356	362,756
Total stockholders' equity	1,736,535	1,596,426
Total liabilities and stockholders' equity	\$ 1,909,712	\$ 1,794,863

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

ONTO INNOVATION INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Year Ended		
	December 30, 2023	December 31, 2022	January 1, 2022
Cash flows from operating activities:			
Net income	\$ 121,159	\$ 223,334	\$ 142,350
Adjustments to reconcile net income to net cash and cash equivalents provided by operating activities:			
Depreciation	12,390	9,378	14,435
Amortization of intangibles	54,822	55,284	51,366
Share-based compensation	25,513	24,426	19,542
Write-off of acquired in-process research and development	—	5,652	—
Acquired inventory step-up amortization	—	—	393
Provision for inventory valuation	10,015	9,313	8,175
Deferred income taxes	(22,429)	(33,601)	(12,618)
Other, net	2,991	(563)	2,267
Change in operating assets and liabilities, net of effects of business acquired:			
Accounts receivable	12,151	(65,140)	(27,829)
Income taxes	1,798	(5,006)	1,307
Inventories	(16,462)	(93,905)	(57,175)
Prepaid expenses and other assets	(14,013)	(4,954)	(768)
Accounts payable	(4,681)	1,181	12,142
Accrued and other liabilities	(11,281)	11,304	21,694
Net cash and cash equivalents provided by operating activities	<u>171,973</u>	<u>136,703</u>	<u>175,281</u>
Cash flows from investing activities:			
Purchases of marketable securities	(480,458)	(371,287)	(361,022)
Proceeds from maturities and sales of marketable securities	396,844	338,645	255,063
Purchases of property, plant and equipment	(22,573)	(18,405)	(12,039)
Proceeds from sale of property, plant and equipment	2,800	—	—
Acquisitions, net of cash acquired	—	(4,644)	(23,795)
Net cash and cash equivalents used in investing activities	<u>(103,387)</u>	<u>(55,691)</u>	<u>(141,793)</u>
Cash flows from financing activities:			
Purchases of common stock	(3,197)	(65,257)	—
Tax payments related to shares withheld for share-based compensation plans	(10,762)	(8,874)	(7,403)
Payment of contingent consideration for acquired business	(801)	(2,287)	—
Issuance of shares through share-based compensation plans	5,285	8,068	10,073
Net cash and cash equivalents (used in) provided by financing activities	<u>(9,475)</u>	<u>(68,350)</u>	<u>2,670</u>
Effect of exchange rate changes on cash and cash equivalents	(1,476)	(6,391)	(3,276)
Net increase in cash and cash equivalents	57,635	6,270	32,882
Cash and cash equivalents at beginning of year	175,872	169,602	136,720
Cash and cash equivalents at end of year	<u>\$ 233,508</u>	<u>\$ 175,872</u>	<u>\$ 169,602</u>
Supplemental disclosure of cash flow information:			
Income taxes paid, net	\$ 34,104	\$ 58,687	\$ 23,766

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

ONTO INNOVATION INC.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

For the years ended December 30, 2023,

December 31, 2022 and January 1, 2022

(In thousands)

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income / (Loss)	Accumulated Earnings	Total
	Shares	Amount				
Balance at December 26, 2020	48,758	49	1,233,967	4,568	26,162	1,264,746
Issuance of shares through share- based compensation plans, net...	650	—	10,072	—	—	10,072
Net income	—	—	—	—	142,349	142,349
Share-based compensation	—	—	19,542	—	—	19,542
Share-based compensation plan withholdings	(108)	—	(7,402)	—	—	(7,402)
Currency translation	—	—	—	(2,715)	—	(2,715)
Unrealized loss on investments	—	—	—	(537)	—	(537)
Balance at January 1, 2022	49,300	49	1,256,179	1,316	168,511	1,426,055
Issuance of shares through share- based compensation plans, net...	509	1	8,067	—	—	8,068
Repurchase of common stock	(1,018)	(1)	(36,167)	—	(29,089)	(65,257)
Net income	—	—	—	—	223,334	223,334
Share-based compensation	—	—	24,426	—	—	24,426
Share-based compensation plan withholdings	(107)	—	(8,874)	—	—	(8,874)
Currency translation	—	—	—	(8,879)	—	(8,879)
Unrealized loss on investments	—	—	—	(2,447)	—	(2,447)
Balance at December 31, 2022	48,684	\$ 49	\$ 1,243,631	\$ (10,010)	\$ 362,756	\$ 1,596,426
Issuance of shares through share- based compensation plans, net...	573	—	5,285	—	—	5,285
Repurchase of common stock	(46)	—	(1,638)	—	(1,559)	(3,197)
Net income	—	—	—	—	121,159	121,159
Share-based compensation	—	—	25,513	—	—	25,513
Share-based compensation plan withholdings	(125)	—	(10,762)	—	—	(10,762)
Currency translation	—	—	—	(1,549)	—	(1,549)
Unrealized gain on investments	—	—	—	3,660	—	3,660
Balance at December 30, 2023	49,086	\$ 49	\$ 1,262,029	\$ (7,899)	\$ 482,356	\$ 1,736,535

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

ONTO INNOVATION INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
(In thousands, except per share data)

1. Organization and Nature of Operations:

Onto Innovation Inc. (“Onto Innovation” or the “Company”) is a worldwide leader in the design, development, manufacture and support of process control tools that perform macro-defect inspection and metrology, lithography systems, and process control analytical software used by semiconductor and advanced packaging device manufacturers. The Company delivers comprehensive solutions throughout the semiconductor fabrication process with our families of proprietary products that provide critical yield-enhancing information, enabling microelectronic device manufacturers to drive down costs and time to market of their devices. The Company provides process and yield management solutions used in both wafer processing facilities, often referred to as “front-end” manufacturing, and in device packaging and test facilities, commonly referred to as “back-end” manufacturing. The Company’s advanced process control software portfolio includes powerful solutions for standalone tools, groups of tools, or factory-wide suites to enhance productivity and achieve significant cost savings. Onto Innovation’s systems are backed by worldwide customer service and applications support. The Company has branch sales and service offices or subsidiaries in Korea, Japan, China, Taiwan, Singapore, Malaysia, Vietnam and in several countries in Europe. The Company operates in a single reportable segment and is a provider of process characterization equipment and software for wafer fabs and advanced packaging facilities.

2. Summary of Significant Accounting Policies:

Consolidation. The consolidated financial statements reflect the accounts of the Company and its wholly-owned subsidiaries. All intercompany accounts and transactions have been eliminated.

Fiscal Year. The fiscal year of 2023 began on January 1, 2023 and ended December 30, 2023. The fiscal year of 2022 began on January 2, 2022 and ended December 31, 2022. The fiscal year of 2021 began on December 27, 2020 and ended January 1, 2022.

Revenue Recognition. 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 the Company expects to be entitled to receive in exchange for those goods or services. The Company accounts for a contract when it has approval and commitment from both parties, the rights of the parties and payment terms are identified, the contract has commercial substance and collectability of consideration is probable.

The Company accounts for shipping and handling activities as the fulfillment of a promise to transfer goods to the customer and therefore records these activities under the caption “Cost of revenue.” Sales tax and any other taxes collected concurrent with revenue producing activities are excluded from revenue. Incidental items that are immaterial in the context of the contract are recognized as expense.

Contracts with customers may include multiple performance obligations. For such arrangements, the Company allocates revenue to each performance obligation based on its relative standalone selling price. The Company generally determines standalone selling prices based on the prices charged to customers or the expected cost-plus margin.

Systems and Software Revenue

Revenue from systems is recognized when the Company transfers control of the product to the customer. To indicate transfer of control, the Company must have a present right to payment, legal title must have passed to the customer and the customer must have the significant risks and rewards of ownership. The Company generally transfers control for system sales when the customer or the customer’s agent picks up the system at the Company’s facility. The Company provides an assurance warranty on its systems for a period of twelve to fourteen months against defects in material and workmanship. The Company provides for the estimated cost of product warranties at the time revenue is recognized.

Depending on the terms of the systems arrangement, the Company may also defer the recognition of a portion of the consideration expected to be received because the Company has to satisfy a future obligation (e.g., installation and extended warranties). The Company uses an observable price to determine the standalone selling price for separate performance obligations or a cost-plus margin approach when one is not available.

ONTO INNOVATION INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS - (Continued)
(In thousands, except per share data)

Revenue from software licenses provides the customer with a right to use the software as it exists when made available to the customer. Revenue from software licenses, which is primarily sold with our systems, is recognized upfront at the point in time when the software is made available to the customer. Revenue from licensing support and maintenance is recognized as the support and maintenance are provided, which is over the contract period.

Parts Revenue

Revenue from parts is recognized when the Company transfers control of the product, which typically occurs when the Company ships the product from its facilities to the customer.

Services Revenue

Revenue from services primarily consists of service contracts, which provide additional maintenance coverage beyond the Company's assurance warranty on its products, service labor, consulting and training. Revenue from service contracts is recognized ratably over the term of the service contract. Revenue from service labor and consulting is recognized as services are performed. Revenue from installation services is recognized at a point in time when installation is complete.

Practical Expedients

The Company generally expenses sales commissions when incurred because the amortization period is one year or less. These costs are recorded within selling, general and administrative expenses.

The Company does not adjust the amount of consideration for the effects of a significant financing components, if any, as the payment terms are one year or less.

The Company does not disclose the value of remaining performance obligations for contracts with an original expected length of one year or less and contracts for which the Company recognizes revenue in the amount to which it has the right to invoice.

For additional information on the Company's revenue recognition, see Note 9 of Notes to the Consolidated Financial Statements.

Business Combinations. The Company accounts for business combinations under the acquisition method of accounting, which requires us to recognize separately from goodwill the assets acquired, and the liabilities assumed at their acquisition date fair values. While the Company uses its best estimates and assumptions to accurately value assets acquired and liabilities assumed at the acquisition date as well as contingent consideration, where applicable, the Company's estimates are inherently uncertain and subject to refinement. As a result, during the measurement period, which may be up to one year from the acquisition date, the Company records adjustments to the assets acquired and liabilities assumed with the corresponding offset to goodwill. Upon the conclusion of the measurement period or final determination of the values of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments are recognized in its consolidated statements of operations. Accounting for business combinations requires the Company's management to make significant estimates and assumptions, especially at the acquisition date including its estimates for intangible assets, contractual obligations assumed, restructuring liabilities, pre-acquisition contingencies, and contingent consideration, where applicable. Although the Company believes the assumptions and estimates it has made in the past have been reasonable and appropriate, they are based, in part, on historical experience and information obtained from the management of the acquired companies and are inherently uncertain. Estimates in valuing certain acquired intangible assets under the income approach include growth in future expected cash flows from product sales, acquired technologies, technology obsolescence rates, estimated cash flows from the projects when completed and discount rates. Unanticipated events and circumstances may occur that may affect the accuracy or validity of such assumptions, estimates or actual results.

Use of Estimates. The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Significant estimates made by management include the allowance for credit losses, excess and obsolete inventory, fair value of assets acquired and liabilities assumed in a business combination, recoverability and useful lives of property, plant and equipment and identifiable intangible assets, recoverability of goodwill,

ONTO INNOVATION INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS - (Continued)
(In thousands, except per share data)

recoverability of deferred tax assets, liabilities for product warranty, contingencies, including litigation reserves and share-based payments and liabilities for tax uncertainties. Actual results could differ from those estimates.

These estimates and assumptions are based on historical experience and on various other factors which the Company believes to be reasonable under the circumstances. The Company may engage third-party valuation specialists to assist with estimates related to the valuation of financial instruments, assets and stock awards associated with various contractual arrangements. Such estimates often require the selection of appropriate valuation methodologies and significant judgment. Actual results could differ from these estimates under different assumptions or circumstances and such differences could be material.

Cash and Cash Equivalents. Cash and cash equivalents include cash and highly liquid debt instruments with original maturities of three months or less when purchased.

Marketable Securities. The Company determined that its investment securities are to be classified as available-for-sale. Available-for-sale debt securities are carried at fair value, with the unrealized gains and losses reported in stockholders' equity under the caption "Accumulated other comprehensive loss." Realized gains and losses and, interest and dividends on available-for-sale securities are included in interest income and other, net. Available-for-sale securities are classified as current assets regardless of their maturity date if they are available for use in current operations. The Company reviews its investment portfolio to identify and evaluate investments that have indications of possible impairment. Factors considered in determining whether a loss is other-than-temporary include the length of time and extent to which fair value has been less than the cost basis, credit quality and the Company's ability and intent to hold the investment for a period of time sufficient to allow for any anticipated recovery in market value. When a decline in fair value is determined to be other-than-temporary, unrealized losses on available-for-sale securities are charged against earnings. The specific identification method is used to determine the gains and losses on marketable securities.

For additional information on the Company's marketable securities, see Note 4 of Notes to the Consolidated Financial Statements.

Allowance for Credit Losses. The Company maintains an allowance for credit losses that is estimated based on a combination of factors including write-off history, aging analysis, forecast of future economic conditions and any specific known troubled accounts. The Company believes the allowance is adequate to cover expected losses on trade receivables. Provisions for expected credit losses are classified as selling, general and administrative expense in the Consolidated Statements of Operations. If the financial condition of the Company's customers were to deteriorate, resulting in an impairment of their ability to make payments, additional allowances may be required.

Inventories. Inventories are stated at the lower of cost or net realizable value. Net realizable value is the estimated selling prices in the ordinary course of business, less predictable costs of completion, disposal and transportation. Cost is generally determined on a first-in, first-out basis, and includes material, labor and manufacturing overhead costs. The Company reviews and sets standard costs as needed, but at a minimum, on an annual basis, at current manufacturing costs in order to approximate actual costs.

The Company evaluates inventories for excess quantities and obsolescence. The Company establishes inventory reserves when conditions exist that suggest that inventory may be in excess of anticipated demand or is obsolete based upon assumptions about historical and future demand for the Company's products and market conditions. In addition, inventories are evaluated for potential obsolescence due to the effect of known and anticipated engineering design changes. Once a reserve has been established, it is maintained until the item to which it relates is scrapped or sold. The Company regularly evaluates its ability to realize the value of inventory based on a combination of factors including the following: historical usage rates, forecasted sales, product end-of-life dates, estimated current and future market values and new product introductions. When recorded, reserves are intended to reduce the carrying value of the Company's inventory to its net realizable value. If actual demand for the Company's products deteriorates, or market conditions are less favorable than those that the Company projects, additional reserves may be required.

Property, Plant and Equipment. Property, plant and equipment are stated at cost. Depreciation of property, plant and equipment is computed using the straight-line method over the estimated useful lives of the assets, which are five to twenty-two years for buildings, three to ten years for machinery and equipment, three to ten years for furniture and fixtures, three years for computer equipment, and three to seven years for software. Leasehold improvements are amortized using the straight-line

ONTO INNOVATION INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS - (Continued)
(In thousands, except per share data)

method over the lesser of the lease term or the estimated useful life of the related asset. Repairs and maintenance costs are expensed as incurred and major renewals and betterments are capitalized.

Long-Lived Assets and Finite-Lived Acquired Intangible Assets. Long-lived assets, such as property, plant, and equipment, and identifiable acquired intangible assets with finite useful lives, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized in the amount by which the carrying amount of the asset exceeds the fair value of the asset, which is generally based on discounted cash flows.

Goodwill and Indefinite Lived Intangible Assets. Goodwill and indefinite lived intangible assets are tested for impairment on an annual basis or when an event or changes in circumstances indicate that its carrying value may not be recoverable. Goodwill impairment is tested at the reporting unit level, which is defined as an operating segment or one level below the operating segment. The Company has three reporting units and one operating segment. No goodwill impairment occurred in fiscal years 2023, 2022, or 2021. Goodwill is reviewed for impairment using either a qualitative assessment or a quantitative goodwill impairment test. If the Company chooses to perform a qualitative assessment and determine the fair value more likely than not exceeds the carrying value, no further evaluation is necessary. When the Company performs the quantitative goodwill impairment test, it compares fair value to carrying value, which includes goodwill. If fair value exceeds carrying value, the goodwill is not considered impaired. If the carrying value is higher than the fair value, the difference would be recognized as an impairment loss.

Intangible assets with indefinite lives, including in-process research and development (“IPR&D”), are tested for impairment if impairment indicators arise and, at a minimum, annually. However, the Company is permitted to first assess qualitative factors to determine if a quantitative impairment test is necessary. Further testing is only required if the entity determines, based on the qualitative assessment, that it is more likely than not that an indefinite-lived intangible asset’s fair value is less than its carrying amount. Otherwise, no further impairment testing is required. The indefinite-lived intangible asset impairment test consists of a one-step analysis that compares the fair value of the intangible asset with its carrying amount. If the carrying amount of an intangible asset exceeds its fair value, an impairment loss is recognized in an amount equal to that excess. We consider many factors in evaluating whether the value of intangible assets with indefinite lives may not be recoverable, including, but not limited to estimates of future cash flows, the discount rate, terminal growth rates, general economic conditions, our outlook and market performance of our industry and recent and forecasted financial performance.

For additional information on the Company’s goodwill and purchased intangible assets, see Note 5 of Notes to the Consolidated Financial Statements.

Concentration of Credit Risk. Financial instruments, which potentially subject the Company to concentrations of credit risk, consist primarily of accounts receivable, cash and cash equivalents and marketable securities.

The Company maintains cash and cash equivalents and marketable securities with higher credit quality issuers and monitors the amount of credit exposure to any one issuer. The Company’s investment policy provides guidelines and limits regarding credit quality, investment concentration, investment type, and maturity that the Company believes will provide liquidity while reducing risk of loss of capital. Investments are of a short-term nature and include investments in commercial paper, corporate debt securities, asset-backed securities, U.S. Treasury, U.S. Government, and U.S. Agency debt.

The Company’s accounts receivable result primarily from the sale of semiconductor equipment, related accessories and replacement parts. The Company’s customer base is highly concentrated and historically, a relatively small number of customers have accounted for a significant portion of its revenues. Write-offs of uncollectible accounts have historically not been material. The Company actively monitors its customers’ financial strength to reduce the risk of loss.

Warranties. The Company generally provides a warranty on its products for a period of twelve to fourteen months against defects in material and workmanship. The Company provides for the estimated cost of product warranties at the time revenue is recognized. The estimated future warranty obligations are affected by the warranty periods, sales volumes, product failure rates, material usage and labor and replacement costs incurred in correcting a product failure. If actual product failure rates, material usage, labor or replacement costs differ from the Company’s estimates, revisions to the estimated warranty obligations would be required. The warranty accrual represents the best estimate of the amount necessary to settle future and existing

ONTO INNOVATION INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS - (Continued)
(In thousands, except per share data)

claims on products sold as of the balance sheet date. The Company periodically assesses the adequacy of its recorded warranty reserve and adjusts the amounts in accordance with changes in these factors.

Income Taxes. The Company accounts for income taxes using the asset and liability approach for deferred taxes which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in the Company's consolidated financial statements or tax returns. A valuation allowance is recorded to reduce a deferred tax asset to that portion which more likely than not will be realized.

For additional information on the Company's income taxes, see Note 12 of Notes to the Consolidated Financial Statements.

Translation of Foreign Currencies. The Company's international branches and subsidiaries primarily generate and expend cash in their local functional currency. Accordingly, all balance sheet accounts of these local functional currency branches and subsidiaries are translated into U.S. dollars at the fiscal period-end exchange rate, and income and expense accounts are translated into U.S. dollars using average rates in effect for the period. The resulting translation adjustments are recorded as cumulative translation adjustments and are recorded directly as a separate component of stockholders' equity under the caption, "Accumulated other comprehensive loss." The Company had accumulated exchange losses resulting from the translation of foreign operation financial statements of \$8,664 and \$7,115 as of December 30, 2023 and December 31, 2022, respectively.

Share-based Compensation. The Company measures the cost of employee services received in exchange for the award of equity instruments based on the fair value of the award at the date of grant. Compensation expense is recognized using the straight-line attribution method to recognize share-based compensation over the service period of the award, with adjustments recorded for forfeitures as they occur.

For additional information on the Company's share-based compensation plans, see Note 10 of Notes to the Consolidated Financial Statements.

Research and Development Costs. Expenditures for research and development are expensed as incurred.

Derivative Instruments and Hedging Activities. The Company's policy is to mitigate the effect of exchange rate fluctuations on certain foreign currency denominated business exposures. The Company has a policy that allows for the use of derivative financial instruments to hedge foreign currency exchange rate fluctuations on forecasted revenue and net monetary assets or liabilities denominated in various foreign currencies. The Company carries derivative financial instruments (derivatives) on the balance sheet at their fair values, in either prepaid expenses and other current assets or other current liabilities in the Consolidated Balance Sheets. The Company does not use derivatives for trading or speculative purposes. The Company does not believe that it is exposed to more than a nominal amount of credit risk in its foreign currency hedges, as counterparties are large, global and well-capitalized financial institutions. The Company's exposures are in liquid currencies (Japanese yen, euros, Korean won, Taiwanese dollars, Chinese renminbi, Singapore dollars and Israeli shekel), so there is minimal risk that appropriate derivatives to maintain the Company's hedging program would not be available in the future.

To hedge foreign currency risks, the Company uses foreign currency exchange forward contracts, where possible and prudent. These hedge contracts are valued using standard valuation formulas with assumptions about future foreign currency exchange rates derived from existing exchange rates, interest rates, and other market factors.

ONTO INNOVATION INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS - (Continued)
(In thousands, except per share data)

The dollar equivalent of the U.S. dollar forward contracts and related fair values as of December 30, 2023 and December 31, 2022 were as follows:

	December 30, 2023	December 31, 2022
Notional amount.....	\$ 51,551	\$ 27,923
Fair value of liability.....	1,370	135

During the year ended December 30, 2023, the Company recognized a gain of \$263 on maturities of forward contracts. During the years ended December 31, 2022 and January 1, 2022, the Company recognized losses of \$3,487 and \$1,650 on maturities of forward contracts, respectively. The aggregate notional amounts of matured contracts were \$319,370, \$365,985 and \$420,460 for 2023, 2022 and 2021, respectively.

Contingencies and Litigation. The Company is subject to the possibility of losses from various contingencies, including certain legal proceedings, lawsuits and other claims. The Company accrues for a loss contingency when it concludes that the likelihood of a loss is probable and the amount of the loss can be reasonably estimated. If the Company concludes that loss contingencies that could be material to any one of its financial statements are not probable, but are reasonably possible, or are probable, but cannot be estimated, then the Company discloses the nature of the loss contingencies, together with an estimate of the range of possible loss or a statement that such loss is not reasonably estimable. The Company expenses as incurred the costs of defending legal claims against the Company. The Company does not recognize gain contingencies until realized. See Note 8 of the Notes to the Consolidated Financial Statements, “Commitments and Contingencies” for a detailed description.

Recent Accounting Pronouncements.

Recently Adopted or Effective

The Company has not adopted any new accounting standards during the 2023 fiscal year that have a material impact on the Company’s Condensed Consolidated Financial Statements.

Updates Not Yet Effective

In November 2023, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) 2023-07, “Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures,” which expands disclosures about a public entity’s reportable segments and requires more enhanced information about a reportable segment’s expenses, interim segment profit or loss, and how a public entity’s chief operating decision maker uses reported segment profit or loss information in assessing segment performance and allocating resources. The guidance is effective for financial statements issued for fiscal years beginning after December 15, 2023, and interim periods within fiscal years beginning after December 15, 2024, with early adoption permitted. The Company is required to adopt this standard in the fiscal year 2024 for the annual reporting period ending December 28, 2024, with retrospective disclosure of prior periods presented. The Company is currently in the process of evaluating the impact of adoption on its Consolidated Financial Statements.

In December 2023, the FASB issued ASU 2023-09, “Income Taxes (Topic 740): Improvements to Income Tax Disclosures,” which requires public entities to disclose consistent categories and greater disaggregation of information in the rate reconciliation and for income taxes paid. It also includes certain other amendments to improve the effectiveness of income tax disclosures. The guidance is effective for financial statements issued for annual periods beginning after December 15, 2024, with early adoption permitted. The Company is required to adopt this standard prospectively in fiscal year 2025 for the annual reporting period ending December 27, 2025. The Company is currently in the process of evaluating the impact of adoption on its Consolidated Financial Statements.

3. Fair Value Measurements:

Fair Value of Financial Instruments

The Company has evaluated the estimated fair value of financial instruments using available market information and valuations as provided by third-party sources. The use of different market assumptions and/or estimation methodologies could have a significant effect on the estimated fair value amounts. The carrying value of cash and cash equivalents, accounts receivable, accounts payable and accrued liabilities approximates fair value because of the short-term maturity of these instruments.

ONTO INNOVATION INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS - (Continued)
(In thousands, except per share data)

Fair Value Hierarchy

The Company applies a three-level valuation hierarchy for fair value measurements. This hierarchy prioritizes the inputs into three broad levels. Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities. Level 2 inputs are quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the asset or liability. Level 3 inputs are unobservable inputs based on management's assumptions used to measure assets and liabilities at fair value. A financial asset's or liability's fair value measurement classification within the hierarchy is determined based on the lowest level input that is significant to the fair value measurement.

The following table provides the assets and liabilities carried at fair value measured on a recurring basis at December 30, 2023 and December 31, 2022:

	Fair Value Measurements Using Significant Other Observable Inputs (Level 2)	
	December 30, 2023	December 31, 2022
Assets:		
Available-for-sale debt securities:		
Government notes and bonds	\$ 195,800	\$ 178,868
Asset-backed securities	—	1,534
Certificates of deposit	67,467	52,095
Commercial paper	99,635	80,079
Corporate bonds	101,401	59,335
Total assets	<u>\$ 464,303</u>	<u>\$ 371,912</u>
Liabilities:		
Foreign currency forward contracts	1,370	\$ 135
Total liabilities	<u>\$ 1,370</u>	<u>\$ 135</u>

Available-for-sale debt securities classified as Level 2 are valued using observable inputs to quoted market prices, benchmark yields, reported trades, broker/dealer quotes or alternative pricing sources with reasonable levels of price transparency. The foreign currency forward contracts are primarily measured based on the foreign currency spot and forward rates quoted by the banks or foreign currency dealers. Investment prices are obtained from third party pricing providers, which model prices utilizing the above observable inputs, for each asset class.

See Note 4 for additional discussion regarding the fair value of the Company's marketable securities.

4. Marketable Securities:

At December 30, 2023 and December 31, 2022, marketable securities are categorized as follows:

	Amortized Cost	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Fair Value
December 30, 2023				
Government notes and bonds	\$ 195,733	\$ 393	\$ 326	\$ 195,800
Certificates of deposit	67,377	93	3	67,467
Commercial paper	99,591	54	10	99,635
Corporate bonds	101,146	391	136	101,401
Total marketable securities	<u>\$ 463,847</u>	<u>\$ 931</u>	<u>\$ 475</u>	<u>\$ 464,303</u>
December 31, 2022				
Government notes and bonds	\$ 181,196	\$ 27	\$ 2,355	\$ 178,868
Asset-backed securities	1,555	—	21	1,534
Certificates of deposit	52,190	24	118	52,095
Commercial paper	80,199	16	136	80,079
Corporate bonds	60,334	4	1,003	59,335
Total marketable securities	<u>\$ 375,474</u>	<u>\$ 71</u>	<u>\$ 3,633</u>	<u>\$ 371,912</u>

ONTO INNOVATION INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS - (Continued)
(In thousands, except per share data)

The amortized cost and estimated fair value of marketable securities classified by the maturity date listed on the security, regardless of the Consolidated Balance Sheet classification, is as follows at December 30, 2023 and December 31, 2022:

	December 30, 2023		December 31, 2022	
	Amortized Cost	Fair Value	Amortized Cost	Fair Value
Due within one year.....	\$ 331,136	\$ 330,937	\$ 311,934	\$ 309,385
Due after one through five years	132,711	133,366	63,540	62,527
Due after five through ten years	—	—	—	—
Due after ten years	—	—	—	—
Total marketable securities	<u>\$ 463,847</u>	<u>\$ 464,303</u>	<u>\$ 375,474</u>	<u>\$ 371,912</u>

The following table summarizes the estimated fair value and gross unrealized holding losses of marketable securities, aggregated by investment instrument and period of time in an unrealized loss position, at December 30, 2023 and December 31, 2022.

	In Unrealized Loss Position For Less Than 12 Months		In Unrealized Loss Position For Greater Than 12 Months	
	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
December 30, 2023				
Government notes and bonds.....	\$ 82,776	\$ 325	\$ 180	\$ 1
Certificates of deposit	11,839	3	—	—
Commercial paper.....	20,121	10	—	—
Corporate bonds	20,268	103	5,999	33
Total marketable securities	<u>\$ 135,004</u>	<u>\$ 441</u>	<u>\$ 6,179</u>	<u>\$ 34</u>
December 31, 2022				
Government notes and bonds.....	\$ 96,301	\$ 1,273	\$ 69,159	\$ 1,082
Asset-backed securities.....	1,555	21	—	—
Certificates of deposit	22,400	118	—	—
Commercial paper.....	50,550	136	—	—
Corporate bonds	28,975	637	28,769	366
Total marketable securities	<u>\$ 199,781</u>	<u>\$ 2,185</u>	<u>\$ 97,928</u>	<u>\$ 1,448</u>

See Note 3 for additional discussion regarding the fair value of the Company's marketable securities.

5. Goodwill and Purchased Intangible Assets:

Goodwill and purchased intangible assets with indefinite useful lives are not amortized but are reviewed for impairment annually during the fourth quarter of each fiscal year and whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. The process of evaluating the potential impairment of goodwill and intangible assets requires significant judgment. The Company regularly monitors current business conditions and considers other factors including, but not limited to, adverse industry or economic trends, restructuring actions and lower projections of profitability that may impact future operating results. The Company performed its annual assessment in the fourth quarter of fiscal 2023 and concluded that no impairment charge was required.

Goodwill

There were no changes to the carrying amount of goodwill for the years ended December 30, 2023 and December 31, 2022.

ONTO INNOVATION INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS - (Continued)
(In thousands, except per share data)

Purchased Intangible Assets

Purchased intangible assets as of December 30, 2023 and December 31, 2022 are as follows:

	<u>Gross Carrying Amount</u>	<u>Accumulated Amortization</u>	<u>Net</u>
December 30, 2023			
Finite-lived intangible assets:			
Developed technology	\$ 378,197	\$ 254,350	\$ 123,847
Customer and distributor relationships	73,321	34,782	38,539
Trademarks and trade names	14,171	9,182	4,989
Total identifiable intangible assets	<u>\$ 465,689</u>	<u>\$ 298,314</u>	<u>\$ 167,375</u>
December 31, 2022			
Finite-lived intangible assets:			
Developed technology	\$ 378,197	\$ 205,386	\$ 172,811
Customer and distributor relationships	73,321	30,195	43,126
Trademarks and trade names	14,171	7,911	6,260
Total identifiable intangible assets	<u>\$ 465,689</u>	<u>\$ 243,492</u>	<u>\$ 222,197</u>

Intangible asset amortization expense amounted to \$54,822, \$55,284 and \$51,366 for the years ended December 30, 2023, December 31, 2022 and January 1, 2022, respectively. Assuming no change in the gross carrying value of identifiable intangible assets and estimated lives, estimated amortization expenses are \$49,137 for 2024, \$32,587 for 2025, \$31,394 for 2026, \$23,173 for 2027 and \$12,288 for 2028.

6. Leasing Arrangements:

The Company determines if an arrangement is a lease at its inception. Operating lease arrangements are comprised primarily of real estate and equipment agreements for which the right-of-use assets are included in "Other assets" and the corresponding lease liabilities, depending on their maturity, are included in "Other current liabilities" or "Other non-current liabilities" in the Consolidated Balance Sheets.

Right-of-use assets represent the right to use an underlying asset for the lease term and lease liabilities represent the obligation to make lease payments arising from the lease. Right-of-use assets and lease liabilities are recognized at the lease commencement date based on the estimated present value of lease payments over the lease term. The lease term includes options to extend the lease when it is reasonably certain that the option will be exercised. Lease agreements frequently require the Company to pay real estate taxes, insurance and maintenance costs. Leases with a term of one year or less are not recorded on the Consolidated Balance Sheets and lease expense for these leases is recognized on a straight-line basis over the lease term.

The Company uses its estimated incremental borrowing rate in determining the present value of lease payments considering the term of the lease, which is derived from information available at the lease commencement date, giving consideration to publicly available data for instruments with similar characteristics. The Company accounts for the lease and non-lease components as a single lease component.

Lease costs for operating leases were \$6,527 and \$6,368 for the years ended December 30, 2023 and December 31, 2022, respectively. Operating lease costs are generally recognized over the lease term. The Company elected the practical expedient to not provide comparable presentation for periods prior to adoption.

Details of the Company's operating leases are as follows:

	<u>Year Ended</u>	
	<u>December 30, 2023</u>	<u>December 31, 2022</u>
Cash Flow Information		
Cash paid for operating lease liabilities	\$ 6,527	\$ 6,368
Right-of-use assets obtained in exchange for operating lease liabilities.....	\$ 3,678	\$ 9,295

ONTO INNOVATION INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS - (Continued)
(In thousands, except per share data)

<u>Operating Lease Information</u>	<u>December 30,</u> <u>2023</u>	<u>December 31,</u> <u>2022</u>
Weighted average remaining lease term	4.2	4.5
Weighted average discount rate	4.7%	3.8%

As of December 30, 2023, there was an insignificant amount of commitments for operating leases that have not yet commenced. The reconciliation of the maturities of operating leases to the lease liabilities recorded on the Consolidated Balance Sheet as of December 30, 2023 is as follows:

<u>Fiscal Year</u>	
2024.....	\$ 5,929
2025.....	5,572
2026.....	3,857
2027.....	2,745
2028.....	2,447
Thereafter	1,123
Total undiscounted operating lease payments	21,673
Less: imputed interest	2,152
Present value of operating lease liabilities	<u>\$ 19,521</u>

7. Balance Sheet Components:

Inventories

Inventories are comprised of the following:

	<u>December 30,</u> <u>2023</u>	<u>December 31,</u> <u>2022</u>
Materials	\$ 234,471	\$ 231,029
Work-in-process	67,816	69,072
Finished goods.....	25,486	24,181
Total inventories.....	<u>\$ 327,773</u>	<u>\$ 324,282</u>

Property, Plant and Equipment

Property, plant and equipment, net, is comprised of the following:

	<u>December 30,</u> <u>2023</u>	<u>December 31,</u> <u>2022</u>
Land and building.....	\$ 47,889	\$ 50,344
Machinery and equipment	69,828	56,924
Furniture and fixtures	3,921	2,949
Computer equipment and software.....	17,790	15,415
Leasehold improvements.....	22,089	18,539
	161,517	144,171
Accumulated depreciation	(57,906)	(52,191)
Total property, plant and equipment, net.....	<u>\$ 103,611</u>	<u>\$ 91,980</u>

ONTO INNOVATION INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS - (Continued)
(In thousands, except per share data)

Other assets

Other assets is comprised of the following:

	December 30, 2023	December 31, 2022
Operating lease right-of-use assets	\$ 18,360	\$ 20,746
Other	2,452	4,479
Total other assets	<u>\$ 20,812</u>	<u>\$ 25,225</u>

Accrued liabilities

Accrued liabilities is comprised of the following:

	December 30, 2023	December 31, 2022
Payroll and related expenses	\$ 33,052	\$ 36,529
Warranty	8,934	10,890
Other	76	1,417
Total accrued liabilities	<u>\$ 42,062</u>	<u>\$ 48,836</u>

Other current liabilities

Other current liabilities is comprised of the following:

	December 30, 2023	December 31, 2022
Customer deposits	\$ 9,972	\$ 12,482
Current operating lease obligations	5,494	5,678
Income tax payable	3,210	1,910
Accrued professional fees	1,751	968
Other accrued taxes	3,570	2,081
Other	7,035	3,914
Total other current liabilities	<u>\$ 31,032</u>	<u>\$ 27,033</u>

Other non-current liabilities

Other non-current liabilities is comprised of the following:

	December 30, 2023	December 31, 2022
Non-current operating lease obligations	\$ 14,027	\$ 16,345
Unrecognized tax benefits (including interest)	7,358	7,693
Deferred revenue	2,462	2,852
Other	1,604	3,623
Total non-current liabilities	<u>\$ 25,451</u>	<u>\$ 30,513</u>

8. Commitments and Contingencies:

Factoring

The Company maintains arrangements under which eligible accounts receivable in Japan are sold without recourse to unrelated third-party financial institutions. The Company sold \$29,539 of receivables during the year ended December 30, 2023. There were no material gains or losses on the sale of such receivables. There were no amounts due from such third-party financial institutions at December 30, 2023.

ONTO INNOVATION INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS - (Continued)
(In thousands, except per share data)

Intellectual property Indemnification Obligations

The Company has entered into agreements with customers that include limited intellectual property indemnification obligations that are customary in the industry. These guarantees generally require the Company to compensate the other party for certain damages and costs incurred as a result of third-party intellectual property claims arising from these transactions. The nature of the intellectual property indemnification obligations prevents the Company from making a reasonable estimate of the maximum potential amount it could be required to pay to its customers. Historically, the Company has not made any indemnification payments under such agreements and no amount has been accrued in the accompanying consolidated financial statements with respect to these indemnification guarantees.

Warranty Reserves

The Company generally provides a warranty on its products for a period of 12 to 14 months against defects in material and workmanship. The Company estimates the costs that may be incurred during the warranty period and records a liability in the amount of such costs at the time revenue is recognized. The Company's estimate is based primarily on historical experience. The Company periodically assesses the adequacy of its recorded warranty liabilities and adjusts the amounts as necessary. Settlements of warranty reserves are generally associated with sales that occurred during the 12 to 14 months prior to the year-end and warranty accruals are related to sales during the same year.

Changes in the Company's warranty reserves are as follows:

	Year Ended	
	December 30, 2023	December 31, 2022
Balance, beginning of the period	\$ 11,830	\$ 9,682
Accruals	9,505	16,040
Usage.....	(11,955)	(13,893)
Balance, end of the period	\$ 9,380	\$ 11,830

Legal Matters

From time to time, the Company is subject to legal proceedings and claims in the ordinary course of business. The following reflects an overview of the material developments with regard to the Company's pending material legal proceedings.

Optical Solutions Inc. v. Nanometrics Incorporated (Case No. 18-cv-00417-BLF): On August 2, 2017, Nanometrics was named as defendant in a complaint filed in New Hampshire Superior Court (the "Complaint"). The Complaint, brought by Optical Solutions, Inc. ("OSI"), alleged claims arising from a purported exclusive purchase contract between OSI and Nanometrics pertaining to certain products. The relief sought was the award of damages in an amount to be proven at trial, attorney's fees and costs as well as other relief the court deems just and proper. On September 18, 2017, Nanometrics removed the action to the United States District Court for the District of New Hampshire (the "District of New Hampshire"). On September 25, 2017, Nanometrics moved to transfer the Complaint to the United States District Court for the Northern District of California (the "Northern District of California"). On December 20, 2017, Nanometrics filed its complaint against OSI in the California Superior Court for the County of Santa Clara alleging claims arising from OSI's breach of certain purchase orders. The relief sought was the award of damages in an amount to be proven at trial including pre- and post-judgment interest, punitive damages, restitution for benefits unjustly received by OSI, attorney's fees and costs as well as other relief the court deems just and proper. Nanometrics' complaint was later removed by OSI to the Northern District of California. On May 29, 2018, the District of New Hampshire issued an order granting Nanometrics' motion to transfer the Complaint to the Northern District of California and denying Nanometrics' motion to dismiss the Complaint without prejudice. On June 14, 2018, the Complaint was consolidated with Nanometrics' complaint against OSI. On August 9, 2018, OSI filed an Amended Complaint. On September 19, 2018, Nanometrics filed a motion to dismiss OSI's Amended Complaint for failure to state a claim. Nanometrics' motion to dismiss was heard on February 28, 2019. On March 5, 2019, the Northern District of California granted Nanometrics' motion to dismiss with leave to amend. OSI filed a Second Amended Complaint on March 29, 2019. Nanometrics filed a motion to dismiss OSI's Second Amended Complaint on May 31, 2019. In October 2019, Nanometrics was renamed Onto Innovation Inc. as a result of the Merger. Thereafter, the Company's second motion to dismiss was heard on November 14, 2019. On November 26, 2019, the Northern District of California granted the Company's motion to dismiss with leave to amend. OSI filed a Third Amended Complaint on January 21, 2020. On March 2, 2020, the Company filed a motion to dismiss OSI's Third Amended Complaint and a hearing on the motion was held on June 11, 2020. On June 23, 2020, the Northern District of California granted the Company's motion to dismiss with prejudice with regard to two claims asserted by OSI and dismissed two other claims asserted by OSI with leave to amend. Thereafter, on July 7, 2020, OSI filed a Fourth Amended Complaint. On August 14, 2020, the Company filed a motion to dismiss with regard to one of the two remaining claims. On

ONTO INNOVATION INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS - (Continued)
(In thousands, except per share data)

December 1, 2020, the Northern District of California denied this final motion to dismiss and as a result the Company filed its Answer in this matter on December 22, 2020. Discovery was closed and a trial date set for December 2023. Prior to trial, however, the parties resolved all outstanding claims between them in a confidential out-of-court settlement during fiscal 2023. The settlement did not have a material impact on the Company's financial position, results of operations or cash flows.

Open and Committed Purchase Orders

As of December 30, 2023, the Company has open and committed purchase orders of \$437,105, of which \$426,087 is for less than one year.

Line of Credit

The Company has a credit agreement with a bank that provides for a line of credit which is secured by the marketable securities the Company has with the bank. The Company is permitted to borrow up to 70% of the value of eligible securities held at the time the line of credit is accessed. The available line of credit as of December 30, 2023 was approximately \$100,000 with an available interest rate of 7.0%. The credit agreement is available to the Company until such time that either party terminates the arrangement at their discretion. The Company has not utilized the line of credit to date.

9. Revenue

The following table represents a disaggregation of revenue by timing of revenue:

	Year Ended		
	December 30, 2023	December 31, 2022	January 1, 2022
Point-in-time	\$ 761,797	\$ 958,409	\$ 749,276
Over-time	54,071	46,773	39,623
Total revenue	<u>\$ 815,868</u>	<u>\$ 1,005,183</u>	<u>\$ 788,899</u>

See Note 14 of the Notes to the Consolidated Financial Statements for additional discussion of the Company's disaggregated revenue in detail.

Contract Liabilities

The Company records contract liabilities when the customer has been billed in advance of the Company completing its performance obligations primarily related to service contracts and installation. For contracts that have a duration of one year or less, these amounts are recorded as current deferred revenue in the Consolidated Balance Sheets. As of December 30, 2023 and December 31, 2022, the Company carried a long-term deferred revenue balance of \$2,462 and \$2,852, respectively, in "other non-current liabilities" on the Consolidated Balance Sheets.

Changes in deferred revenue were as follows:

	Year Ended	
	December 30, 2023	December 31, 2022
Balance, beginning of the period.....	\$ 33,014	\$ 31,672
Deferral of revenue.....	75,602	81,772
Revenue recognized.....	(81,391)	(80,430)
Balance, ending of the period.....	<u>\$ 27,225</u>	<u>\$ 33,014</u>

ONTO INNOVATION INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS - (Continued)
(In thousands, except per share data)

10. Share-Based Compensation and Employee Benefit Plans:

Share-Based Compensation Plans

The Company's share-based compensation plans are intended to attract and retain employees and to provide an incentive for them to assist the Company to achieve long-range performance goals and to enable them to participate in long-term growth of the Company. The Company settles restricted stock unit awards, employee stock purchase option exercises and stock option exercises with newly issued common shares.

Onto Innovation Inc. 2020 Stock Plan (the "2020 Plan"). The 2020 Plan provides for the grant of 3,744 stock options and other stock awards to employees, directors and consultants at an exercise price equal to the fair market value of the common stock on the date of grant. Options granted under the 2020 Plan typically grade vest over a three-year period and expire ten years from the date of grant. Restricted stock units granted under the 2020 Plan typically vest over a three-year period for employees and one year for directors; however, other vesting periods are allowable under the 2020 Plan. Restricted stock units ("RSUs") granted to employees have time based or performance-based vesting. As of December 30, 2023, there were 2,868 shares of common stock available for issuance pursuant to future grants under the 2020 Plan.

Onto Innovation Inc. 2020 Employee Stock Purchase Plan (the "2020 ESPP"). Under the terms of the 2020 ESPP, eligible employees may have up to 10% of eligible compensation deducted from their pay and applied to the purchase of shares of Company common stock. The price the employee pays for each share of stock is 85% of the lesser of the fair market value of Company common stock at the beginning or the end of the applicable six-month purchase period. The 2020 ESPP is intended to qualify under Section 423 of the Internal Revenue Code and is a compensatory plan as defined by FASB ASC 718, "Stock Compensation." Through the Company's employee stock purchase plans, employees purchased 91, 142 and 242 shares during the twelve months ended December 30, 2023, December 31, 2022 and January 1, 2022, respectively. As of December 30, 2023 and December 31, 2022, there were 1,025 and 1,116, shares available for issuance under the Company's employee stock purchase plan, respectively.

The following table reflects share-based compensation expense by type of award:

	Year Ended		
	December 30, 2023	December 31, 2022	January 1, 2022
Share-based compensation expense:			
Restricted stock units, including all performance and market based awards	\$ 22,573	\$ 21,729	\$ 17,174
Stock options and employee stock purchase options	2,940	2,697	2,368
Total share-based compensation	25,513	24,426	19,542
Tax effect on share-based compensation	5,497	5,237	4,255
Net effect on net income	<u>\$ 20,016</u>	<u>\$ 19,189</u>	<u>\$ 15,287</u>
Effect on earnings per share:			
Basic	\$ (0.41)	\$ (0.39)	\$ (0.31)
Diluted.....	\$ (0.41)	\$ (0.39)	\$ (0.31)

ONTO INNOVATION INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS - (Continued)
(In thousands, except per share data)

Restricted Stock Units

During fiscal years 2023, 2022 and 2021, the Company issued both service-based RSUs and market-based performance RSUs (“PRSUs”). Service-based RSUs typically vest over a period of 3 years or less. Market-based PRSUs generally vest three years from the grant date if certain performance criteria are achieved and require continued employment. Based upon the terms of such awards, the number of shares that can be earned over the performance periods is based on the Company’s Common Stock price performance compared to the market price performance of a designated benchmark index, ranging from 0% to 200% of target. The designated benchmark index was the Philadelphia Semiconductor Sector Index for market-based PRSUs issued in 2023, 2022 and 2021. The stock price performance or market price performance is measured using the closing price for the 20-trading days prior to the dates the performance period begins and ends.

The following table summarizes the Company’s combined service-based RSUs and market-based PRSUs:

	Number of Shares	Weighted Average Grant Date Fair Value
Nonvested at December 26, 2020	964	\$ 31.37
Granted	338	\$ 69.82
Vested	(441)	\$ 30.90
Forfeited.....	(96)	\$ 42.40
Nonvested at January 1, 2022	765	\$ 48.25
Granted	410	\$ 82.48
Vested	(373)	\$ 42.87
Forfeited.....	(59)	\$ 58.98
Nonvested at December 31, 2022	743	\$ 69.01
Granted	319	\$ 89.23
Vested	(415)	\$ 59.20
Forfeited.....	(63)	\$ 84.11
Nonvested at December 30, 2023	<u>584</u>	<u>\$ 85.41</u>

Of the 584 shares outstanding at December 30, 2023, 494 are service-based RSUs and 90 are market-based PRSUs. The fair value of the Company’s service-based RSUs was calculated based on the fair market value of the Company’s stock at the date of grant. The fair value of the Company’s market-based PRSUs granted during fiscal years 2023, 2022, and 2021 was calculated using a Monte Carlo simulation model at the date of the grant, resulting in a weighted average grant-date fair value per share of \$100.79, \$85.49, and \$80.04, respectively.

As of December 30, 2023, there was \$26,559 of total unrecognized compensation cost related to RSUs granted under the plans. That cost is expected to be recognized over a weighted average period of 1.4 years.

401(k) Savings Plan

The Company has a 401(k) savings plan that allows employees to contribute up to 100% of their annual compensation to the Plan on a pre-tax or after-tax basis, limited to a maximum annual amount as set periodically by the Internal Revenue Service. The plan provides a 50% match of all employee contributions up to 6 percent of the employee’s salary. Matching contributions to the plan totaled \$3,128, \$2,965 and \$2,544 for the years ended December 30, 2023, December 31, 2022 and January 1, 2022, respectively.

11. Other Expense, Net:

Other expense, net is comprised of the following:

	Year Ended		
	December 30, 2023	December 31, 2022	January 1, 2022
Foreign currency exchange losses, net	\$ (4,091)	\$ (73)	\$ (2,020)
Other	239	(68)	132
Total other expense, net.....	<u>\$ (3,852)</u>	<u>\$ (141)</u>	<u>\$ (1,888)</u>

ONTO INNOVATION INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS - (Continued)
(In thousands, except per share data)

12. Income Taxes:

The components of income tax expense are as follows:

	Year Ended		
	December 30, 2023	December 31, 2022	January 1, 2022
Current:			
Federal.....	\$ 28,326	\$ 47,963	\$ 21,791
State.....	879	987	1,007
Foreign	4,647	2,901	3,153
	<u>33,852</u>	<u>51,851</u>	<u>25,951</u>
Deferred:			
Federal.....	(22,429)	(31,622)	(9,475)
State.....	242	(1,506)	(540)
Foreign	(242)	(473)	(2,603)
	<u>(22,429)</u>	<u>(33,601)</u>	<u>(12,618)</u>
Total income tax expense.....	<u>\$ 11,423</u>	<u>\$ 18,250</u>	<u>\$ 13,333</u>

The income before tax is comprised of the following:

	Year Ended		
	December 30, 2023	December 31, 2022	January 1, 2022
Domestic operations.....	\$ 107,640	\$ 239,527	\$ 136,143
Foreign operations	\$ 24,942	\$ 2,057	\$ 19,539

The provision for income taxes differs from the amount of income tax determined by applying the applicable U.S. federal income tax rate of 21% for the years ended December 30, 2023, December 31, 2022 and January 1, 2022, to income before provision for income taxes as follows:

	Year Ended		
	December 30, 2023	December 31, 2022	January 1, 2022
Federal income tax provision at statutory rate	\$ 27,842	\$ 50,732	\$ 32,693
State taxes, net of federal effect.....	942	467	1,066
Foreign taxes, net of federal effect.....	(2,323)	(481)	(3,817)
Foreign Derived Intangible Income ("FDII") Deduction.....	(12,958)	(25,445)	(11,061)
US tax on foreign source income	513	1,423	1,721
Non-deductible officer's compensation.....	2,301	1,910	689
Research and development tax credit.....	(6,430)	(7,146)	(3,607)
Tax impact of audit and statute closures.....	(1,563)	(1,526)	(1,987)
Change in valuation allowance	2,180	(276)	(178)
Impact of the CARES Act.....	—	—	(732)
Other	919	(1,408)	(1,454)
Provision for income taxes.....	<u>\$ 11,423</u>	<u>\$ 18,250</u>	<u>\$ 13,333</u>
Effective tax rate	9 %	8 %	9 %

ONTO INNOVATION INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS - (Continued)
(In thousands, except per share data)

Deferred tax assets and liabilities are comprised of the following:

	December 30, 2023	December 31, 2022
Deferred tax assets:		
Reserves and accruals	\$ 16,658	\$ 17,231
Deferred revenue	4,082	3,512
Share-based compensation.....	3,495	3,942
Tax credit carryforward	13,960	12,197
Net operating losses	1,088	1,643
Depreciation and amortization.....	156	125
Capitalized research and development	34,165	20,234
Operating lease liabilities	3,744	4,162
Other	2,875	4,044
Gross deferred tax assets	80,223	67,090
Less: valuation allowance.....	(13,960)	(11,772)
Total deferred tax assets after valuation allowance.....	66,263	55,318
Deferred tax liabilities:		
Depreciation and amortization.....	(43,908)	(52,927)
Operating lease right of use assets.....	(3,519)	(4,890)
Other	—	(89)
Gross deferred tax liabilities.....	(47,427)	(57,906)
Net deferred tax assets (liabilities)	\$ 18,836	\$ (2,588)

At December 30, 2023 and December 31, 2022, the Company had recorded valuation allowances of \$13,960 and \$11,772, respectively, on a certain portion of the Company's deferred tax assets to reflect the deferred tax assets at the net amount that is more likely than not to be realized. The Company maintains a valuation allowance against its federal foreign tax credit carryforwards of \$2,317 and state research and development credits of \$11,644.

In assessing the realizability of deferred tax assets, the Company uses a more likely than not standard. If it is determined that it is more-likely-than-not that deferred tax assets will not be realized, a valuation allowance must be established against the deferred tax assets. The ultimate realization of the assets is dependent on the generation of future taxable income during the periods in which the associated temporary differences become deductible. Management considers the scheduled reversal of deferred income tax liabilities, projected future taxable income and tax planning strategies when making this assessment. In making the determination that it is more likely than not that the Company's deferred tax assets will be realized as of December 30, 2023, the Company relied primarily on the reversal of deferred tax liabilities as well as projected future taxable income.

At December 30, 2023, the Company had tax effected state and foreign net operating loss carryforwards of \$860 and \$228, respectively. The federal, state and foreign net operating loss carryforwards expire on various dates beginning in 2023 through 2037.

At December 30, 2023, the Company had foreign tax credit carryforwards and state research & development credits of \$2,317, and \$16,213, respectively. The foreign tax credit carryforwards are set to expire at various dates beginning December 31, 2029. The state research & development credits have no expiration dates.

As of December 30, 2023, the Company has not provided U.S. income taxes on all its foreign earnings. The Company continues to permanently reinvest the cash held offshore to support its working capital needs.

ONTO INNOVATION INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS - (Continued)
(In thousands, except per share data)

The total amount of unrecognized tax benefits are as follows:

	Year Ended		
	December 30, 2023	December 31, 2022	January 1, 2022
Balance, beginning of the period	\$ 13,010	\$ 12,373	\$ 13,486
Gross increases—tax positions in prior period	29	456	156
Gross decreases—tax positions in prior period.....	(100)	—	(204)
Gross increases—current-period tax positions	1,785	1,729	1,193
Closure of audit/statute limitation.....	(1,582)	(1,548)	(2,258)
Balance, end of the period.....	<u>\$ 13,142</u>	<u>\$ 13,010</u>	<u>\$ 12,373</u>

The unrecognized tax benefits at December 30, 2023 and December 31, 2022 were \$13,142 and \$13,010, respectively, of which \$7,231 and \$7,614, respectively, would be reflected as an adjustment to income tax expense if recognized. The year over year increase from 2022 to 2023 is primarily due to additional unrecognized tax benefits related to federal and state tax exposures, offset by expiring tax statutes. It is reasonably possible that certain amounts of unrecognized tax benefits may reverse in the next 12 months; however, the Company does not expect such reversals to have a significant impact on its results of operations or financial position.

The Company recognizes accrued interest and penalties related to unrecognized tax benefits in income tax expense. During the years ended December 30, 2023, December 31, 2022 and January 1, 2022, the Company recognized approximately \$146, \$149 and \$(814), respectively, in interest and penalties (benefit) expense associated with uncertain tax positions. As of December 30, 2023 and December 31, 2022, the Company had accrued interest and penalties expense included in the table of unrecognized tax benefits of \$823 and \$628, respectively.

The Company is subject to U.S. federal income tax as well as income tax in multiple state and foreign jurisdictions. The Company is subject to ordinary statute of limitation rules of three and four years for federal and state returns, respectively. However, due to tax attribute carryforwards, the Company is subject to examination for tax years 2015 forward for U.S. federal tax purposes with respect to carryforward amounts. The Company is also subject to examination in various states for tax years 2003 forward with respect to carryforward amounts. The Company is subject to examination for tax years 2016 forward for various foreign jurisdictions. The Company believes that adequate amounts have been reserved for any adjustments that may ultimately result from any future examinations of these years.

In the normal course of business, the Company is subject to tax audits in various jurisdictions, and such jurisdictions may assess additional income taxes or other taxes against it. Although the Company believes its tax estimates are reasonable, the final determination of tax audits and any related litigation could be materially different from the Company's historical income tax provisions and accruals. The results of an audit or litigation could have a material adverse effect on the Company's results of operations or cash flows in the period or periods for which that determination is made.

13. Accumulated Other Comprehensive Income (Loss):

Comprehensive income includes net income, foreign currency translation adjustments, and net unrealized gains and losses on available-for-sale debt securities. See the Consolidated Statements of Comprehensive Income for the effect of the components of comprehensive income on the Company's net income.

The components of accumulated other comprehensive income (loss), net of tax, are as follows:

	Foreign currency translation adjustments	Net unrealized gains (losses) on marketable securities	Accumulated other comprehensive income (loss)
Balance at January 1, 2022	\$ 1,764	\$ (448)	\$ 1,316
Net current period other comprehensive loss.....	(8,879)	(2,447)	(11,326)
Balance at December 31, 2022	(7,115)	(2,895)	(10,010)
Net current period other comprehensive income (loss)	(1,549)	3,660	2,111
Balance at December 30, 2023	<u>\$ (8,664)</u>	<u>\$ 765</u>	<u>\$ (7,899)</u>

ONTO INNOVATION INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS - (Continued)
(In thousands, except per share data)

14. Segment Reporting and Geographic Information:

The Company is engaged in the design, development, manufacture and support of high-performance control metrology, defect inspection, lithography and data analysis systems used by microelectronics device manufacturers. The Company and its subsidiaries currently operate in a single operating segment: the design, development, manufacture and support of high-performance process control defect inspection and metrology, lithography and process control software systems used by microelectronics device manufacturers. Therefore, the Company has one reportable segment. The Company's chief operating decision maker is the Chief Executive Officer (the "CEO"). The CEO allocates resources and assesses performance of the business and other activities at the reportable segment level.

The following table lists the different sources of revenue:

	Year Ended					
	December 30, 2023		December 31, 2022		January 1, 2022	
Systems and software.....	\$ 683,316	84 %	\$ 865,707	86 %	\$ 669,114	85 %
Parts.....	74,604	9 %	84,266	8 %	72,753	9 %
Services	57,948	7 %	55,210	6 %	47,032	6 %
Total revenue.....	<u>\$ 815,868</u>	<u>100 %</u>	<u>\$ 1,005,183</u>	<u>100 %</u>	<u>\$ 788,899</u>	<u>100 %</u>

The Company's significant operations outside the United States include sales, service and application offices in Asia and Europe. For geographical revenue reporting, revenue is attributed to the geographic location to which the product is shipped. Revenue by geographic region is as follows:

	Year Ended		
	December 30, 2023	December 31, 2022	January 1, 2022
Revenue from third parties:			
South Korea.....	\$ 169,323	\$ 224,172	\$ 160,373
Taiwan.....	141,915	199,104	194,458
China	136,940	250,968	151,027
United States	130,292	121,487	123,858
Japan.....	93,831	58,133	61,186
Southeast Asia.....	87,585	71,062	33,054
Europe	55,982	80,256	64,943
Total revenue.....	<u>\$ 815,868</u>	<u>\$ 1,005,183</u>	<u>\$ 788,899</u>

The following chart identifies our customers that represented 10% or more of total revenue for each of the last three fiscal years:

	2023	2022	2021
Samsung Semiconductor.....	19 %	13 %	16 %
Taiwan Semiconductor Manufacturing Co. Ltd.	14 %	15 %	18 %
SK Hynix Inc.	^	11 %	^

^ The customer accounted for less than 10% of total revenue during the period.

At December 30, 2023 and December 31, 2022, two customers, Taiwan Semiconductor Manufacturing Co. Ltd. and Samsung Semiconductor, accounted for more than 10% of net accounts receivable.

Substantially all of the Company's long-lived assets are located within the United States of America.

ONTO INNOVATION INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS - (Continued)
(In thousands, except per share data)

15. Earnings Per Share:

Basic income per share is calculated using the weighted average number of shares of common stock outstanding during the period. Restricted stock units and stock options are included in the calculation of diluted earnings per share, except when their effect would be anti-dilutive.

The Company's basic and diluted earnings per share amounts are as follows:

	<u>December 30, 2023</u>	<u>December 31, 2022</u>	<u>January 1, 2022</u>
Numerator:			
Net income	\$ 121,159	\$ 223,334	\$ 142,349
Denominator:			
Basic earnings per share - weighted average shares outstanding	48,971	49,424	49,242
Effect of potential dilutive securities:			
Restricted stock units, employee stock purchase grants and stock options - dilutive shares	<u>347</u>	<u>340</u>	<u>486</u>
Diluted earnings per share - weighted average shares outstanding	<u>49,318</u>	<u>49,764</u>	<u>49,728</u>
Earnings per share:			
Basic	\$ 2.47	\$ 4.52	\$ 2.89
Diluted	\$ 2.46	\$ 4.49	\$ 2.86

16. Share Repurchase Authorization:

In November 2020, the Onto Innovation Board of Directors approved a share repurchase authorization, which allows the Company to repurchase up to \$100,000 worth of shares of its common stock. Repurchases may be made through both public market and private transactions from time to time with shares purchased being subsequently retired. During the twelve months ended December 30, 2023, the Company repurchased and retired 46 shares of its common stock under this repurchase authorization and those shares were subsequently retired. At December 30, 2023, there was \$31,577 available for future share repurchases under this share repurchase authorization.

The following table summarizes the Company's stock repurchases:

	<u>Year Ended</u>		
	<u>December 30, 2023</u>	<u>December 31, 2022</u>	<u>January 1, 2022</u>
Shares of common stock repurchased	46	1,018	—
Cost of stock repurchased	\$ 3,197	\$ 65,257	\$ —
Average price paid per share	\$ 69.29	\$ 64.09	\$ -

NOTE 17. Restructuring

The Company initiated a restructuring plan to streamline operations and align the Company's cost structure with its business outlook for 2023. During the twelve months ended December 30, 2023, restructuring costs of \$3,571 were recorded in operating expenses for employee severance and \$7,027 were recorded in cost of goods sold for inventory write-downs primarily related to the exit of older product lines. All employee severance costs were paid during the twelve-month period.

ONTO INNOVATION INC. AND SUBSIDIARIES

**SCHEDULE OF VALUATION AND QUALIFYING ACCOUNTS
(In thousands)**

<u>Column A</u>	<u>Column B</u>	<u>Column C</u>		<u>Column D</u>	<u>Column E</u>
<u>Description</u>	<u>Balance at Beginning of Period</u>	<u>Charged to (Recovery of) Costs and Expense</u>	<u>Charged to Other Accounts (net)</u>	<u>Deductions</u>	<u>Balance at End of Period</u>
Fiscal Year 2023:					
Allowance for credit losses ...	\$ 1,572	\$ 245	\$ 1,200	\$ 358	\$ 2,659
Deferred tax valuation allowance	11,772	2,188	—	—	13,960
Fiscal Year 2022:					
Allowance for credit losses ...	\$ 1,303	\$ 356	\$ —	\$ 87	\$ 1,572
Deferred tax valuation allowance	10,948	824	—	—	11,772
Fiscal Year 2021:					
Allowance for credit losses ...	\$ 784	\$ 955	\$ —	\$ 436	\$ 1,303
Deferred tax valuation allowance	14,238	(3,290)	—	—	10,948

SUBSIDIARIES

<u>Name</u>	<u>Jurisdiction</u>
Rudolph Technologies, Inc.	U.S.A.
4D Technology Corporation	U.S.A.
Inspectrology LLC	U.S.A.
Onto Innovation Japan Co. Ltd.	Japan
Onto Innovation (Shanghai) Trading Co., Ltd.	China
Nanometrics China Company Ltd.	China
Onto Innovation Germany GmbH	Germany
Onto Innovation Hong Kong Limited	Hong Kong
Onto Innovation Europe, B.V.	Netherlands
Onto Innovation Switzerland GmbH	Switzerland
Onto Innovation Korea Ltd.	Korea
Onto Innovation Southeast Asia Pte. Limited	Singapore
Onto Innovation Ireland Limited	Ireland
Onto Innovation Malaysia Sdn. Bhd.	Malaysia
Onto Innovation Vietnam PTE Company Limited	Vietnam
Neta SAS	France

**Rule 13a-14(a) Certification of Chief Executive Officer
Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002**

I, Michael P. Plisinski, certify that:

1. I have reviewed this annual report on Form 10-K of Onto Innovation 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.

Date: February 26, 2024

By: /s/ Michael P. Plisinski

Michael P. Plisinski
Chief Executive Officer

**Rule 13a-14(a) Certification of Chief Financial Officer
Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002**

I, Mark R. Slicer, certify that:

1. I have reviewed this annual report on Form 10-K of Onto Innovation 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.

Date: February 26, 2024

By: /s/ Mark R. Slicer

Mark R. Slicer
Chief Financial Officer

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

I, Michael P. Plisinski, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Annual Report of Onto Innovation Inc. on Form 10-K for the year ended December 30, 2023 fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934 and that the information contained in the Annual Report on Form 10-K fairly presents in all material respects the financial condition and results of operations of Onto Innovation Inc.

Date: February 26, 2024

By: /s/ Michael P. Plisinski _____

Michael P. Plisinski
Chief Executive Officer

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

I, Mark R. Slicer, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Annual Report of Onto Innovation Inc. on Form 10-K for the year ended December 30, 2023 fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934 and that the information contained in the Annual Report on Form 10-K fairly presents in all material respects the financial condition and results of operations of Onto Innovation Inc.

Date: February 26, 2024

By: /s/ Mark R. Slicer

Mark R. Slicer
Chief Financial Officer

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 14A

**PROXY STATEMENT PURSUANT TO SECTION 14(a) OF
THE SECURITIES EXCHANGE ACT OF 1934**

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement
- Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))
- Definitive Proxy Statement
- Definitive Additional Materials
- Soliciting Material Pursuant to Rule 14a-12

Onto Innovation Inc.

(Name of Registrant as specified in its charter)

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check all boxes that apply):

- No fee required.
- Fee paid previously with preliminary materials.
- Fee computed on table in exhibit required by Item 25(b) per Exchange Act Rules 14a-6(i)(1) and 0-11.



NOTICE OF 2024 ANNUAL MEETING OF STOCKHOLDERS

- Date: Wednesday, May 22, 2024
- Time: 8:00 a.m., Pacific Time
- Place: The Company's offices located at 1550 Buckeye Drive, Milpitas, CA 95035
- Record Date: Only stockholders of record at the close of business on March 25, 2024 are entitled to vote at the meeting and any adjournment or postponement thereof for which no new record date is set.
- Items of Business:
1. To elect the Board's eight nominees for director to serve until the next Annual Meeting and until their successors are duly elected and qualified;
 2. To approve, on an advisory (non-binding) basis, the compensation of our named executive officers as disclosed in this proxy statement;
 3. To ratify the appointment of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 28, 2024; and
 4. To transact such other business as may properly come before the meeting and any adjournment or postponement thereof.

These items of business are described more fully below in this proxy statement. This year we will be providing access to our proxy materials via the Internet in accordance with the Securities and Exchange Commission's "Notice and Access" rules. On or about April 5, 2024, we will be mailing to our stockholders our Notice of Internet Availability of Proxy Materials, which contains instructions for accessing our 2024 proxy statement and 2023 annual report to stockholders and how to vote online. In addition, the Notice of Internet Availability of Proxy Materials will contain instructions on how to request a paper copy of the 2024 proxy statement and 2023 annual report to stockholders.

Your vote is important. As always, we encourage you to vote your shares as soon as possible and prior to the Annual Meeting even if you plan to attend the Annual Meeting. Voting early will ensure your shares are represented at the Annual Meeting, regardless of whether you attend the Annual Meeting. You may cast your vote via the Internet, by telephone, or during the Annual Meeting. If you receive a paper copy of the proxy card by mail, you may also mark, sign, date, and return the proxy card in the accompanying postage-prepaid envelope.

IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE ANNUAL MEETING OF STOCKHOLDERS TO BE HELD MAY 22, 2024:

This notice, the proxy statement, and the 2023 annual report to stockholders are available at:
<https://www.ontoinnovation.com/ar-proxy>

FOR THE BOARD OF DIRECTORS

Yoon Ah E. Oh
Corporate Secretary
Wilmington, Massachusetts
April 5, 2024

PROXY STATEMENT

TABLE OF CONTENTS

	Page
Forward Looking Statements	1
Proxy Summary	2
Onto Innovation Proxy Statement	5
Proposal 1 – Election of Directors	6
Nominees For Director	6
Corporate Governance Principles and Practices	14
Proposal 2 – Advisory Vote to Approve Named Executive Officer Compensation	27
Executive Officer Compensation	28
Compensation Committee Report on Executive Officer Compensation	48
Executive Officer Compensation Tables	49
CEO Pay Ratio	64
Proposal 3 – Ratification of Appointment of Independent Registered Public Accounting Firm	65
Audit Committee Report	68
Executive Officer Biographies	69
Security Ownership of Certain Beneficial Owners	72
Equity Compensation Plan Information	73
Other Matters	73
Questions and Answers About the Annual Meeting	74
Additional Information	79

Forward Looking Statements

Certain statements in this proxy statement of Onto Innovation Inc. (referred to in this proxy statement, together with its consolidated subsidiaries, unless otherwise specified or suggested by the context, as the “Company,” “Onto Innovation,” “we,” “our,” or “us”) may be considered “forward-looking statements” or may be based on “forward-looking statements,” including, but not limited to, those concerning: our business momentum and future growth; technology development, product introduction and acceptance of our products and services; our manufacturing practices and ability to deliver both products and services consistent with our customers’ demands and expectations and to strengthen our market position, including our ability to source components, materials, and equipment due to supply chain delays or shortages; our expectations of the semiconductor market outlook; future revenue, gross profits, research and development and engineering expenses, selling, general and administrative expenses, and cash requirements; the effects of political, economic, legal, and regulatory changes or conflicts on our global operations; the effects of natural disasters or public health emergencies on the global economy and on our customers, suppliers, employees, and business; our dependence on certain significant customers and anticipated trends and developments in and management plans for our business and the markets in which we operate; and our ability to be successful in managing our cost structure and cash expenditures and results of litigation. Statements contained or incorporated by reference in this proxy statement that are not purely historical are forward-looking statements and are subject to safe harbors created under Section 27A of the Securities Act of 1933, as amended, Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and the Private Securities Litigation Reform Act of 1995. Forward-looking statements may be identified by words such as, but not limited to, “anticipate,” “believe,” “continue,” “estimate,” “expect,” “intend,” “plan,” “should,” “may,” “could,” “will,” “would,” “forecast,” “project” and words or phrases of similar meaning, as they relate to our management or us. Forward-looking statements contained herein reflect our current expectations, assumptions and projections with respect to future events and are subject to certain risks, uncertainties and assumptions, such as those identified in Part I, Item 1A. “Risk Factors” of our Form 10-K for the fiscal year ended December 30, 2023. Actual results may differ materially and adversely from those included in such forward-looking statements. Forward-looking statements reflect our position as of the date of this report and we undertake no obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

PROXY SUMMARY

This summary highlights information contained elsewhere in the proxy statement. This summary does not contain all of the information that you should consider, and you should read the entire proxy statement carefully before voting.

Stockholder Voting Matters

Voting Matter	Board Vote Recommendation	Page Reference for More Information
Proposal 1: Election of Directors	FOR ALL	6
Proposal 2: Advisory Vote to Approve Named Executive Officer Compensation	FOR	27
Proposal 3: Ratification of Appointment of Independent Registered Public Accounting Firm for the Fiscal Year Ending December 28, 2024	FOR	65

CORPORATE GOVERNANCE HIGHLIGHTS

Snapshot of Board Composition

The following table presents a snapshot of the expected composition of the Onto Innovation Board of Directors (the “Board” or “Board of Directors”) immediately following the 2024 Annual Meeting, assuming the election of all nominees named in the proxy statement.

Board Characteristic	Onto Innovation
Total Number of Directors	8
Percentage of Independent Directors	87.5%
Average Age of Directors (years)	63.8
Average Tenure of Directors (years)	6.8
Separate Chairperson and CEO roles	Yes
Independent Chairperson	Yes
Audit Committee Financial Experts	2
Female Director Representation	37.5%
Race/Ethnicity Diversity Representation	12.5%

Snapshot Of Board Governance And Compensation Policies

The following table presents a snapshot of the Onto Innovation Board governance and compensation policies currently in effect.

Policy	Onto Innovation
Majority Voting for All Directors	Yes
Regular Executive Sessions of Independent Directors	Yes
Annual Board, Committee, and Director Evaluations	Yes
Risk Oversight by Full Board and Committees	Yes
Independent Audit, Compensation, and Nominating & Governance Committees	Yes
Code of Business Conduct and Ethics for Employees and Directors	Yes
Financial Information Integrity Policy	Yes
Stock Ownership Requirement for Directors	3x annual retainer
Stock Ownership Requirement for CEO	3x base salary
Stock Ownership Requirement for other NEOs	1x base salary
Stock-Based Award Grant Date Policy	Yes
Anti-Hedging, Anti-Short Sale & Anti-Pledging Policies	Yes
Incentive Compensation Recovery Policy	Yes
No Tax Gross-Up Provisions	Yes
No Poison Pill	Yes
Stock Buyback Program	Yes
Double Trigger Change-in-Control Provisions for Executive Officers	Yes
Annual Environmental, Social, and Governance Report	Yes

Snapshot Of Board Governance And Compensation Policies Newly Implemented Or Adjusted In Past Year

The following presents a snapshot of the Onto Innovation Board governance and compensation policies that were newly implemented or adjusted in the past year.

- After the 2023 Annual Meeting of Stockholders, the following actions were taken with regard to the composition and leadership structure of the Board and standing committees of the Board:
 - As previously disclosed, in March 2024, the Board elected Susan D. Lynch to the Board and appointed her to the Audit and M&A Committees.
 - As previously disclosed, Karen M. Rogge announced her decision to retire from the Board following the conclusion of her current term, which expires at the 2024 Annual Meeting.
 - The Audit Committee was increased to four members. Leo Berlinghieri and Stephen D. Kelley joined the Audit Committee and May Su left the Audit Committee. Christine A. Tsingos and Ms. Rogge remained on the Audit Committee, with Ms. Tsingos serving as Chairperson.
 - Ms. Su was appointed Chairperson of the Compensation Committee. Mr. Kelley also joined the Compensation Committee and Mr. Berlinghieri left the Compensation Committee. David B. Miller and Ms. Tsingos remained as members of the Committee.
 - The Nominating & Governance Committee was increased to four members, with Ms. Su joining. Messrs. Berlinghieri, Miller, and Christopher A. Seams remained on the Committee, with Mr. Berlinghieri serving as Chairperson.
- The annual review of the charters for the Audit, Compensation, M&A and Nominating & Governance Committees was performed and completed. The Board also reviewed and approved updates to the Company's Code of Business Conduct and Ethics, Financial Information Integrity Policy, Investment Policy, Stock-Based Award Grant Date Policy, Foreign Corrupt Practices Act Policy, Director Candidate Policy, Stockholder & Interested Party Communications Policy, Insider Trading Policy, and Corporate Governance Guidelines.
- The Board approved a new Incentive Compensation Recovery Policy that meets the requirements of new rules promulgated by the Securities and Exchange Commission ("SEC") and the New York Stock Exchange ("NYSE") that went into effect in late 2023.



PROXY STATEMENT

The proxy detailed herein is solicited on behalf of the Board of Directors of Onto Innovation for use at the 2024 Annual Meeting of Stockholders to be held May 22, 2024 at 8:00 a.m. Pacific Time (the “Annual Meeting”), or at any adjournment or postponement thereof, for the purposes set forth herein and in the accompanying Notice of Annual Meeting of Stockholders. The Annual Meeting will be held at the Company’s offices located at 1550 Buckeye Drive, Milpitas, CA 95035. Directions to the Annual Meeting may be found on our website (www.ontoinnovation.com) by clicking on “Company,” “Locations,” “California” and then accessing the interactive map. The Company’s telephone number is (978) 253-6200.

On or about April 5, 2024, we will furnish a Notice of Internet Availability of Proxy Materials (“Notice”) to our stockholders containing instructions on how to access the proxy materials online at:

<https://www.ontoinnovation.com/ar-proxy>

Instructions on how to vote online and to request a printed copy of the proxy materials may be found in the Notice. If you receive a Notice by mail, you will not receive a paper copy of the proxy materials unless you request such materials by following the instructions contained in the Notice. Your vote is important, regardless of the extent of your holdings.

Our principal executive offices are located at 16 Jonspin Road, Wilmington, Massachusetts 01887.

PROPOSAL 1

ELECTION OF DIRECTORS

Nominees

The Company's Amended and Restated Certificate of Incorporation ("Charter") provides that directors shall be elected at each Annual Meeting of Stockholders, and that each director of the Company shall serve until the expiration of the term for which he or she is elected and until his or her successor is duly elected and qualified, or until his or her earlier death, resignation, disqualification or removal.

Based on the recommendation of the Nominating & Governance Committee, the eight director nominees approved by the Board for inclusion in this proxy statement and for election at the Annual Meeting are:

Leo Berlinghieri	Stephen D. Kelley	Susan D. Lynch	David B. Miller
Michael P. Plisinski	Christopher A. Seams	May Su	Christine A. Tsingos

Each nominee is currently serving as a director of Onto Innovation. In making its recommendations, the Nominating & Governance Committee considered a number of factors, including its criteria for Board membership, which include the qualifications that must be possessed by a director candidate in order to be nominated for a position on our Board. Each nominee has indicated that he or she will serve if elected. Unless otherwise instructed, the proxy holders will vote the proxies received by them for the Company's eight nominees. In the event that any nominee of the Company becomes unable or unavailable to serve as a director at the time of the Annual Meeting (which we do not anticipate) the proxy holders will vote the proxies for any substitute nominee who is designated by the current Board to fill the vacancy. Alternatively, the Board, in its discretion, may elect not to nominate a substitute and to reduce the size of the Board. We do not have any reason to believe that any of the nominees will be unable or will decline to serve as a director.

Board Composition and Refreshment

A priority of the Nominating & Governance Committee and the Board as a whole is making certain that the composition of the Board reflects the desired professional experience, skills, and backgrounds in order to present an array of viewpoints and perspectives, help develop and execute strategy for the future, and effectively represent the long-term interests of stockholders. Further, the Board recognizes the importance of Board refreshment in order to continue to achieve an appropriate balance of tenure, turnover, diversity, and skills on the Board.

Vote Required

Pursuant to the Company's Amended and Restated Bylaws ("Bylaws"), our directors are elected by the affirmative vote of the majority of the votes cast (provided, however, that if the number of nominees exceeds the number of directors to be elected, directors will be elected by a plurality voting standard). In order for a director in an uncontested election to be elected, the number of votes cast "for" his/her election must exceed the number of votes cast "against" his/her election (with "abstentions" and "broker non-votes" not counted as a vote cast either "for" or "against" that director's election). If a nominee who is an incumbent director receives a greater number of "against" votes for election than "for" votes in an uncontested election and is not elected, our Corporate Governance Guidelines provide that such director must promptly tender a resignation to the Board. Our Nominating & Governance Committee would then make a recommendation to the Board on whether to accept or reject the tendered resignation, or whether other action should be taken. Within 90 days after the date of the certification of the election results, our Board will act on any such tendered resignation and publicly disclose (in a press release, a filing with the SEC, or other broadly disseminated means of communication) its decision regarding the tendered resignation and the rationale behind the decision.

Information about the Nominees and Continuing Directors

Our Board and its Nominating & Governance Committee believe that all of the director nominees are highly qualified, have demonstrated leadership skills, and have the requisite experience and judgment in areas that are relevant to our business. We believe that their ability to challenge and stimulate management and their dedication to the affairs of the Company collectively serve the interests of the Company and its stockholders. The Company is unaware of any arrangements or understandings between any director or nominee and any other person(s) pursuant to which any director or nominee was or is to be selected.

The eight nominees for director are set forth below. All information is as of the record date.

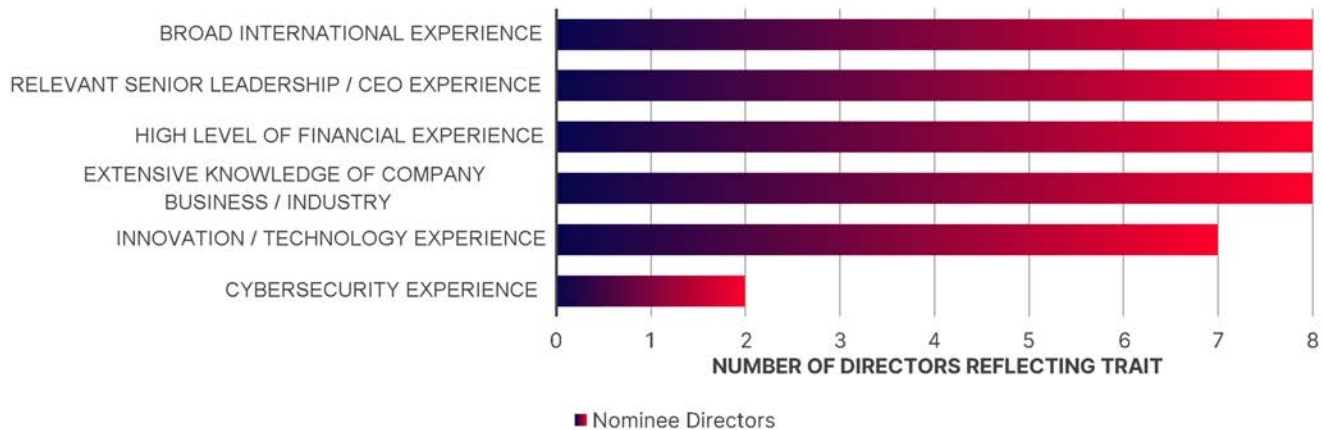
Name	Principal Occupation	Board Tenure ⁽¹⁾
Leo Berlinghieri	Former President and Chief Executive Officer of MKS Instruments, Inc.	15.5 years
Stephen D. Kelley	President and Chief Executive Officer of Advanced Energy Industries, Inc.	1.2 years
Susan D. Lynch	Former Senior Vice President and Chief Financial Officer of V2X, Inc.	<0.1 years
David B. Miller	Former President of DuPont Electronics & Communications	8.7 years
Michael P. Plisinski	Chief Executive Officer of Onto Innovation Inc.	8.4 years
Christopher A. Seams	Former Chief Executive Officer of Deca Technologies Inc.	8.7 years
May Su	Former Chief Executive Officer of Kateeva, Inc.	2.1 years
Christine A. Tsingos	Former Executive Vice President and Chief Financial Officer of Bio-Rad Laboratories, Inc.	9.9 years

(1) On October 25, 2019 (the "Merger Date"), Rudolph Technologies, Inc. merged with and into Nanometrics Incorporated, which was then renamed Onto Innovation Inc. (the "2019 Merger"). Unless otherwise indicated or context otherwise requires, as used herein "Nanometrics" refers to Nanometrics Incorporated and its subsidiaries prior to the Merger Date and "Rudolph" refers to Rudolph Technologies, Inc. and its subsidiaries prior to the Merger Date. Board tenure includes time served on the Rudolph Board of Directors or the Nanometrics Board of Directors, as applicable, prior to the Merger Date.

There are no family relationships between any directors or executive officers of the Company. The Nominating & Governance Committee considered the professional experience, skills, and backgrounds of the nominees and recommended the nominees to the full Board.

The following reflects additional information regarding the background and qualifications of our director nominees, including the experience and skills that support the Board’s determination that each director nominee should serve on our Board.

BOARD SKILLS MATRIX



The director nominees for 2024 voluntarily self-identified with the following diversity characteristics:

- Gender Self-Identification: 62.5% Male / 37.5% Female
- Race/Ethnicity Identification: 87.5% White / 12.5% Asian
- LGBTQ+ Identification: None

NOMINEES FOR DIRECTOR

Leo Berlinghieri



Director Since:	July 2008
Age:	70
Independent Status:	Independent Director
Board Committee(s):	Audit, Nominating & Governance (Chairperson)
Other Public Company Boards:	MKS Instruments, Inc. (2005-2013)

From July 2005 to December 2013, Mr. Berlinghieri served as President & Chief Executive Officer of MKS Instruments, Inc., a critical subsystem and instrument provider to the semiconductor industry. From April 2004 to July 2005, Mr. Berlinghieri served as President and Chief Operating Officer and, from July 2003 to April 2004, as Vice President and Chief Operating Officer, at MKS Instruments. Mr. Berlinghieri served on the advisory board of Unipower, LLC from 2017 to 2019, as a director on the North America advisory board of Semiconductor Equipment and Materials International (SEMI) from 2005 to 2013, holding the role of chairperson in 2012 and 2013, and on the board of directors of the Massachusetts High Technology Council, Inc. from 2006 to 2013.

Key Qualifications, Attributes, Skills and Experience

Mr. Berlinghieri has over 34 years of experience in the semiconductor industry and extensive international, financial, and operations experience through his various roles with MKS Instruments, including Chief Executive Officer, Chief Operating Officer and Vice President of Global Sales and Service.

Stephen D. Kelley



Director Since:	January 2023
Age:	61
Independent Status:	Independent Director
Board Committee(s):	Audit, Compensation
Other Public Company Boards:	Advanced Energy Industries, Inc. (since March 2021) Amkor Technology, Inc. (2013-2020)

Mr. Kelley has served as President & Chief Executive Officer of Advanced Energy Industries, Inc., which designs and manufactures power delivery systems for semiconductor wafer fabrication equipment and other applications, since March 2021. Previously, Mr. Kelley served as President and Chief Executive Officer of Amkor Technology, Inc., a leading semiconductor packaging and test company, from May 2013 to June 2020. Prior to joining Amkor, Mr. Kelley served as Senior Advisor to Advanced Technology Investment Company, the Abu Dhabi-sponsored investment company that owned GlobalFoundries Inc. at the time, from June through November 2012. Mr. Kelley served as Executive Vice President and Chief Operating Officer of Cree, Inc. from 2008 to 2011. Prior to joining Cree, Mr. Kelley held executive leadership roles at Texas Instruments Inc. and Philips Semiconductors. Mr. Kelley holds a B.S. in Chemical Engineering from the Massachusetts Institute of Technology and a J.D. from Santa Clara University.

Key Qualifications, Attributes, Skills and Experience

With over 30 years of leadership experience in the semiconductor industry, Mr. Kelley has a comprehensive understanding of our industry and extensive management experience. Mr. Kelley also possesses first-hand knowledge of our customer base and has in-depth experience in strategic planning, business development, technology, manufacturing, and operations relevant to our business.

Susan D. Lynch



Director Since:	March 2024
Age:	62
Independent Status:	Independent Director
Board Committee(s):	Audit, M&A
Other Public Company Boards:	Allegro Microsystems, Inc. (since November 2021)

Ms. Lynch served as the Senior Vice President and Chief Financial Officer at V2X (formerly Vectrus, Inc.) from August 2019 to September 2023. From April 2016 to July 2019, Ms. Lynch was the Executive Vice President and Chief Financial Officer for Sungard Availability Services. Before joining Sungard AS, from 2007 to 2015, Ms. Lynch was the Executive Vice President and Chief Financial Officer for Hitachi Vantara (formerly Hitachi Data Systems). From 2005 to 2007, Ms. Lynch was Vice President and Chief Financial Officer of Raytheon Technical Services. Before joining Raytheon, Ms. Lynch held a number of roles of increasing financial responsibility with Honeywell International Inc. from 1984 to 2005. Ms. Lynch received her B.A. in accounting and business administration from MidAmerica Nazarene University. In 2023, Ms. Lynch was awarded the prestigious Greater Washington Technology Public Company CFO of the Year by the Northern Virginia Technology Council.

Key Qualifications, Attributes, Skills and Experience

Ms. Lynch has more than 25 years of financial experience through senior leadership roles in the technology, aerospace and defense, and industrial manufacturing industries make her well qualified to serve as a member of our Board.

David B. Miller



Director Since:	July 2015
Age:	67
Independent Status:	Independent Director
Board Committee(s):	Compensation, Nominating & Governance, M&A (Chairperson)
Other Public Company Boards:	Merrimac Industries, Inc. (2002-2008)

Mr. Miller served as Rudolph's non-executive Chairperson from August 2018 through the Merger Date. From June 1981 to November 2015, Mr. Miller served in various positions, most recently as President, at DuPont Electronics & Communications, an electronic materials company. Mr. Miller previously served as the President of the University of Virginia School of Engineering & Applied Science Foundation from 2016 to 2018. Mr. Miller served on the board of directors of Semiconductor Equipment and Materials International (SEMI) from 2011 to 2015 and on the board of the North Carolina Chamber of Commerce from 2010 to 2015. He has also served on several electronics joint venture boards in the U.S. and Asia. Mr. Miller holds a B.S. in Electrical Engineering from the University of Virginia.

Specific Qualifications, Attributes, Skills and Experience

Mr. Miller has over 40 years of experience in the electronics industry. In his prior roles, including as President of DuPont Electronics & Communications, he had oversight of technology advancement, complex financial transactions, profit and loss responsibility and investor relations, and brings substantial management and market expertise to the Board. Mr. Miller also has substantial international experience, having served on several electronics joint venture boards in the U.S. and Asia as well as on the board of SEMI International.

Michael P. Plisinski



Director Since:	November 2015
Age:	54
Independent Status:	Non-Independent Director
Board Committee(s):	None
Other Public Company Boards:	None

Mr. Plisinski has served as the Company's Chief Executive Officer since the Merger Date and was previously Chief Executive Officer of Rudolph from November 2015 through the Merger Date. Prior to his appointment as Rudolph's CEO, Mr. Plisinski served as Rudolph's Executive Vice President and Chief Operating Officer from October 2014 to November 2015 and as Vice President and General Manager of its Data Analysis and Review Business Unit from February 2006 until October 2014. From February 2004 to February 2006, Mr. Plisinski served as Vice President of Engineering at August Technology, which was acquired by Rudolph. Mr. Plisinski joined August Technology in connection with its acquisition of Counterpoint Solutions, a supplier of optical review and automated metrology equipment, where he was the sole founder and President from June 1999 to July 2003. Mr. Plisinski has served on the board of directors of Cognizer.AI, a software company that specializes in deep-learning powered natural language intelligence, since August 2020, and on the board of directors of the Massachusetts High Technology Council, Inc. since May 2022. Mr. Plisinski has a B.S. in Computer Science from the University of Massachusetts and has completed the Advanced Management Program from Harvard Business School.

Key Qualifications, Attributes, Skills and Experience

Mr. Plisinski brings to our Board of Directors insights based on his leadership roles at the Company and his deep knowledge of our products, markets, customers, culture, and organization.

Christopher A. Seams



Director Since:	August 2015
Age:	61
Independent Status:	Independent Director
Board Committee(s):	Nominating & Governance, M&A
Other Public Company Boards:	Xperi Inc. (since October 2013)

Mr. Seams served as Chief Executive Officer of Deca Technologies Inc., a wafer-level electronic interconnect solutions provider to the semiconductor industry, from June 2013 to August 2016. Prior to Deca Technologies, Mr. Seams served as Executive Vice President of Sales and Marketing at Cypress Semiconductor Corporation, a semiconductor design and manufacturing company, and held various technical and operational management positions in its manufacturing, development, and operations departments. Prior to joining Cypress in 1990, Mr. Seams worked in process development for Advanced Micro Devices, Inc. and Philips Research Laboratories. Mr. Seams holds a B.S. in Electrical Engineering from Texas A&M University and an M.S. in Electrical and Computer Engineering from the University of Texas at Austin. Mr. Seams also has a Professional Certificate in Advanced Computer Security from Stanford University and is a senior member of the Institute of Electrical and Electronics Engineers. Mr. Seams is a member of the American College of Corporate Directors (ACCD) as well as a member and Certified Director of the National Association of Corporate Directors (NACD).

Key Qualifications, Attributes, Skills and Experience

Mr. Seams has over 30 years of experience within the semiconductor industry. During that time he has gained substantial management, financial and international experience as a senior leader at multiple companies. He also brings to the Board technology and innovation experience gained through an array of technical and operational management positions in manufacturing, development, operations, and process development.

May Su



Director Since:	March 2022
Age:	66
Independent Status:	Independent Director
Board Committee(s):	Compensation (Chairperson), Nominating & Governance
Other Public Company Boards:	Kateeva, Inc. (2020-2022)

Ms. Su served as Chief Executive Officer of Kateeva, Inc., a company that builds inkjet deposition equipment solutions, from March 2020 to October 2022. Prior to becoming Chief Executive Officer, Ms. Su served as Kateeva's Chief Marketing Officer starting in January 2018 and added the role of Senior Vice President of Sales in May 2019. Before joining Kateeva, Ms. Su was an independent consultant from 2016 to 2018. From 2012 to 2016, Ms. Su served in an array of senior management roles, including Vice President, Strategic Marketing and Vice President Strategic OEM Sales, for Brooks Automation, Inc., a provider of automation, vacuum and instrumentation equipment for multiple markets, including semiconductor manufacturing. From 2009 to 2012, Ms. Su served as Vice President and General Manager for Crossing Automation Inc., a manufacturer of fabrication and tool automation products, which was acquired by Brooks Automation in 2012. Before her role at Crossing Automation, Ms. Su was President of U.S. & European Field Operations for Nova Measuring Instrument, Inc., a provider of metrology devices for advanced process control used in semiconductor manufacturing, and held other senior management roles with Aviza Technology, Inc., New-Wave Research, KLA-Tencor Corporation and Lam Research Corporation. Ms. Su holds a B.S. in Mechanical Engineering from Cornell University, an M.S. in Mechanical Engineering from University of California-Berkeley, and an M.B.A. from Santa Clara University, Leavey School of Business. Ms. Su also serves on the board of directors of Applied Engineering, Inc., a high-tech contract manufacturing company.

Key Qualifications, Attributes, Skills and Experience

Ms. Su has over 40 years of experience within the semiconductor capital equipment industry. During that time she has gained substantial management, international and financial experience in her role as Chief Executive Officer of Kateeva, Inc., as well as in other executive and general manager roles.

Christine A. Tsingos



Director Since:	May 2014
Age:	65
Independent Status:	Independent Director
Board Committee(s):	Audit (Chairperson), Compensation
Other Public Company Boards:	Envista Holdings Corporation (since September 2019) Varex Imaging Corporation (since February 2017) Telesis Bio Inc. (since May 2021)

Ms. Tsingos served as the Executive Vice President and Chief Financial Officer of Bio-Rad Laboratories, a manufacturer and distributor of life science research and clinical diagnostics products, from December 2002 through May 2019. Prior to Bio-Rad, Ms. Tsingos held executive positions at Autodesk, The Cooper Companies, and Attest Systems. Ms. Tsingos holds a B.A. in International Studies from The American University and an M.B.A. in International Business from The George Washington University. In 2010, Ms. Tsingos was awarded the prestigious Bay Area CFO of the Year.

Key Qualifications, Attributes, Skills and Experience

Ms. Tsingos has over 30 years of financial and operational experience with a series of companies, including 16 years of service as Chief Financial Officer of Bio-Rad Laboratories through which she also gained comprehensive international experience. Ms. Tsingos also has significant experience and knowledge of both the Company and the semiconductor industry derived from ten years of dedicated service on the boards of directors of Nanometrics and the Company.

**The Board recommends voting "FOR"
all of the nominees set forth above.**

CORPORATE GOVERNANCE PRINCIPLES AND PRACTICES

Onto Innovation is committed to sound and effective corporate governance practices. Having such practices is essential to running our business efficiently and maintaining our integrity in the marketplace. The major components of our corporate governance practices are described below.

Board Leadership Structure

The roles of Chief Executive Officer (“CEO”) and Chairperson of the Board at Onto Innovation are held by separate individuals. Our Board is led by Christopher A. Seams, who is an independent director and has served as Chairperson of the Board since the Merger Date. The Board’s primary responsibility is to oversee management of the Company. Company management is led by Michael P. Plisinski, who has served as our CEO and a director since the Merger Date.

Our Board is currently comprised of one non-independent director, Mr. Plisinski, and eight independent directors, each of whom has been affirmatively determined by our Board to meet the criteria for independence established by the Securities and Exchange Commission (“SEC”) and the New York Stock Exchange (“NYSE”). Following our Annual Meeting, our Board will be composed of one non-independent director and seven independent directors. The independent directors meet periodically in executive session chaired by the Chairperson without the CEO or other management present. Furthermore, each director is encouraged to suggest items for the Board agenda in advance of any meeting and to raise at any Board meeting subjects that are not on the agenda for that meeting.

The Board believes that, at the current time, the designation of an independent Chairperson of the Board facilitates the functioning of the Board, while leaving the CEO with the responsibility for setting the strategic direction for the Company and for the day-to-day leadership and performance of the Company. The independent Chairperson of the Board:

- Presides at all meetings of the stockholders and the Board at which he or she is present;
- Establishes the agenda for each Board and stockholder meeting;
- Calls and prepares the agenda for and presides over executive sessions of the independent directors;
- Acts as a liaison between the independent directors and the Company’s management; and
- Performs such other powers and duties as may from time to time be assigned by the Board or as may be prescribed by the Company’s Bylaws.

Board Meetings

In 2023, each incumbent director attended 100% of the aggregate of the total number of Board meetings and the total number of meetings of Board committees on which such director served during the time such director served on the Board. Although the Company does not currently have a formal policy regarding the attendance of directors at the Annual Meeting of Stockholders, directors are encouraged to attend. All members of the Board who stood for reelection at the Company’s 2023 Annual Meeting of Stockholders attended the Annual Meeting.

In 2023, the Board held a total of five Board meetings. On four occasions during 2023, the Board met in executive session in which only the independent Board members were present.

The Board makes an annual determination as to the independence of each of our Board members under the current standards for “independence” established by the NYSE and the SEC. The Board has determined that the following nominees for election as directors to our Board are independent under the NYSE Listing Rules and SEC rules: Leo Berlinghieri, Stephen D. Kelley, Susan D. Lynch, David B. Miller, Christopher A. Seams, May Su, and Christine A. Tsingos. Michael P. Plisinski, due to his position as our CEO, is not considered to be independent. Ms. Rogge, who will not stand for re-election in 2024, was also determined by the Board to be independent under applicable NYSE and SEC rules.

During 2023, none of the independent members of our Board was a party to any transactions, relationships, or arrangements that were considered by the Board to impair his or her independence.

Oversight Of Risk

One of the Board's primary responsibilities is reviewing the Company's strategic plans and objectives, including oversight of the principal risk exposures of the Company. In particular, the Board is responsible for monitoring and assessing strategic risk exposure, including determining the nature and level of risk appropriate for the Company. The Board does not have a standing risk management committee, but rather administers this oversight function directly through the Board as a whole, as well as through the standing Board committees, which address risks inherent in their respective areas of oversight.

The Audit Committee assists the Board in oversight and monitoring of the financial and legal risks facing the Company, management's approach to addressing these risks and strategies for risk mitigation. On at least an annual basis, the Audit Committee reviews, and discusses with management, policies and systems pursuant to which management addresses risk, including risks associated with our audit, financial reporting, internal control, disclosure control, regulatory compliance, and investment policies. Our Audit Committee is also tasked with overseeing risks from cybersecurity threats. Members of the Audit Committee receive updates on cybersecurity matters on a quarterly basis from one or more representatives from the Company's Cyber Security Council ("CSC"), which is composed of our business unit general managers, other members of senior management, our Vice President of IT, and our IT Security Manager, and provides executive level supervision of cybersecurity risks. These updates include a discussion of existing and new cybersecurity risks (if any), updates on how management is addressing and/or mitigating those risks, and the status of information security initiatives.

Our Nominating & Governance Committee oversees risks related to governance issues, such as succession planning. It also monitors and oversees legal compliance and compliance with the Company's Code of Business Conduct and Ethics, including the investigation and enforcement of the provisions of the Code of Business Conduct and Ethics. In addition, our Compensation Committee, at least annually, reviews our compensation program to ensure that it does not encourage excessive risk-taking. Each of our Committees regularly reviews with our Board any issues that arise in connection with risk matters within the scope of its responsibilities and, in accordance with our Corporate Governance Guidelines, our full Board regularly engages in discussions of risk management to assess major risks facing our Company and review options for the mitigation of such risks. As a result of the foregoing, we believe that our CEO, together with the Chairpersons of our Audit, Compensation and Nominating & Governance Committees and our full Board, provide effective oversight of Company risk.

Board Committees

The Board has four standing committees with separate chairpersons: the Audit, Compensation, Nominating & Governance, and M&A Committees. Each of the Board committees is composed solely of independent directors and has adopted a written charter that sets forth the specific responsibilities and qualifications for membership on the committee. The charters of these committees are available on our website at:

<https://investors.ontoinnovation.com/governance/governance-documents/>

In 2023, the composition of and number of meetings held by the Company's Board committees were as follows:

Committee Chairperson	Committee Members	Number of Meetings Held in 2023
Audit Committee		
Christine A. Tsingos	Leo Berlinghieri ⁽¹⁾ Stephen D. Kelley ⁽²⁾ Karen M. Rogge May Su ⁽³⁾	9
Nominating & Governance Committee		
Leo Berlinghieri	David B. Miller Christopher A. Seams May Su ⁽¹⁾	4
Compensation Committee		
May Su ⁽⁵⁾	Leo Berlinghieri ⁽³⁾ David B. Miller ⁽⁴⁾ Stephen D. Kelley ⁽¹⁾ Christine A. Tsingos	5
M&A Committee		
David B. Miller	Karen M. Rogge Christopher A. Seams	5

(1) Committee member effective as of May 2023.

(2) Committee member effective as of January 2023.

(3) Committee member until May 2023.

(4) Committee chairperson until May 2023, after which Mr. Miller continued serving as a committee member.

(5) Committee chairperson effective as of May 2023.

Audit Committee

The current members of the Audit Committee are Leo Berlinghieri, Stephen D. Kelley, Susan D. Lynch, Karen M. Rogge, and Christine A. Tsingos, who also serves as the chairperson of the committee. As previously disclosed, Ms. Rogge will be retiring from the Board and the Audit Committee as of the Annual Meeting. The Audit Committee assists the Board in fulfilling its responsibilities for general oversight of the integrity of our financial statements, our accounting policies and procedures and our compliance with legal and regulatory requirements. Among its functions, the Audit Committee is responsible for:

- The appointment, compensation, performance evaluation, retention, and oversight of the Company's independent registered public accounting firm;
- The approval of services performed by the Company's independent registered public accounting firm;
- Reviewing the responsibilities, functions, and performance of the Company's internal audit function;
- Reviewing the scope and results of internal audits and ongoing assessments of the Company's risk management processes and system of internal control;
- Reviewing and approving in advance any related party transactions; and
- Evaluating the Company's system of internal control over financial reporting and disclosure controls and procedures.

The report of our Audit Committee is found below under the caption "Audit Committee Report."

The Board has determined that each of the Audit Committee members meets the Audit Committee membership requirements set forth by the NYSE and the SEC, including that they be "independent" and financially literate. Furthermore, the Board has determined that Ms. Tsingos, Ms. Rogge, and Ms. Lynch each qualify as an "Audit Committee Financial Expert" as that term is defined under SEC rules and have "accounting or related financial management expertise" as contemplated by NYSE rules.

Compensation Committee

The current members of the Compensation Committee are Stephen D. Kelley, David B. Miller, Christine A. Tsingos, and May Su, who also serves as chairperson of the committee. The Compensation Committee is responsible for, among other things:

- Reviewing and approving the compensation of the Company's officers;
- Reviewing and recommending to the Board for approval the compensation policy for the Company's non-employee directors; and
- Administering the Company's equity compensation plans.

With respect to the compensation of the Company's CEO, the Compensation Committee reviews and approves the various elements of the CEO's compensation. With respect to other officers, including each of our named executive officers ("NEOs"), the Compensation Committee reviews the compensation for such individuals presented to the Compensation Committee by the CEO and the reasons therefor and, in its discretion, may approve or modify the compensation packages for such individuals. The Compensation Committee has delegated to the Company's CEO the authority, within certain parameters, to approve the grant of restricted stock units ("RSUs") to employees and consultants who are not directors, executive officers, or officers reporting to the CEO.

In accordance with its charter, the Compensation Committee may form, and delegate its authority to, subcommittees when appropriate. Further, the Compensation Committee has the authority to retain independent compensation consultants and to obtain advice from internal or external legal, accounting, and other advisors to assist in the evaluation of director, officer, or employee compensation or other matters within the scope of the Compensation Committee's responsibilities and is directly responsible for the appointment, compensation, and oversight of such consultants and other outside advisors, including their fees and other retention terms. From time to time, the Compensation Committee engages the services of such independent compensation consultants to provide advice on compensation plans and

issues related to the Company's executive officer and non-executive officer employees. In 2023, the Compensation Committee engaged Compensia, Inc. ("Compensia") to provide such assistance to the Compensation Committee.

Each current member of our Compensation Committee is a "non-employee" director within the meaning of Rule 16b-3 under the Exchange Act. The Board has determined that each of the Compensation Committee members meets the Compensation Committee membership requirements set forth by the NYSE and the SEC, including that they be "independent."

For further discussion of the Compensation Committee and its processes and procedures, please refer to the "Compensation Program Objectives, Design, and Practices" section in the Compensation Discussion and Analysis below. The Compensation Committee Report is included under the caption "Compensation Committee Report on Executive Officer Compensation" in this proxy statement.

Nominating & Governance Committee

The current members of the Nominating & Governance Committee are David B. Miller, Christopher A. Seams, May Su, and Leo Berlinghieri, who also serves as chairperson of the committee. The responsibilities of the Nominating & Governance Committee include:

- Identifying prospective director nominees and recommending to the Board director nominees for the next Annual Meeting of Stockholders and replacements of a director in the event of a vacancy on the Board;
- Recommending to the Board the appointment of directors to Board committees;
- Developing and recommending to the Board, and monitoring compliance with, the corporate governance guidelines applicable to the Company;
- Managing the CEO selection process;
- Overseeing evaluation of Company management; and
- Conducting an annual review of management succession planning.

The Nominating & Governance Committee also oversees the annual evaluation of the Board, the committees of the Board and the individual directors. Among other topics, the evaluation in general assesses:

- For both the Board and the committees:
 - Their structure and composition;
 - The format and content of meetings; and
 - The effectiveness of the Board and the committees, as applicable.
- For each individual director:
 - Their performance and approach to their directorship;
 - Their understanding of their role as a director;
 - Their understanding of critical aspects of the Company's business, products and strategy; and
 - Their skills, experience and ongoing training.

The goal of the evaluation is to identify and address any performance issues at the Board, committee or individual level, should they exist, identify potential gaps in the boardroom and to assure the maintenance of an appropriate mix of director skills and qualifications. Upon completion of the evaluation, the Nominating & Governance Committee provides feedback to the Board, the committees and the individual directors regarding the results of the evaluation and raises any issues that have been identified which may need to be addressed. In 2023, the Nominating & Governance Committee engaged Spencer Stuart, an executive search and leadership consulting firm, to assist with the Board evaluation.

The Nominating & Governance Committee utilizes a variety of methods for identifying and evaluating potential candidates for joining the Board. For 2023, the Nominating & Governance Committee engaged ON Partners, an

executive search and leadership consulting firm, to assist with this process. The Nominating & Governance Committee's general policy is to assess the appropriate size and needs of the Board and whether any vacancies are expected due to retirement or otherwise. In addition, candidates for director are typically reviewed in the context of the current composition of the Board, the operating requirements of the Company, the current needs of the Board, and the long-term interests of stockholders, with the goal of maintaining a balance of knowledge, experience and capability. In the event those vacancies are anticipated, or otherwise arise, the Nominating & Governance Committee will consider recommending various potential candidates to fill such vacancies. Candidates may also come to the attention of the Nominating & Governance Committee through its current members, stockholders or other persons.

The Board has determined that each of the Nominating & Governance Committee members meets the Nominating & Governance Committee membership requirements, including the independence requirements of the NYSE and the SEC.

M&A Committee

The current members of the M&A Committee are Susan D. Lynch, Karen M. Rogge, Christopher A. Seams, and David B. Miller, who also serves as chairperson of the committee. As previously disclosed, Ms. Rogge will be retiring from the Board and the M&A Committee as of the Annual Meeting. The Board established the M&A Committee as a standing committee in May 2022 to assist the Board in evaluating potential acquisitions, investments, mergers, divestitures, and similar strategic transactions and to oversee management's execution of such strategic transactions. The M&A Committee's responsibilities include:

- Reviewing and assessing strategic transactions identified by management, including the valuation, strategic rationale and integration strategy for any proposed transaction;
- Approving non-binding term sheets, letters of intent, indications of interest, and other similar documents for strategic transactions;
- Overseeing the diligence processes for strategic transactions; and
- Providing guidance to management as to the desired methodology and processes for identification, development, and presentation of strategic opportunities.

Other Committees

Our Board may from time to time establish other special or standing committees to facilitate the oversight of management of the Company or to discharge specific duties delegated to the committee by the full Board.

Compensation Committee Interlocks And Insider Participation

During fiscal year 2023, Leo Berlinghieri, Stephen D. Kelley, David B. Miller, May Su, and Christine A. Tsingos were each a member of the Compensation Committee. Mr. Berlinghieri ceased serving on the committee as of May 2023. No member of our Compensation Committee was at any time during fiscal year 2023, or formerly, an officer or employee of Onto Innovation or any subsidiary of Onto Innovation. No member of our Compensation Committee had any relationship with the Company during fiscal year 2023 requiring disclosure under Item 404 of Regulation S-K under the Exchange Act. During fiscal year 2023, none of our executive officers served as a member of the Board of Directors or Compensation Committee (or other committee serving an equivalent function) of any entity that had one or more executive officers serving as a member of our Board of Directors or Compensation Committee.

Board Membership Criteria And Nominee Identification

The Nominating & Governance Committee of the Board determines the required selection criteria and qualifications of director nominees based upon the needs of the Company at the time nominees are considered. While the Nominating & Governance Committee has no specific minimum qualifications for director candidates, persons considered for nomination to the Board must demonstrate the following qualifications to be recommended by the Nominating & Governance Committee for election:

- The candidate must exhibit proven leadership capabilities, high integrity, and experience with a high level of responsibilities within his or her chosen field;
- The candidate must possess the ability to apply good business judgment and be of sound mind and high moral character;
- The candidate must have no personal or financial interest that would conflict or appear to conflict with the interests of the Company;
- The candidate must be in a position to properly exercise his or her duties of loyalty and care and be willing and able to commit the necessary time for Board and committee service; and
- The candidate must have the ability to grasp complex principles of business, finance, international transactions and semiconductor inspection, metrology, lithography, and related software technologies.

The Nominating & Governance Committee retains the right to modify these qualifications from time to time.

In selecting director nominees, the Nominating & Governance Committee considers, among other factors:

- The competencies and skills that the candidate possesses and the candidate's areas of qualification and expertise that would enhance the composition of the Board and further its ability to offer advice and guidance to management;
- How the candidate would contribute to the Board's overall balance of expertise, perspectives, backgrounds, and experiences in substantive matters pertaining to the Company's business; and
- The candidate's demonstrated excellence in his or her field and commitment to rigorously representing the long-term interests of the Company's stockholders.

When current Board members are considered for nomination for reelection, the Nominating & Governance Committee also takes into consideration their prior contributions to and performance on the Board and their record of attendance.

The Nominating & Governance Committee considers the above criteria for nominees identified by the Nominating & Governance Committee itself, by stockholders, or through other sources. The Nominating & Governance Committee uses the same criteria for evaluating all nominees, regardless of the original source of nomination. The Nominating & Governance Committee may use the services of a third-party search firm to assist in the identification or evaluation of Board member candidates.

Consideration Of Director Nominees

The Nominating & Governance Committee has a formal policy with regard to consideration of director candidates recommended by the Company's stockholders, which is contained within the Company's Director Candidate Policy, which may be found on our website at:

<https://investors.ontoinnovation.com/governance/governance-documents/>

In accordance with this policy, the Nominating & Governance Committee will consider recommendations and nominations for director candidates from stockholders holding no less than 1% of the Company's securities for at least 12 months prior to the date of the submission of the recommendation or nomination. Stockholders wishing to recommend persons for consideration by the Nominating & Governance Committee as nominees for election to the Company's Board can do so by writing to the Office of the General Counsel of the Company at its principal executive offices giving:

- The candidate's name, age, business address and residence address;
- The candidate's detailed biographical data and qualifications including principal occupation and employment history;
- The class and number of shares of the Company which are beneficially owned by the candidate;
- The candidate's written consent to being named as a nominee and to serving as a director, if elected;
- Information regarding any relationship between the candidate and the Company in the last three years;
- Any other information relating to the candidate that is required by law to be disclosed in solicitations of proxies for election of directors;
- The name and address of the recommending or nominating stockholder;
- The class and number of shares of the Company which are beneficially owned by the recommending or nominating stockholder; and
- A description of all arrangements or understandings between such stockholder and each nominee and any other person or persons (naming such person or persons) relating to the nomination.

Stockholders also have the right to directly nominate director candidates, without any action or recommendation on the part of the Nominating & Governance Committee or the Board, by following the procedures set forth in Section 2.5 of the Company's Bylaws.

Corporate Governance Guidelines

Our Board has adopted Corporate Governance Guidelines, which, along with the Company's Charter and Bylaws and the Board committee charters, provide the framework for the governance of Onto Innovation. The Board follows the procedures and standards in the Corporate Governance Guidelines to fulfill its responsibilities and discharge its governance duties. A copy of the Corporate Governance Guidelines is available on our website at:

<https://investors.ontoinnovation.com/governance/governance-documents/>

Codes Of Ethics

We have adopted a Code of Business Conduct and Ethics (applicable to all directors, officers, employees, consultants, and contractors) and a Financial Information Integrity Policy (applicable to our senior financial officers, including our CEO and Chief Financial Officer (“CFO”) and Controller) that each set forth principles of ethical and legally compliant conduct and establish procedures for reporting any violations. Copies of the Code of Business Conduct and Ethics and the Financial Information Integrity Policy may be found on our website at:

<https://investors.ontoinnovation.com/governance/governance-documents/>

or may be requested (without charge) by writing to:

Onto Innovation Inc.
Attention: Investor Relations
16 Jonspin Road
Wilmington, Massachusetts 01887

The Company will post on its website any amendment or waiver of a provision of our Code of Business Conduct and Ethics as may be required, and within the time period specified, by applicable SEC rules.

Corporate Social Responsibility

An important part of advancing the semiconductor industry through our innovation is being a socially responsible company. Our Company’s core values of Passion, Integrity, Collaboration, and Results underpin our commitments to sustainable growth and to making a positive contribution to people and the planet. We strive to achieve responsible and sustainable business practices and continuous improvement in our own operations, in our partnerships with our customers, across our supply chain, and in our engagements with our other stakeholders. Our Company invests in environmental, social, and governance (“ESG”) initiatives across our business and integrates ESG principles into our day-to-day operations.

Business and Governance. Our Company has established a cross-functional ESG executive leadership team that is responsible for proposing goals, developing and executing strategy, and embedding ESG into our operations management. This ESG leadership team provides regular updates to the Board and engages them to discuss ESG strategy, gain alignment on goals, and report on progress. Our Board is actively engaged in the Company’s ESG oversight and has the primary responsibility for our ESG priorities. Board committees provide further guidance and oversight on relevant ESG topics including the Compensation Committee on human capital management, the Audit Committee on information security and the Nominating & Governance Committee on ethics compliance.

Workplace. As described in the “Social Programs” section in our 2022 ESG Report, our Company strives to provide a work environment that fosters inclusion and diversity, ensures every voice is heard, and enables employees to achieve their full potential. Our Company aims to maintain a collaborative, supportive, and opportunity-rich culture that enhances innovation and employee engagement. We strive to protect the health and safety of our personnel throughout our entire operation, including our offices, manufacturing sites, research and development (“R&D”) centers, and our field team working at customer sites.

Community. Our Company believes that positively involving our employees and giving back to our community is central to our culture and an expression of our core values. In 2021, the Company initiated RISE (Reimagining Initiatives for Society and the Environment) Teams, which have direct oversight from the ESG leadership team. These teams are formed at each location globally in order to promote environmental sustainability, community engagements, local charitable giving including employee volunteer hours and employee donations. Our RISE Teams’ philanthropy and volunteerism programs provide financial and human services to improve the quality of life in the communities in which we operate. We are committed to creating positive impacts in communities around the world by contributing to local, national, and international organizations that support community needs such as hunger, food and water security, disadvantaged children and senior citizens, health improvement, and environmental protection.

Sustainable Operations. We believe that incorporating environmental sustainability into business leads to better products, more efficient operations, and added value for our customers. As the world tackles climate change and other critical environmental issues, we seek to do our part by responsibly managing our impact with global goals for renewable energy use, carbon footprint per person, water conservation, beneficial use, and landfill hazardous waste reduction and elimination. We carefully monitor and manage our environmental impact across our business and work to implement cost-effective best practices, focusing our efforts where we believe we can have the biggest long-term impact. Our Company looks at impacts from procurement to manufacturing, during R&D and product design, and throughout a product's lifecycle. We carefully manage our environmental impact, set goals, and report progress annually through our annual ESG report, which is carefully reviewed and verified by our internal audit function.

Products and Customers. Our Company demands excellence in our quality and environmental performance, as demonstrated through our product and process qualification commitments, which resulted in our ISO 9001 Quality Management certification. We continuously strive to develop innovative products and solutions that help our customers improve their product yields and reduce the amount of scrapped materials. We seek to achieve this through our monitoring processes and by alerting customers via our software products before specification limits are reached, thereby helping customers avoid product test failures. In addition, our equipment meets or exceeds safety requirements and incorporates higher throughput to reduce the energy required to process customer products on a per unit basis, benefiting our customers and the environment. Our Company also strives to extend the life of our products and solutions to enable our customers to realize greater value from our products with a potentially lower environmental impact.

Responsible Supply Chain. Our Company understands the importance of an ethical, responsible, resilient, and diverse supply chain, and we engage with our suppliers to address a wide range of issues including human rights, humane treatment, freely chosen employment, labor, anti-corruption, supplier diversity, environmental impact, and responsible mineral sourcing. We are a strong proponent of supply-chain-related industry standards and endeavor to uphold the guidelines published by the Responsible Business Alliance ("RBA"). Since joining in 2021, the Company has been an affiliate member of the RBA, the world's largest industry coalition dedicated to corporate responsibility in global supply chains. Beginning in 2022, our direct suppliers are expected to adhere to our Global Supplier Code of Conduct, which incorporates the RBA code of conduct and covers topics such as ethics, integrity, transparency, anti-corruption, conflict minerals, human trafficking, environmental sustainability, and social responsibility. Acknowledgment of and consent to adhere to our Global Supplier Code of Conduct is a mandatory requirement of our new supplier onboarding process.

For more information about our ESG efforts, please refer to our Annual ESG Report available in the Company section of our website at <https://ontoinnovation.com/company/environmental-social-governance>. Our ESG Report shall not be deemed "filed" with the SEC for purposes of federal securities law, and it shall not be incorporated by reference into any of the Company's current, past or future SEC filings unless specifically noted in such filing. The information contained on our website is not part of this document and the ESG report shall not be deemed soliciting material.

Related Person Transactions Policy

There have been no "related person transactions" from December 31, 2022 to the date of this proxy statement, nor are there any currently proposed "related person transactions," involving any director, director nominee or executive officer of the Company, any known 5% stockholder of the Company or any immediate family member of any of the foregoing persons (which are referred to together as "related persons"). A "related person transaction" generally means a transaction involving more than \$120,000 in which the Company (including any of its subsidiaries) is a participant and in which one of our executive officers, directors, director nominees or 5% stockholders (or their immediate family members), each of whom we refer to as a related person, has a direct or indirect material interest.

The Board has adopted written policies and procedures addressing the Company's procedures with respect to the review, approval and ratification of "related person transactions" that are required to be disclosed pursuant to Item 404(a) of Regulation S-K. Our related person practices and policies are designed to ensure that our directors, officers, and employees are proactively screened from any conflicts of interests that may interfere with their obligations to the Company. Our policies are included in the Company's Related Parties Transaction Policy.

Pursuant to the Related Parties Transaction Policy, the Audit Committee, which consists entirely of independent directors, will review any proposed transaction in which the Company or its subsidiaries are to participate if the aggregate amount involved in the transaction will or may exceed \$120,000 and any related person may have a direct or indirect material interest in the transaction. The Audit Committee will consider the facts and circumstances and may approve or ratify a proposed transaction if the Audit Committee determines that the transaction is not inconsistent with the interests of the Company and its stockholders. The Audit Committee may impose such conditions as it deems appropriate in connection with its approval.

Communications With The Board Of Directors

We have a formal policy regarding communications with the Board, our Stockholder & Interested Party Communications Policy, which is found on our website at:

<https://investors.ontoinnovation.com/governance/governance-documents/>

Stockholders may communicate with the Board, the Audit, Compensation, M&A, or Nominating & Governance Committees, or any of the Company's independent directors by writing to:

Onto Innovation Inc.
Office of the General Counsel
16 Jonspin Road
Wilmington, Massachusetts 01887

Such communications will be forwarded to the intended recipient(s) to the extent appropriate. Prior to forwarding any communication, the General Counsel will review it and, in his or her discretion, will not forward a communication deemed to be of a commercial nature or otherwise inappropriate.

Compensation Of Directors

Directors who are employees of the Company receive no compensation for their services as members of the Board. Director compensation for non-employee members of the Board is a mix of cash and equity-based compensation, which is meant to align the interests of our directors with the Company's long-term performance and stockholder interests. The compensation during fiscal 2023 for directors who were not employees of the Company is as follows:

Board Compensation Element	Amount/Value
Annual Retainer	\$70,000 ⁽¹⁾
Annual Equity Grant (in RSUs)	\$180,000 ⁽²⁾
Committee Chairperson Stipend	
Audit	\$25,000 ⁽¹⁾
Compensation	\$20,000 ⁽¹⁾
Nominating & Governance	\$10,000 ⁽¹⁾
M&A	\$5,000 ⁽¹⁾
Committee Member Stipend	
Audit	\$10,000 ⁽¹⁾
Compensation	\$7,500 ⁽¹⁾
Nominating & Governance	\$5,000 ⁽¹⁾
M&A	\$2,500 ⁽¹⁾
Chairperson Stipend	\$50,000 ⁽¹⁾
Initial Equity Grant (in RSUs)	\$180,000 ⁽³⁾

(1) Paid subsequent to the director election results at the Annual Meeting of Stockholders.

(2) Granted on or about the date of the Annual Meeting of Stockholders in a number of shares calculated by dividing the listed amount by the closing stock price per share of Common Stock of the Company, \$0.001 par value per share ("Common Stock") on the date of grant.

(3) Granted on or about the date of the first Board meeting following election or appointment, or, if such date is not in an open trading window under the Company's Insider Trading Policy, on the first day of the next open trading window, and calculated in the same manner as the annual equity grant above but prorated by the number of fiscal quarters between such first meeting and the date on which the next annual equity grant is scheduled to be awarded.

Any initial equity grants and/or annual equity grants typically vest on the first anniversary of the grant date. Equity awards granted to directors are granted under and subject to the terms of the Onto Innovation Inc. 2020 Stock Plan (the "2020 Stock Plan") and the Company's Stock-Based Award Grant Date Policy.

For the fiscal year ended December 30, 2023, the non-employee directors received total compensation indicated in the table below. There were no option awards, non-equity incentive plan compensation, or pension and nonqualified deferred compensation earnings granted to such directors. They did not earn any type of compensation during the year other than what is disclosed in the following table:

Name	Fees Earned or Paid in Cash	Stock Awards ⁽¹⁾	All Other Compensation	Total
Leo Berlinghieri	\$90,000	\$187,902	—	\$277,902
Stephen D. Kelley ⁽²⁾	\$87,500	\$228,992	—	\$316,492
David B. Miller	\$87,500	\$187,902	—	\$275,402
Karen M. Rogge	\$82,500	\$187,902	—	\$270,402
Christopher A. Seams	\$127,500	\$187,902	—	\$315,402
May Su	\$95,000	\$187,902	—	\$282,902
Christine A. Tsingos	\$102,500	\$187,902	—	\$290,402

(1) Represents the grant date fair value for each share-based compensation award granted during the year, calculated in accordance with FASB ASC Topic 718. The assumptions used in determining the grant date fair value of these awards are set forth in Note 10 to our consolidated financial statements, which are included in our Annual Report on Form 10-K for the fiscal year ended December 30, 2023 filed with the SEC. As of December 30, 2023, our directors had the following stock awards outstanding: Mr. Berlinghieri – 2,200 RSUs; Mr. Kelley - 2,700 RSUs; Mr. Miller – 2,200 RSUs; Ms. Rogge – 2,200 RSUs; Mr. Seams – 2,200 RSUs; Ms. Su - 2,200 RSUs; and Ms. Tsingos – 2,200 RSUs.

(2) Mr. Kelley joined the Board in January 2023.

Stock Ownership/Retention Guidelines For Directors

The Company has established guidelines related to stock ownership and retention for its non-employee directors. Currently, the guidelines require that each non-employee director of the Company maintain ownership of shares of Common Stock equal in value to at least three times the amount of the director's annual cash retainer. For a new director, the stock holding requirement must be attained within five years of his or her initial election or appointment to the Board.

Compliance with the Company's stock ownership and retention guidelines is reviewed annually by the Compensation Committee. As of their last review in February 2024, the Compensation Committee determined that all directors were in compliance with the ownership requirements.

PROPOSAL 2

ADVISORY VOTE TO APPROVE NAMED EXECUTIVE OFFICER COMPENSATION

The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, or the Dodd-Frank Act, enables our stockholders to vote to approve, on an advisory (non-binding) basis, the compensation of our named executive officers as disclosed in this proxy statement in accordance with SEC rules. Consistent with the recommendation of the Board and the preference of our stockholders as reflected in the non-binding advisory vote on the frequency of future advisory votes on named executive officer compensation held at the Company's 2023 Annual Meeting of Stockholders, the Company currently holds an annual "say on pay" vote. In accordance with this policy, this year we are requesting that our stockholders approve an advisory resolution to approve the Company's named executive officer compensation as reported in this proxy statement.

Our executive officer compensation arrangements are designed, consistent with our compensation philosophy and pay-for-performance principles, to provide competitive compensation packages that enable the Company to attract and retain talented executive officers, motivate executive officers to achieve the Company's short- and long-term business strategies and objectives, align the interests of executive officers with those of stockholders, and be consistent with current market practices and good corporate governance principles. Please read the Compensation Discussion and Analysis beginning on the following page for additional details about our executive officer compensation arrangements, including information about the fiscal year 2023 compensation of our named executive officers.

We are asking our stockholders to indicate their support for our compensation arrangements as described in this proxy statement.

For the reasons discussed above, the Board recommends that stockholders vote in favor of the following resolution:

"RESOLVED, that the Company's stockholders APPROVE, on an advisory basis, the compensation paid to the Company's named executive officers, as disclosed in the proxy statement for this meeting pursuant to Item 402 of Regulation S-K, including the Compensation Discussion and Analysis, compensation tables and narrative discussion and other related tables and disclosures."

Because your vote is advisory, it will not be binding upon or overrule any decisions of the Board, nor will it create any additional fiduciary duty on the part of the Board. This advisory vote is not intended to address any specific item of compensation, but rather the overall compensation of our named executive officers and our compensation philosophy, policies, and practices described in this proxy statement, and does not seek to have the Board or Compensation Committee take any specific action. However, the Board and the Compensation Committee value the views expressed by our stockholders in their vote on this proposal and will take into account the outcome of the vote when considering executive officer compensation matters in the future.

Vote Required

The affirmative vote, in person or by proxy, of a majority of the shares present or represented at the meeting and entitled to vote will be required to approve, on an advisory (non-binding) basis, the compensation of our named executive officers as disclosed in this proxy statement.

**The Board recommends a vote "FOR" the approval,
on an advisory basis, of the compensation of the named executive officers
as disclosed in this proxy statement pursuant to Item 402 of Regulation S-K.**

EXECUTIVE OFFICER COMPENSATION

COMPENSATION DISCUSSION AND ANALYSIS

Introduction

This Compensation Discussion and Analysis (“CD&A”) describes our compensation philosophy, process, plans, and practices for our executive officers and contains a discussion of the material elements of compensation awarded to, earned by, or paid to the Company’s named executive officers or “NEOs.” The Company’s NEOs for 2023 were:

Onto Innovation’s Named Executive Officers (NEOs)	
NEO Name	Position
Michael P. Plisinski	Chief Executive Officer
Mark R. Slicer	Chief Financial Officer
Yoon Ah E. Oh	Vice President, General Counsel, and Corporate Secretary
Srinivas Vedula	Senior Vice President, Customer Success
Ramil Yaldae	Chief Operating Officer

EXECUTIVE SUMMARY

2023 Financial Highlights

In 2023, the Company achieved important financial accomplishments. These include, but are not limited to:

- Revenue from specialty and advanced packaging markets grew 14% over 2022.
- Cash generated from operations of \$172 million improved by 26% over 2022.
- Full year GAAP diluted earnings per share of \$2.46.

The following reflects our revenue and stock price in fiscal 2023 as compared to fiscal 2022 and 2021:



2023 Compensation Highlights

Executive compensation is a key component of our corporate governance practices and our plans to drive long-term profitable growth. We've designed our compensation program to both attract and retain best-in-class executive management and to motivate our executive officers to achieve corporate objectives and create value for stockholders. In 2023, key features of our compensation program included the following:

- Competitive base salary increases: base salaries for executive officers were set based on several factors, including executive officers' unique qualifications, role, and responsibilities, individual performance, and measurable contribution to the Company's profitability and success.
- Rigorous annual incentive goals: executive officer cash incentive compensation is tied to overall corporate performance, achievement of individual performance goals, and, for those executive officers associated with a particular business unit, to individual business unit performance as well.
- An emphasis on performance-based long-term incentives: a substantial portion of executive officer compensation is in the form of long-term equity incentives that incentivize both long-term service at the Company and creating shareholder value.

Results Of The 2023 Stockholder Vote On Executive Officer Compensation

In 2023, stockholders were provided with the opportunity to cast an advisory (non-binding) vote (a "say-on-pay" proposal) on the compensation of our NEOs for fiscal 2022. Our stockholders approved this say-on-pay proposal, with 96.2% of votes cast voting in favor of our executive compensation program. Our Compensation Committee and Board recognize the fundamental interest our stockholders have in the compensation of our executive officers. Noting the strong support for our 2022 compensation program, the Compensation Committee maintained a consistent approach to our executive officer compensation program in 2023.

The Compensation Committee will continue to consider input from our stockholders as reflected in the outcome of our annual say-on-pay vote when making executive compensation program decisions.

COMPENSATION PROGRAM OBJECTIVES, DESIGN, AND PRACTICES

Our Compensation Philosophy And Principles

Our compensation philosophy, which serves as the framework for the Company's executive officer compensation program, is defined by two key tenets: (1) rewarding continuous improvement in financial and operating results and (2) creation of stockholder value. The Compensation Committee acts on behalf of the Board and, by extension, on behalf of our stockholders, to establish, implement, and continually monitor adherence to our compensation philosophy. Accordingly, the Compensation Committee has developed a set of core objectives and principles that it has used to develop the executive officer compensation program. The specific objectives of our executive officer compensation program are to:

- attract and retain executive officer talent;
- motivate executive officers to achieve the Company's short- and long-term business strategies and objectives; and
- align the interests of executive officers with those of stockholders.

Consistent with the foregoing, the Compensation Committee believes that the most effective executive officer compensation program is one that rewards the achievement of specific strategic and operating goals of the Company on both an annual and a long-term basis, and that incentivizes executive officers to create value for stockholders. The Compensation Committee evaluates both performance and compensation to ensure that the Company maintains its ability to attract and retain superior employees in key positions. Based on that evaluation, the Compensation Committee designs the compensation provided to executive officers to remain competitive with the compensation paid to similarly situated executive officers at peer group companies. The Compensation Committee believes executive officer compensation packages provided by the Company to its executive officers, including the NEOs, should include base salary, annual cash incentive opportunities, and long-term stock-based compensation, including equity incentive opportunities that reward performance as measured against pre-established goals.

The following principles support the objectives and design of the compensation program:

- The compensation program is designed to be fair and competitive, from an internal and external perspective, taking into account each executive officer's unique qualifications, role, responsibilities, individual performance, and measurable contribution to the Company's profitability.
- A substantial portion of an executive officer's compensation is designed to be at risk and linked to the achievement of both corporate and individual financial, management or other performance goals and changes in stockholder value.
- All compensation program elements taken as a whole are designed to help focus executive officers on achieving the Company's financial and strategic goals while supporting our culture and core values.

To underscore the importance of "pay-for-performance" in our compensation philosophy, the Compensation Committee has developed incentive arrangements based on performance standards that the Compensation Committee believes, at target achievement, will incentivize our executive officers to meet or exceed industry performance.

The Company also strives to promote an ownership mentality among its key leadership, in part through the guidelines described below under the heading "Stock Ownership/Retention Guidelines." To that end, the CEO is required to maintain ownership of Common Stock equal in value to at least three times the CEO's year-end base salary. The other executive officers are required to maintain a minimum share ownership level equal in value to their current year-end base salary. In further support of this approach, the Company prohibits pledges of Company securities as collateral, as well as short sales, derivative and hedging transactions involving Company securities, to ensure that personal interests relating to the stock holdings of officers and directors do not conflict with their duties to the Company.

Our Compensation Practices

The Compensation Committee has adopted the following practices and policies with respect to the Company's executive officer compensation program:

What We Do	
Committee Independence	The Compensation Committee consists of independent directors and regularly reserves time at its meetings to meet in executive session without management present.
Independent Compensation Consultant	The Compensation Committee has engaged its own independent compensation consultant and annually assesses the consultant's performance, independence, and whether any potential conflicts of interest exist.
Independent Legal Advisor	The Compensation Committee may engage its own independent legal advisor specializing in corporate compensation issues, as necessary.
CEO Goal Setting and Performance Evaluation	The Compensation Committee, with the input of the full Board, engages in formal goal setting and performance evaluation processes with the CEO.
Peer Group	The Compensation Committee selects a set of peer group companies who operate in similar markets to the Company's, and have comparable revenue and market caps, to use as a competitive reference point with respect to executive officer and director compensation, program design and practices.
Stock Ownership Guidelines	The Company maintains rigorous stock ownership guidelines, which apply to executive officers and directors, and serve as a risk-mitigating feature within our compensation structure.
Double Trigger Change-in-Control	The Company has entered into agreements with executive officers, including the CEO, that contain change-in-control severance protection. Executive officers are entitled to severance in the event of both a change in control of the Company and a qualifying termination of employment ("double trigger").
Clawback Policy	The Company has adopted a policy that provides for mandatory recoupment of certain excess incentive compensation that would not have been earned based on the specified accounting restatements.
Grant Date Policy	The Company does not manipulate the timing of grant dates of any stock-based awards or our release of material nonpublic information with the intent of benefitting an award recipient, nor do we have any program, plan or practice to do so. In addition, the Board has adopted a specific written policy regarding grant dates of stock-based awards made to our directors, officers, and employees.
What We Do Not Do	
No Pledging, Margining, or Hedging	The Company's insider trading policy prohibits our directors and employees, including executive officers, from purchasing Company securities on margin, borrowing against Company securities held in a margin account, or pledging Company securities as collateral for a loan. Company directors and employees are also prohibited from engaging in short sales, derivative transactions, and hedging transactions involving Company securities.
No Tax Gross-Ups on Perquisites or Severance	The Company does not provide any tax gross-up payments to cover personal income taxes on perquisites or severance benefits related to a change in control.

COMPENSATION DECISION-MAKING PROCESS

Determination of Compensation Awards

The Compensation Committee's goal is to target elements of compensation within a competitive range, using a balanced approach that does not use rigid percentiles to target pay levels for each compensation element. For 2023, the Compensation Committee reviewed each element of compensation described below and set the target total direct compensation opportunities of our executive officers after taking into consideration the following factors:

- Company profitability;
- the executive officer's unique qualifications;
- the executive officer's role and responsibilities;
- the executive officer's individual performance and measurable contribution to the Company's profitability and success; and
- compensation levels of similar positions with comparable companies in the industry.

The Compensation Committee does not assign relative weights or rankings to any of these factors and does not solely use any quantitative formula, target percentile or multiple for establishing compensation among the executive officers or in relation to the competitive market data.

Role of the Compensation Committee

The Compensation Committee is charged with making all final determinations regarding the compensation of our executive officers. In the beginning of each year, the Compensation Committee evaluates the CEO's performance in light of the goals and objectives established at the beginning of the previous fiscal year for measuring his performance. The CEO does not participate in the Compensation Committee's or Board's deliberations regarding his compensation. The CEO meets with the Compensation Committee to present the proposed compensation plans for each of the Company's executive officers other than the CEO, including the other NEOs. Based on these meetings and internal deliberations, the Compensation Committee then approves the annual compensation for the Company's CEO and other executive officers, including the NEOs, including base salary, cash incentive award opportunity, and equity compensation.

In the same time period, the Compensation Committee also reviews and recommends for approval by the Board:

- the Company Compensation Plan for all non-executive employees, including (i) adjustments to base compensation and profit-sharing, bonus and other cash incentive plans, and (ii) the annual equity award budget; and
- the annual compensation program for non-employee directors.

In reviewing and setting the annual compensation for each executive officer, the Compensation Committee considers the amounts payable under each of the elements of their respective compensation plans, including base salary, annual cash incentive awards, and equity grants. The Compensation Committee takes into consideration both the Company's internal pay equity as well as the competitive environment within which the Company operates. The Compensation Committee then determines whether the base salary and annual and long-term incentive award opportunities for the individual executive officers support the Company's compensation objectives and are both competitive and reasonable in the context of the Company's competitive market.

Role of Management

With regard to compensation for executive officers other than the CEO, the Compensation Committee seeks input from the CEO and the human resources department. Each year, the CEO is responsible for establishing proposed personal and corporate objectives for the Company's other executive officers, including the other NEOs. These objectives, subject to the approval of the Compensation Committee, are reviewed and agreed upon by the CEO with the applicable executive officer. In addition, as part of the annual performance review of the Company's executive officers, the CEO assesses the performance of his direct reports and recommends any merit increase to be proposed for each individual. These recommendations are compiled by the CEO into executive officer compensation plans which include any proposed merit increases, each executive officer's personal and corporate objectives, proposed annual incentive award opportunities (expressed as a percentage of their base salary) and equity grant proposals, and are submitted to the Compensation Committee for review and consideration for approval. At the Compensation Committee meeting during which the executive officer compensation plans are reviewed, the CEO attends the initial session to present the proposed plans and to answer questions. Thereafter, the Compensation Committee meets without the CEO present to review, discuss and approve all executive officer compensation plans, subject to any modifications made by the Compensation Committee.

Role Of The Compensation Consultant

The Compensation Committee may retain independent compensation consultants to assist the Compensation Committee in discharging its duties. During 2023, the Compensation Committee engaged Compensia, an independent executive officer compensation consulting firm, to provide advice on the Company's executive officer compensation arrangements. Compensia does not provide any services other than those related to compensation consulting and does not provide any services to the Company's management. The Compensation Committee determined that Compensia is independent within the meaning of the NYSE Listing Rules, and that the work performed by Compensia does not raise any conflicts of interest.

For 2023, the Compensation Committee requested that Compensia:

- evaluate the efficacy of the Company's existing compensation strategy and practices in supporting and reinforcing the Company's long-term strategic goals;
- assist in refining the Company's compensation strategy and further implementing the executive officer compensation program to execute that strategy; and
- provide market information to assist the Compensation Committee in establishing 2023 executive officer compensation.

Peer Companies

In setting executive officer compensation, the Compensation Committee evaluates compensation levels for executive officers at other similarly situated companies. For 2023, the Compensation Committee engaged Compensia to provide peer group data and perform an assessment of compensation levels provided to executive officers. In addition, the Compensation Committee obtains and evaluates market compensation information using third-party and internal resources. The Compensation Committee reviews data related to compensation levels and programs of other similar companies prior to making its decisions, but only considers such information in a general manner in order to obtain a better understanding of the current compensation practices within our industry.

In the Compensation Committee's review of executive officer compensation for the 2023 fiscal year, the Compensation Committee considered publicly available market data from peer company proxy disclosures and industry compensation surveys for companies that typically include similarly sized semiconductor and semiconductor capital equipment companies or similar firms for each Company executive officer in a like or similar role.

In mid-August of 2022, for compensation decisions for the Company's 2023 fiscal year, Compensia recommended and the Compensation Committee approved the Company's compensation peer group which took into consideration the following factors:

- Semiconductor capital equipment and other electronics and hardware technology companies;
- Revenue between approximately 0.5x and 2x the Company's revenue run-rate; and
- Market cap between approximately 0.3x and 3x the Company's average market cap.

The Company's compensation peer group used to make decisions regarding 2023 compensation consisted of the following companies:

Companies Included in the Company's Compensation Peer Group for 2023		
Advanced Energy Industries Inc.	Ichor Holdings Ltd.	Power Integrations, Inc.
Allegro MicroSystems, Inc.	Knowles Corporation	Rambus Incorporated
Ambarella International LP	Lattice Semiconductor Corporation	Semtech Corporation
Axcelis Technologies, Inc.	MACOM Technology Solutions Holdings, Inc.	Silicon Laboratories, Inc.
Cognex Corporation	MaxLinear, Inc.	Synaptics Incorporated
Cohu, Inc.	Novanta Inc.	Ultra Clean Holdings, Inc.
FormFactor, Inc.	Photronics, Inc.	Veeco Instruments, Inc.

The pay practices of the foregoing Company peer group were analyzed for base salary and annual and long-term incentives. Periodically, peer groups are used to evaluate other programs such as executive officer retirement, perquisites and severance policies. Our peer group data is supplemented by broader technology industry data from compensation surveys to further facilitate the evaluation of compensation levels and design. Compensation levels are generally developed at the low (25th percentile), middle (50th percentile) and high (75th percentile) end of the market for each pay element (base salary and short-term and long-term incentives) and for total compensation.

While the Compensation Committee considers market data for each pay element and in total, the Compensation Committee does not specifically target any particular market compensation level. Instead, the Compensation Committee uses its discretion in setting the compensation levels as appropriate.

ELEMENTS OF THE COMPANY'S 2023 COMPENSATION PLAN

Compensation Program Design

Our executive officer compensation program, which applies to all executive officers including our NEOs, is composed of three parts, each of which is intended to address different objectives: base salary, annual cash performance incentives, and long-term equity incentives.

Base salaries serve as the foundation of our executive compensation program. The Compensation Committee uses base salary and certain other benefits available to all employees, such as the Onto Innovation Inc. 2020 Employee Stock Purchase Plan ("ESPP"), our 401(k) plan with Company matching contributions, and health and welfare benefits, as a means for providing base compensation to executive officers commensurate with their knowledge and experience and for fulfilling their basic job responsibilities. The Compensation Committee also derives the other executive compensation elements, annual cash incentives and long-term equity incentives, by weighing them against base salary. As discussed above, the Compensation Committee generally establishes base salary levels for executive officers at or near the start of each year.

The annual cash incentive component of the Company's executive officer compensation program rewards executive officers for achieving specific corporate, business unit (as applicable) and individual goals. The Company's annual cash incentive awards are administered through its Management By Objectives ("MBO") bonus plan. The MBO bonus plan provides guidelines for the calculation of annual cash incentive compensation, subject to the Compensation Committee's oversight. At its first meeting each year, the Compensation Committee typically determines final bonuses for executive officers earned in the preceding year based on each individual's performance, the performance of the Company through its audited financial statements, business unit performance (as applicable), and the CEO's recommendations (except with respect to the CEO's own bonus).

The long-term equity incentive component includes grants of (i) performance-based stock units ("PSUs"), which are earned based on the Company's total shareholder return ("TSR") relative to the top 30 companies in the Philadelphia Stock Exchange Semiconductor Index (SOX) over two- and three-year performance periods, and (ii) time-based RSUs, which vest in equal annual increments over time. All grants are made under the Company's 2020 Stock Plan and shares earned and vested are subject to the Company's stock ownership and retention guidelines and insider trading policy. The Compensation Committee generally approves the grant of annual equity awards to officers at its first regularly scheduled meeting each year. The Compensation Committee does not generally grant equity awards at other times during the year, other than in the case of a new hire, promotion or other exceptional circumstances.

The Compensation Committee aligns both the Company's annual cash incentive plan and long-term equity incentive program with the Company's performance relative to pre-established performance goals based on the Company's stated financial objectives, historical performance, and anticipated market and economic conditions for the performance period. The Compensation Committee seeks to structure the equity and cash incentive compensation program to motivate executive officers to achieve the business goals set by the Company and reward the executive officers for achieving such goals, which we believe aligns the financial incentives of our executive officers with the interests of our stockholders.

The table below summarizes the foregoing key elements of our executive officer compensation structure for 2023.

Element	Form	Description
Base Salary	Fixed Cash Compensation	Competitive cash compensation that takes into consideration the scope and complexity of the role, individual qualifications, experience, and internal value to the Company.
Annual Cash Incentive Plan	Annual Variable Cash Bonus	Annual variable cash bonus contingent on meeting performance criteria related to corporate, business unit/department (as applicable), and individual performance objectives.
Long-Term Equity Incentive Program	Long-Term Stock-Based Compensation	PSUs are earned based on Company TSR performance relative to a designated peer group. Time-based RSUs vest incrementally over a fixed period.

In adopting this design, the Compensation Committee considered a number of parameters, including the advice of its independent compensation consultant, comparable practices within the industry, and the desire to achieve the goals underlying the compensation program. The Compensation Committee and Board further believe that each of the elements as well as the entire compensation package for Company executive officers is appropriate given the Company's performance, industry, current challenges, and environment.

The three components of our executive compensation program are commonly used for executive officers at companies within the Company's peer group and, therefore, the Compensation Committee found them to be appropriate in its talent attraction and retention strategy. Given that a substantial portion of an executive officer's overall compensation is tied to individual and Company performance through the annual cash incentive and long-term equity incentive components, we also think the structure of our executive compensation program meets the Company's other objectives of motivating executive officers to achieve the Company's short- and long-term business strategies and objectives and aligning the interests of executive officers with those of our stockholders. The pay-for-performance nature of our compensation structure rewards the achievement of strategic, operational and financial goals, thereby enhancing stockholder value.

The Compensation Committee's compensation determinations vary for each executive officer depending on a number of factors, including but not limited to, the scope of his or her responsibilities, leadership skills and values, and individual performance. The Compensation Committee does not apply formulas or assign specific mathematical weights to any of these factors, but rather exercises its business judgment and discretion to make a subjective determination after considering all of these measures collectively.

Annually, the Compensation Committee reviews the elements of the compensation package as well as the overall package afforded to the executive officers. At such time, the Compensation Committee, in its discretion, can approve adjustments to the elements of the program. This review is typically performed coincident with the evaluation of each executive officer's performance in relation to his or her cash incentive compensation goals, salary adjustment, and equity grants, if any, as discussed in more detail in the sections below.

Impact Of Performance On Compensation

The performance of the Company and of each executive officer has a direct impact on the compensation received by such executive officer. On an annual basis, the CEO reviews the performance and compensation for the Company's other executive officers to determine any potential salary adjustment for each individual. The CEO then proposes (except with respect to the CEO's own compensation) to the Compensation Committee the annual cash incentive payout to executive officers, including the NEOs, under the MBO bonus plan, the target cash incentive compensation for the upcoming year, any base salary adjustments, and equity award amounts for the upcoming year. Each of these recommendations, and the Compensation Committee's final compensation determination for executive officers, is based on each executive's performance and contributions to the Company, as well as overall Company performance.

The structures of the Company's annual cash incentive and long-term equity incentive components of the compensation program are also both intended to incentivize performance. The MBO bonus plan includes various incentive level opportunities based on the executive officer's accountability and impact on Company operations, with target award opportunities that are established as a percentage of base salary.

Under our MBO bonus plan, payout is based upon achievement of corporate, business unit (as applicable), and personal objectives, with no payout unless the Company meets the threshold level of at least one of the Board-approved corporate financial targets established as part of the plan. Personal objectives are awarded only upon clear achievement of the associated goal. Failure to meet the personal objectives thereby has a negative impact on the ultimate bonus payout, even when the Company achieves its corporate goals.

The CEO recommends to the Compensation Committee individual performance goals for the executive officers (including the NEOs), other than the CEO, for the current year, which are combined with the corporate and business unit (as applicable) targets into an annual cash incentive opportunity proposal. The personal targets that are established are designed to result in additional incremental value to the Company if they are achieved. The target level of the corporate and business unit components of the bonus goals are set based on the Company's financial budget established by the Board at the beginning of the year. The determination of these goals is made annually to meet the changing nature of the Company's business.

Upon completion of the prior year's results and prior to implementation of the current year's proposed executive compensation plan, the results for each executive officer are submitted to, and reviewed by, the Compensation Committee, which considers the CEO's recommendations for executive officers, other than the CEO, and determines the final bonus earned by each executive officer based on Company and individual performance. The Compensation Committee may exercise discretion in adjusting and approving an individual's award under the bonus plan based upon its review.

The two elements of the Company's long-term equity incentive compensation program are also performance-based. The PSU grants, which are explained in further detail below, measure the Company's TSR over two- and three-year periods as compared to that of companies in the Philadelphia Semiconductor Index (SOX) and reward executives for achieving TSR greater than that of other Companies in the Index. In addition, because the value of PSUs and the service-based RSUs granted to executive officers are tied to the Company's stock price, their value increases or decreases with the performance of the Company stock, further incentivizing executives to manage the Company for the benefit of the Company's stockholders.

Based upon the foregoing, the compensation that an executive officer may realize is significantly impacted by the positive or negative performance of such individual as well as Company performance.

Compensation Plan Design And Decisions For 2023

For 2023, the Compensation Committee conducted a review of the compensation program and determined that the 2023 executive compensation plan would retain the same basic elements as the prior year's plan as these elements aligned the Company's program with its current business strategy and included the pay for performance aspect of its executive compensation program. Taking into account the Company's 2022 financial performance and outlook for 2023, each executive officer's performance and responsibilities, and current market compensation rates for each executive officer position, among other criteria, the Compensation Committee approved the program and compensation plan structure for the executive officers in 2023 as detailed below.

Base Salary

The Company provides executive officers and other employees with a base salary to compensate them for services rendered during the fiscal year. The Compensation Committee supports the compensation philosophy of moderation for elements such as base salary and other executive officer benefits. As noted above under "Impact of Performance on Compensation," base salary decisions are made as part of the Company's formal annual review process and are influenced by the performance of the Company and the individual.

For 2023, the Compensation Committee reviewed and determined salaries after reviewing salary data supplied by the independent compensation consultant, including data regarding the peer comparison group, as well as consideration of the compensation for the executive officers on a company-wide basis, based on their relative duties and responsibilities and the recommendations of the CEO (other than with respect to his own compensation). The Compensation Committee did not apply formulas or assign specific mathematical weights to any of these factors, but rather exercised

its business judgment and discretion to make a subjective determination regarding each executive officer's base salary for 2023, as applicable, after considering all of these factors collectively. The CEO's recommendations for salary adjustments (other than his own) were reviewed, modified, and approved as deemed appropriate by the Compensation Committee.

The table below shows the increases in NEO base salary for 2023 that were approved by the Compensation Committee. Our CEO's base salary was increased 10% to better align with the practices of our peer group, taking into consideration our strong performance relative to peers and a finding that his prior pre-increase base salary was below the 25th percentile of the peer group market data.

Named Executive Officer	2022 Base Salary	2023 Base Salary	% Increase
Michael P. Plisinski	\$636,892	\$700,000	10%
Mark R. Slicer	\$450,000	\$463,500	3%
Yoon Ah E. Oh	\$360,500	\$371,315	3%
Srinivas Vedula	\$302,175	\$311,240	3%
Ramil Yaldae	\$300,000	\$315,000	5%

Annual Cash Incentive Compensation

For 2023, as in prior years, the annual cash incentive plan was structured such that each NEO's potential cash award was subject to the achievement of 2023 corporate financial objectives. These corporate financial objectives were established at levels in excess of the overall industry projections in order to incentivize the Company to outperform the industry.

For our NEOs the 2023 target annual cash bonus opportunities were set as follows:

Named Executive Officer	2023 Target Annual Cash Incentive As a Percentage of Salary
Michael P. Plisinski	110%
Mark R. Slicer	70%
Yoon Ah E. Oh	60%
Srinivas Vedula	70%
Ramil Yaldae	65%

The 2023 annual cash incentive plan had three components: corporate goals, business unit goals (if applicable), and personal performance goals, each of which is described in more detail below.

- The corporate goals relate to corporate revenue and corporate non-GAAP operating income. For NEOs who are not aligned with a particular business unit, 70% of their cash bonus potential is based on corporate goals. For NEOs who are aligned with a particular business unit, 30% of their cash bonus potential is based on corporate goals. The entirety of each executive officer's cash bonus payout, however, was contingent on the Company meeting at least one of the 2023 corporate revenue or corporate non-GAAP operating income goals thresholds of 80% of target and 70% of target, respectively. Should the Company not have reached the threshold level for both the 2023 corporate revenue and corporate non-GAAP operating income goals, then no payout under the plan would have been made to the CEO or the other executive officers. The performance ranges for each metric included a payout level for threshold performance at 50% of target payout and an established target level to achieve the maximum payout by exceeding the corporate performance objectives for each of the corporate financial metrics. If the corporate goal target is exceeded in either or both corporate goal categories, then the cash payout increases as follows:
 - Corporate Revenue: From 100% to 120% of the corporate goal target, additional cash compensation is earned linearly up to 200% of the target bonus amount.
 - Non-GAAP Operating Income: From 100% to 130% of corporate goal target, additional cash compensation is earned linearly up to 200% of the target bonus amount.
- For those executive officers who were associated with a particular Company business unit, 40% of their cash bonus potential was allocated to business unit financial performance goals. In 2023, these goals included achievement of fiscal 2023 business unit revenue and non-GAAP operating income objectives. For an executive officer to earn his or her potential cash award apportioned to the business unit goals, his or her respective business unit needed to achieve at least 80% of the business unit revenue target and/or 70% of the business unit non-GAAP operating income target. Additional cash payout of up to 200% is realized if either of the business unit goals is exceeded, similar to the Corporate goal parameters above. As stated above, the payout of the business unit goal component of the bonus was contingent on achieving the threshold for at least one of the Company corporate goals.
- The final component of the cash incentive compensation plan was the inclusion of personal performance goals that are specific to the individual executive officers. This portion of the plan accounts for 30% of the cash bonus potential for all executive officers. The NEO personal performance goals in 2023 included targets related to additional corporate financial measures, operational measures and activities, quality, product development measures or marketing initiatives and personnel development, depending on the executive officer involved. As with the business unit goal component of the bonus, payout of the personal performance goal component of the bonus was contingent on achieving the threshold for at least one of the Company corporate goals.

The following table reflects the structure of the corporate and business unit goal components of the cash incentive compensation plan. The personal goal payout component is fixed -- if achieved, the payout is for the target amount.

Corporate/Business Unit Goal	Weighting	Threshold (50% Payout)	Target (100% Payout)	Max (200% Payout)
Revenue	50%	80% of target	100% of target	120% of target
Operating Income (Non-GAAP)	50%	70% of target	100% of target	130% of target

The following table reflects the Corporate targets, actual results, and percentage payouts for fiscal 2023 for the CEO and other executive officers.

Cash Incentive Compensation Plan - Corporate Target Categories	2023 Target	2023 Actual	2023 Payout Percentage
Corporate Revenue	\$852.0M	\$815.9M	89%
Non-GAAP Operating Income	\$236.6M	\$195.4M ⁽¹⁾	71%

(1) The following table represents an unaudited reconciliation of GAAP to non-GAAP operating income (in thousands):

Year Ended December 30, 2023					
Non-GAAP Adjustments					
GAAP Operating Income	Merger & Acquisition Related Expenses	Restructuring Expenses	Litigation Expenses	Amortization of Intangibles	Non-GAAP Operating Income
\$116,078	\$2,607	\$10,599	\$11,337	\$54,822	\$195,443

In 2023, none of the NEOs included a business unit goal component as part of his or her cash incentive compensation plan. Personal goal achievement for the CEO and other NEOs at the time of the incentive award is shown in the table below.

Name	Personal % Score
Michael P. Plisinski	83.30%
Mark R. Slicer	56.70%
Yoon Ah E. Oh	100.00%
Srinivas Vedula	63.30%
Ramil Yaldaei	73.30%

Actual amounts paid to the CEO and the other NEOs under their respective annual cash incentive plans are reported below in the Non-Equity Incentive Plan Compensation column of the Summary Compensation Table.

Long-Term Equity Incentive Plan

In 2023, the structure of the long-term equity incentives was set by the Compensation Committee through the consideration of a number of factors and recommendations from the CEO (except in connection with his own grants).

The following parameters were included in the design of the long-term equity incentive program in 2023:

Performance-Based Stock Units: 50% of each executive officer's equity grant was comprised of PSUs. The relative TSR plan design includes the following features:

- 50% of the PSU grant will be assessed at each of two performance periods, at two years and at three years from the grant date (e.g. for awards granted in early 2023, the performance periods would be 2023 through 2025 and 2026).
- Performance will be assessed using TSR, which measures growth in stock price, plus any dividends paid, during the performance period.
- TSR performance will be compared to that of other companies in the Philadelphia Semiconductor Index (SOX).
- The performance and standards to earn the PSU equity awards in 2023 are as follows:

TSR Performance Relative to Peers	PSUs Earned as % of Target
Below 25 th Percentile	0%
25 th Percentile	50%
55 th Percentile	100%
80 th Percentile and above	200%

- The PSU award payout will be calculated on a straight-line basis between the 25th & 55th and the 55th & 80th percentile levels referenced above.
- A negative TSR cap has been instituted which limits any PSUs earned to target level if the Company's TSR is negative over the performance period and our TSR ranks above the target performance level.
- Earned PSUs are not subject to additional service-based vesting conditions.

Service-Vesting Restricted Stock Units: 50% of each executive officer's equity grant is comprised of service-based RSUs, which vest in equal annual increments over three years.

The following table summarizes the components of the long-term equity incentive program.

Long-Term Equity Incentive Compensation Program Provisions	2023
Performance-based / Service-based grant breakout	50%-50%
Service-based grant vesting period	33.3% annually over 3 years
Performance-based grant evaluation period	50% of grant at 2 and 3 years
Performance-based grant metric(s)	Relative TSR
Performance-based grant vesting period	100% upon earning
Performance threshold for earning grant	25 th TSR percentile
Percent of performance-based grant earned at threshold	50%
Measure at which 100% of performance-based grant is earned	55 th TSR percentile
Maximum performance-based grant upside	200%
Measure at which maximum upside of performance-based grant is earned	80 th TSR percentile

In February 2024, the first tranche of the PSUs awarded in 2022 vested. The Company's TSR performance based on the 20-day average market value prior to the vesting date was determined and ranked against the participating companies in the SOX. The Company's TSR for this assessment period was 75.4%, which placed the Company at the 93rd TSR percentile in the SOX. Therefore, the PSUs earned as a percent of the target number awarded was 200%.

Also in February 2024, the second tranche of the PSUs awarded in 2021 vested. The Company's TSR performance based on the 20-day average market value prior to the vesting date was determined and ranked against the participating companies in the SOX. The Company's TSR for this assessment period was 178.6%, which placed the Company at the 96th TSR percentile in the SOX. Therefore, the PSUs earned as a percent of the target number awarded was 200%.

The actual number of PSUs and RSUs granted to the NEOs in 2023 and the related value are reported below in the table titled Grants Of Plan-Based Awards In 2023.

Personal Benefits And Perquisites

Benefits

All employees of the Company, including its executive officers, are eligible to participate in the following benefit plans and programs:

- health and dental insurance;
- elective vision care program;
- life insurance and accidental death and dismemberment coverage;
- 401(k) plan;
- short- and long-term disability insurance with supplemental income continuation;
- health care and dependent care flexible spending account programs;
- employee assistance program (EAP);
- employee stock purchase plan;
- employee referral bonus program;
- IP recognition awards; and
- matching of charitable donations through the Company-sponsored charitable foundation.

The Company, in its discretion, may offer to reimburse the expenses that an employee incurs as a result of the Company requiring the individual to relocate their primary residence for employment purposes. The Compensation Committee believes that these benefits are consistent with industry practice and are important in recruiting and retaining qualified employees.

Limited Perquisites

The Company does not offer extensive perquisites to our executive officers. For 2023, the Compensation Committee reviewed the potential perquisites to be offered by the Company to the executive officers and determined that such perquisites would be limited to Company-paid tax preparation services and Company-paid membership in one airline executive club. Executive officers are also eligible to participate in the Company's Charitable Match Program, under which the Company will match, dollar for dollar, up to \$1,000 in donations to eligible charitable organizations. The Compensation Committee believes that these benefits are reasonable and consistent with the Company's overall compensation program and enable the Company to attract and retain superior employees for key positions.

Retirement Provision For Equity Awards

All employees, including our NEOs, are also eligible to participate in the Company's post-retirement equity award vesting program. Under that program:

- An employee is "retirement eligible" if they achieve a combination of age plus years of service with the Company totaling 70, with a base minimum age of 58 years old and a minimum service requirement of five years.
- Upon retirement by the employee, any equity awards granted by the Company shall remain outstanding and vest based on:
 - The vesting schedule established for service-based equity awards; or
 - The actual performance results for performance-based equity awards.

Employee Stock Purchase Plan

The Company (as successor to Nanometrics) has maintained an Employee Stock Purchase Plan since 1986. The Company's 2020 Employee Stock Purchase Plan was approved by stockholders in 2020 and is currently administered by the Compensation Committee.

Under the terms of our current Employee Stock Purchase Plan, eligible employees may elect to have up to fifteen percent (15%) of eligible compensation deducted from their base salary and applied to the purchase of shares of Common Stock. The price the employee pays for each share of Common Stock is eighty-five percent (85%) of the fair market value of Common Stock at the end of the applicable six-month purchase period. The Employee Stock Purchase Plan qualifies as a non-compensatory plan under Section 423 of the Internal Revenue Code of 1986, as amended ("IRC").

CORPORATE AND GOVERNANCE POLICIES

Employment And Change-In-Control Agreements

Each of the NEOs, other than Mr. Slicer, is entitled to payments upon a qualifying termination of employment following a change-in-control event. The Compensation Committee believes that providing severance in a change-in-control situation is beneficial to stockholders so that executive officers may remain objectively neutral when evaluating a transaction that may be beneficial to stockholders yet could negatively impact the continued employment of the executive officer.

The Company is party to an employment agreement with Mr. Plisinski that provides for certain benefits upon termination or a change in control of the Company. We have also entered into an Executive Change in Control Agreement with each of our other current NEOs, other than Mr. Slicer.

See “Potential Payments Upon Termination Of Employment Or Change In Control” below for a description of these arrangements and potential payments that the NEOs would have been entitled to receive upon applicable hypothetical termination scenarios as of December 30, 2023.

Other Elements Of Post-Termination Compensation

The Company does not have a practice of providing retirement benefits, including any supplemental executive officer retirement plans (SERP), to its executive officers, other than through its 401(k) plan and post-retirement vesting for equity awards granted by the Company, as described above. The Company retains the discretion to utilize the offer of severance and/or change-in-control protection as an incentive in its hiring and retention of executive officers.

Non-Solicitation And Non-Competition Policy

The Company maintains a policy of entering into an agreement with each of its new executive officers, which contains both non-solicitation and non-competition provisions. Each of our NEOs is party to such an agreement. The non-solicitation provisions apply for one year (or two years in the case of Mr. Plisinski) after termination of the individual's employment while the non-competition provisions are in effect during the individual's employment and generally for one year thereafter, to the extent permitted by applicable law. In all cases, these covenants have been implemented to protect the confidential information, goodwill and other assets of the Company. For those individuals with employment agreements, should a breach of the non-solicitation or non-competition terms of their agreements occur, this could give rise to the Company declaring a breach under the agreement and terminating all severance payments thereunder.

General Termination Benefits

Upon termination of an executive officer's employment with the Company, the individual is entitled to receive his or her base salary earned through the termination date. Thereafter, further cash compensation to the executive officer is discontinued, except to the extent that severance or change-in-control payments are required to be made in accordance with individual or Company severance protection arrangements. Pursuant to his employment agreement with the Company, Mr. Plisinski is entitled to elect to continue group health or other group benefits as allowed by COBRA with continued Company co-payments for agreed post-termination periods. The Company retains the right to offer severance and/or payment of COBRA benefits to any individual who is terminated from the Company at its discretion. See “Potential Payments Upon Termination Of Employment Or Change In Control” below for a further description of these arrangements.

Stock Ownership Policy

The Company has established a stock ownership policy for its non-employee directors and executive officers subject to Section 16 reporting requirements, which is designed to align the interests of Company leadership with the interests of stockholders and give Company leadership a stake in the long-term financial future of the Company.

The stock ownership levels currently in effect under the policy are the following:

Company Role	Common Stock Holding Requirement	Effective Date
Non-Employee Directors	3x value of the annual retainer	Within 5 years of initial election to Board
CEO	3x value of CEO's base salary	Within 5 years of hire/promotion
Executive Officers Subject to Section 16 Reporting Requirements	1x value of executive officer's base salary	Within 5 years of hire/promotion

In assessing compliance with the foregoing guidelines, the Company takes into consideration only the ownership of Common Stock in the Company and unexercised stock options that are vested and "in-the-money." As a result, unearned PSUs, unvested service-based RSUs, and unvested stock options do not qualify as shares for purposes of compliance with the Company's stock ownership and retention guidelines.

Participants are expected to achieve their ownership guideline target within five years of becoming subject to the policy. Existing participants were subject to this policy as of the date of the policy and any new participants will be subject to the policy on their hire, promotion, election, or appointment date, as applicable.

Compliance with the Company's stock ownership and retention guidelines is reviewed annually by the Compensation Committee. As of its review in February 2024, the Compensation Committee determined that all executive officers and directors were in material compliance with the ownership requirements. There are no specific penalties for failure to achieve the ownership guideline target. However, the Compensation Committee retains the discretion to impose such other conditions, restrictions, or limitations on any executive officers or directors as such Committee determines to be necessary or appropriate in order to achieve the purposes of the stock ownership policy.

The Compensation Committee regularly reviews the Company's stock ownership and retention guidelines. In the course of its annual review for 2025, the Committee will evaluate the appropriateness of the foregoing stock ownership levels based in part on the average closing price of a share of the Company's stock during the 30 consecutive trading days ending on and including the last day of the most recently completed fiscal year, as well as other considerations such as market conditions and comparable practices within the industry.

Prohibition On Pledging, Margining or Hedging Of Company Stock

Our insider trading policy prohibits Company directors and employees, including our executive officers, from purchasing Company securities on margin, borrowing against Company securities held in a margin account, or pledging Company securities as collateral for a loan. Company directors and employees are also prohibited from engaging in short sales, derivative transactions, and hedging transactions involving Company securities.

Adjustments Or Recovery Of Prior Compensation

In August 2023, the Company adopted a policy that requires it to recover from its Covered Executives (which includes our NEOs) certain excess incentive compensation that would not have been earned based on specified accounting restatements (the "Clawback Policy"). The Clawback Policy covers any compensation that is granted, earned, or vested based wholly or in part upon the attainment of certain financial reporting measures and received by a Covered Executive during the last three completed fiscal years immediately preceding the relevant accounting restatement date. The Clawback Policy is consistent with the requirements of the SEC's final compensation clawback rules under the Dodd-Frank Act and NYSE listing standards.

Compensation Program Risk Assessment

In 2023, the Compensation Committee, with advice and input from Compensia, its independent compensation consultant, reviewed our compensation program and whether compensation design features may have the potential to incentivize executive officers to take risks that are reasonably likely to have a material adverse effect on the Company. Among others, the Committee reviewed the following features of our compensation program: compensation philosophy and pay mix; performance measures used in incentive plans; goal setting and payout leverage and caps; calculation and verification of performance outcomes for incentive payments; and mitigating factors built into the program to reduce risk. Based on this review and the input from Compensia, the Compensation Committee concluded that the Company's compensation program does not create risks that are reasonably likely to have a material adverse effect on the Company.

IRS Limits On Deductibility Of Compensation

Prior to the enactment of the Tax Cuts and Jobs Act of 2017 (the "Tax Act") in December 2017, Section 162(m) of the IRC, limited the tax deductibility of annual compensation in excess of \$1 million paid to any public corporation's CEO and three other highest-paid executive officers (other than the chief financial officer). Certain qualifying performance-based compensation was not subject to the \$1 million deduction limit, however. With the passage of the Tax Act, only qualifying performance-based compensation paid pursuant to a binding written contract in effect on November 2, 2017 (and not modified in any material respect on or after November 2, 2017) as set forth under the Tax Act will be eligible for the deduction exception. The Tax Act also expanded the executive officers covered by Section 162(m) to include the chief financial officer as well as any person who ever was a covered executive officer for any prior taxable year, beginning after December 31, 2016. As a result of these changes, starting in 2018, compensation payable by us in excess of \$1 million to any person who was an NEO since fiscal year 2016 is non-deductible, regardless of whether the compensation is performance-based.

Although the Compensation Committee considers deductibility issues when approving executive officer compensation elements, the Compensation Committee believes that the other compensation objectives, such as attracting, retaining and providing appropriate incentives to executive officers, are important and can supersede the goal of maintaining deductibility. Consequently, the Compensation Committee generally makes compensation decisions without regard to deductibility, as the Compensation Committee believes it has appropriately structured its compensation programs to provide incentives to our executive officers to increase Company return and stockholder value.

CONCLUSION

In reviewing its compensation programs, the Company has concluded that each element of compensation as well as the total compensation opportunities for its executive officers, including the NEOs, are reasonable, appropriate and in the interests of the Company and its stockholders. The Company believes that this compensation program appropriately satisfies the Company's goals of establishing a compensation package that attracts and retains a strong, motivated leadership team, aligns the financial incentives of the executive officers with the interests of the stockholders, and rewards the achievement of specific annual, long-term, and strategic goals of the Company. The Company believes that the compensation program, which has been established and is reflected herein has enabled it to recruit and secure a talented and motivated leadership team by which the Company drives toward the ultimate objective of improving stockholder value.

COMPENSATION COMMITTEE REPORT ON EXECUTIVE OFFICER COMPENSATION

We, the Compensation Committee of the Board, have reviewed and discussed the Compensation Discussion and Analysis (“CD&A”) within the Executive Officer Compensation section of this proxy statement with the management of the Company. Based on such review and discussions, we have recommended to the Board that the CD&A be included as part of this proxy statement.

THE COMPENSATION COMMITTEE

May Su (Chairperson)
Stephen D. Kelley
David B. Miller
Christine A. Tsingos

Summary Compensation Table

The following table summarizes the compensation earned by our NEOs in the fiscal years noted.

Name and Principal Position	Year	Salary (\$)	Bonus (\$)	Stock Awards (\$) ⁽¹⁾	Non-Equity Incentive Plan Compensation (\$) ⁽²⁾	All Other Compensation (\$) ⁽³⁾	Total (\$)
Michael P. Plisinski	2023	\$692,718	—	\$4,327,136	\$624,741	\$1,433	\$5,646,028
<i>Chief Executive Officer</i>	2022	\$634,751	—	\$3,977,905	\$697,044	\$3,601	\$5,313,301
	2021	\$639,353	—	\$3,487,747	\$995,529	\$11,681	\$5,134,310
Mark R. Slicer ⁽⁴⁾	2023	\$461,942	—	\$834,971	\$237,287	\$10,590	\$1,544,790
<i>Chief Financial Officer</i>	2022	\$275,192	\$150,000	\$1,000,038	\$240,334	\$5,652	\$1,671,216
Yoon Ah E. Oh ⁽⁵⁾	2023	\$370,067	—	\$1,073,669	\$191,900	\$10,590	\$1,646,226
<i>Vice President, General Counsel, and Corporate Secretary</i>	2022	\$359,288	—	\$568,303	\$206,287	\$9,490	\$1,143,368
	2021	\$60,577	\$250,000	\$600,008	\$54,610	\$115	\$965,310
Srinivas Vedula ⁽⁶⁾	2023	\$310,195	—	\$500,972	\$163,696	\$9,996	\$984,859
<i>Senior Vice President, Customer Success</i>							
Ramil Yaldae ⁽⁶⁾	2023	\$310,961	—	\$475,049	\$159,982	\$10,019	\$956,011
<i>Chief Operating Officer</i>							

(1) Amounts reflect the grant date fair value for each share-based compensation award granted to the NEOs during the covered year, calculated in accordance with FASB ASC Topic 718. The assumptions used in determining the grant date fair values of awards are set forth in Note 2 to our consolidated financial statements, which are included in our Annual Report on Form 10-K filed with the SEC on February 26, 2024. For 2023, the amount reported for each NEO includes the grant date fair value attributable to the 2023 awards of (i) time-based RSUs and (ii) PSUs, assuming that the performance conditions were satisfied at target at the time of grant. The grant date fair value attributable to the 2023 PSU awards, assuming maximum performance achievement, is as follows: Mr. Plisinski, \$4,767,158; Mr. Slicer, \$919,802; Ms. Oh, \$797,242; and Dr. Vedula, \$551,926. The actual amounts earned will be determined following the end of the two-year performance period (February 14, 2023 – February 14, 2025) and the three-year performance period (February 14, 2023 – February 14, 2026). Mr. Yaldae's stock awards in 2023 were entirely in the form of time-based RSUs.

(2) The amounts for a given year represent the amount earned in respect of that year under the Company's annual cash performance incentive plan, as applicable, notwithstanding the year in which it was paid. See "Compensation Discussion and Analysis – Annual Cash Incentive Compensation" for further information.

(3) Refer to the All Other Compensation table for more detailed information about the 2023 compensation reported in this column.

(4) Mr. Slicer joined the Company as Chief Financial Officer effective May 17, 2022.

(5) Ms. Oh joined the Company as Vice President, General Counsel & Corporate Secretary effective October 25, 2021.

(6) Although employed by Onto Innovation prior to 2023, Dr. Vedula and Mr. Yaldae were not NEOs prior to 2023.

All Other Compensation

Name	Year	Matching Contribution Towards 401(k) (\$)	Insurance (\$) ⁽¹⁾	Perquisites and Other Personal Benefits (\$) ⁽²⁾	Severance Compensation (\$)	Total (\$)
Michael P. Plisinski	2023	\$743	\$690	—	—	\$1,433
Mark R. Slicer	2023	\$9,900	\$690	—	—	\$10,590
Yoon Ah E. Oh	2023	\$9,900	\$690	—	—	\$10,590
Srinivas Vedula	2023	\$9,306	\$690	—	—	\$9,996
Ramil Yaldae	2023	\$9,329	\$690	—	—	\$10,019

(1) Insurance is the premium associated with coverage under the group term life insurance and accidental death and dismemberment insurance plans. Coverage is equal to the lesser of two (2) times salary or \$500,000.

(2) The value of aggregate perquisites and personal benefits for each NEO is less than \$10,000, and therefore, perquisites for these individuals are not required to be disclosed in accordance with SEC rules.

Grants Of Plan-Based Awards In 2023

The following table sets forth information with respect to non-equity and equity incentive plan awards that were granted during 2023 to the NEOs. No stock option awards were granted to any NEO in 2023.

Name	Grant Date	Estimated Future Payouts Under Non-Equity Incentive Plan Awards (\$) ⁽¹⁾			Estimated Future Payouts Under Equity Incentive Plan Awards (#) ⁽²⁾			All other Stock Awards: Number of Shares of Stock or Units (#) ⁽³⁾	Grant Date Fair Value of Stock and Option Awards (\$)
		Threshold	Target	Maximum	Threshold	Target	Maximum		
Michael P. Plisinski	2/14/2023	\$134,750	\$770,000	\$1,309,000					
	2/14/2023				11,825	23,649	47,298		\$2,383,579
	2/14/2023							23,650	\$1,943,557
Mark R. Slicer	2/14/2023	\$56,779	\$324,450	\$551,565					
	2/14/2023				2,282	4,563	9,126		\$459,901
	2/14/2023							4,564	\$375,070
Yoon Ah E. Oh	2/14/2023	\$38,988	\$222,789	\$378,741					
	2/14/2023				1,978	3,955	7,910		\$398,621
	2/14/2023							3,955	\$325,022
	5/15/2023							3,746	\$350,026
Srinivas Vedula	2/14/2023	\$38,127	\$217,868	\$370,376					
	2/14/2023				1,369	2,738	5,476		\$275,963
	2/14/2023							2,738	\$225,009
Ramil Yaldae	5/15/2023	\$35,831	\$204,750	\$348,075					
	5/15/2023							5,084	\$475,049

(1) The amounts reported in these columns represent the annual cash incentive opportunities under the Company's cash incentive compensation plan for each of our NEOs for the 2023 performance period. The metrics against which performance was measured under this plan, as well as other details regarding the plan, are discussed

above in the Compensation Discussion and Analysis under “Annual Cash Incentive Compensation.” The amounts actually earned by our NEOs under the plan are reflected in the “Non-Equity Incentive Plan Compensation” column of the Summary Compensation Table above.

- (2) The amounts reported in these columns represent the award opportunities under the Company’s PSU program. The metrics against which performance will be measured under this program, as well as other details regarding the plan, are discussed above in the Compensation Discussion and Analysis under the heading “Long-Term Equity Incentive Plan.” The performance periods for these awards are two years and three years with the final determinations of the award ultimately earned being made in 2025 and 2026.
- (3) The amounts reported in this column represent the awards of RSUs which are subject to service-based vesting conditions, as discussed above in the Compensation Discussion and Analysis under the heading “Long-Term Equity Incentive Plan.” These RSUs vest in 33.3% increments on each of the first three anniversaries of the grant date.

Outstanding Equity Awards At 2023 Fiscal Year-End

The following table sets forth information with respect to outstanding equity awards held by the NEOs as of December 30, 2023. No stock option awards were outstanding as of December 30, 2023.

Name	Grant Date ⁽¹⁾	Stock Awards			
		Number of Shares or Units of Stock That Have Not Vested (#) ⁽²⁾	Market Value of Shares or Unites of Stock That Have Not Vested (\$) ⁽³⁾	Equity Incentive Plan Awards: Number of Unearned Shares, Units or Other Rights That Have Not Vested (#) ⁽⁴⁾	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested (\$) ⁽³⁾
Michael P. Plisinski	2/8/2021	8,278	\$1,265,706	12,417	\$1,898,559
	2/10/2022	12,699	\$1,941,677	19,049	\$2,912,592
	2/14/2023	23,650	\$2,616,085	23,649	\$3,615,932
Mark R. Slicer	5/17/2022	8,547	\$1,306,836		
	2/14/2023	4,564	\$697,836	4,563	\$697,683
Yoon Ah E. Oh	10/25/2021	2,681	\$409,925		
	2/10/2022	1,814	\$277,361	2,721	\$416,041
	2/14/2023	3,955	\$604,720	3,955	\$604,720
	5/15/2023	3,746	\$572,763		
Srinivas Vedula	4/1/2021	596	\$91,128		
	8/30/2021	553	\$84,554		
	2/10/2022	1,088	\$166,355	1,633	\$249,686
	2/14/2023	2,738	\$418,640	2,738	\$418,640
Ramil Yaldae	10/3/2022	2,436	\$372,464		
	5/15/2023	5,084	\$777,344		

(1) For a better understanding of this table, we have included an additional column showing the grant date of each stock award.

(2) Amount includes service-based RSU awards vesting 1/3rd per year on the anniversary of the grant date.

(3) Based on the Common Stock closing price of \$152.90 per share on December 30, 2023.

(4) PSU awards are reported in this table at number of target shares. The actual number of shares earned will be determined based on performance achievement measured over two (2)- and three (3)-year performance periods, and any earned shares will vest on the second and third anniversaries, respectively, of the grant date.

Stock Vested in 2023

The following table sets forth information with respect to the value realized by the NEOs upon vesting of PSUs and RSUs during 2023, and such values reflect the total pre-tax value realized by each NEO. There were no stock option exercises by any of the NEOs during 2023.

Name	Stock Awards	
	Number of Shares Acquired On Vesting (#)	Value Realized On Vesting (\$) ⁽¹⁾
Michael P. Plisinski	81,073	\$6,747,056
Mark R. Slicer	4,274	\$418,638
Yoon Ah E. Oh	3,589	\$371,477
Srinivas Vedula	3,049	\$281,979
Ramil Yaldae	1,218	\$152,725

(1) The aggregate dollar amount realized is based on the fair market value of the shares upon vesting.

Pay Versus Performance

We are required by SEC rules to disclose the following information regarding compensation paid to our NEOs. The amounts set forth below under the headings “Compensation Actually Paid to CEO” and “Average Compensation Actually Paid for NEOs” have been calculated in a manner consistent with Item 402(v) of Regulation S-K. The tables in footnote (2) below set forth the adjustments from the Total Compensation for each NEO reported in the Summary Compensation Table above.

The following table sets forth additional compensation information of our Chief Executive Officer (CEO) and our non-CEO NEOs along with total shareholder return, net income and total revenue performance results for fiscal years 2020, 2021, 2022 and 2023.

Year ⁽¹⁾	Summary Compensation Table Total For CEO	Compensation Actually Paid to CEO ⁽⁵⁾	Average Summary Compensation Table Total For NEOs	Average Compensation Actually Paid to NEOs ⁽⁵⁾⁽²⁾	Value of Initial Fixed \$100 Investment Based On:			
					Total Shareholder Return ⁽³⁾	Peer Group Total Shareholder Return ⁽³⁾	Net Income (in thousands) ⁽⁴⁾	Total Revenue (in thousands) ⁽⁴⁾
2023	\$5,646,028	\$21,220,183	\$1,282,972	\$2,783,035	\$318.23	\$165.64	\$121,159	\$815,868
2022	\$5,313,301	\$2,086,925	\$1,129,974	\$711,974	\$86.27	\$42.98	\$223,334	\$1,005,183
2021	\$5,134,310	\$13,985,674	\$1,069,940	\$2,149,621	\$176.97	\$125.09	\$142,349	\$788,899
2020	\$3,763,688	\$4,453,187	\$934,489	\$1,463,581	\$30.11	\$56.09	\$31,025	\$556,496

(1) The CEO and NEOs included in the above compensation columns reflect the following:

Year	CEO	NEOs
2023	Michael P. Plisinski	Mark R. Slicer, Yoon Ah E. Oh, Srinivas Vedula, Ramil Yaldae
2022	Michael P. Plisinski	Mark R. Slicer, James (Cody) Harlow, Robert Fiordalice, Yoon Ah E. Oh, Steven R. Roth
2021	Michael P. Plisinski	Steven R. Roth, Rollin Kocher, Kevin Heidrich, Robert A. Koch, Yoon Ah E. Oh
2020	Michael P. Plisinski	Steven R. Roth, Rollin Kocher, Kevin Heidrich, Robert A. Koch

- (2) In 2023, tranches of the TSR-based PSU awards from 2021 and 2020 vested. None of the NEOs, except for the CEO, was in his or her current role in 2020 or 2021 at the time the PSU awards were granted. Therefore no NEO, except for the CEO, received Common Stock from the vesting of PSU awards in 2023.
- (3) Company and Peer Group TSR reflects the Company's peer group (PHLX Semiconductor Index) as reflected in our Annual Report on the Form 10-K pursuant to Item 201(e) of Regulation S-K for the fiscal year ended December 30, 2023. Each year reflects what the cumulative value of \$100 would be, including the reinvestment of dividends, if such amount were invested on December 31, 2019.
- (4) The dollar amounts reported represent the amount of net income and total revenue reflected in our audited financial statements for each covered fiscal year.
- (5) Fair value or change in fair value, as applicable, of equity awards in the "Compensation Actually Paid" columns was determined by reference to (1) for RSU awards, closing price on applicable year-end dates or, in the case of vesting dates, the actual vesting price, (2) for TSR-based PSU awards, the fair value calculated by a Monte Carlo simulation model as of the applicable year-end date(s) or, in the case of vesting date, the actual vesting price and probability of achievement. For the portion of "Compensation Actually Paid" that is based on year-end stock prices, the following prices were used: for 2023 : \$152.90 (124.6% increase from prior year) for 2022: \$68.09 (32.7% reduction from prior year), for 2021: \$101.23 (110.8% increase from prior year), and for 2020: \$48.02 (1.0% increase from prior year).

"Compensation Actually Paid" to the CEO reflects the following adjustments from Total Compensation reported in the Summary Compensation Table:

CEO	2023	2022	2021	2020
Total Reported in Summary Compensation Table (SCT)	\$5,646,028	\$5,313,301	\$5,134,310	\$3,763,688
Less, Value of Stock & Option Awards Reported in SCT	(\$4,327,136)	(\$3,977,905)	(\$3,487,747)	(\$2,672,777)
Less, Change in Pension Value and Non-Qualified Deferred Compensation Earnings in SCT	—	—	—	—
Plus, Pension Service Cost and impact of Pension Plan Amendments	—	—	—	—
Plus, Year-End value of Awards Granted in Fiscal Year that are Unvested and Outstanding	\$10,231,429	\$2,764,863	\$6,761,134	\$2,941,125
Plus, Change in Fair Value of Prior Year awards that are Outstanding and Unvested	\$8,298,325	(\$2,584,704)	\$5,241,435	\$318,972
Plus, FMV of Awards Granted this Year and that Vested this Year	—	—	—	—
Plus, Change in Fair Value (from Prior Year-End) of Prior Year awards that Vested this year	\$1,371,538	\$571,370	\$336,542	\$102,179
Less, Prior Year Fair Value of Prior Year awards that failed to vest this year	—	—	—	—
Total Adjustments	\$15,574,155	(\$3,226,376)	\$8,851,364	\$689,499
"Compensation Actually Paid"	\$21,220,183	\$2,086,925	\$13,985,674	\$4,453,187

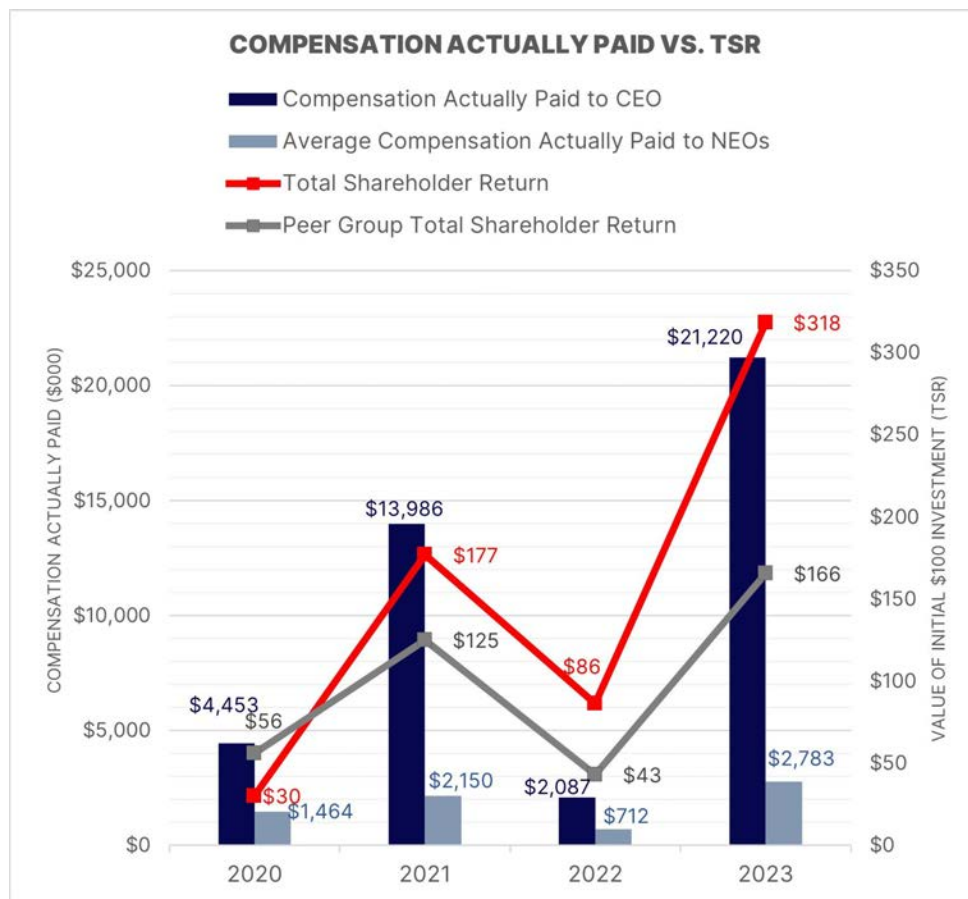
The average "Compensation Actually Paid" to the NEOs reflects the following adjustments from Total Compensation reported in the Summary Compensation Table:

NEO Average	2023	2022	2021	2020
Total Reported in Summary Compensation Table (SCT)	\$1,282,972	\$1,129,974	\$1,069,940	\$934,489
Less, Value of Stock & Option Awards Reported in SCT	(\$721,165)	(\$577,372)	(\$533,902)	(\$435,715)
Less, Change in Pension Value and Non-Qualified Deferred Compensation Earnings in SCT	—	—	—	—
Plus, Pension Service Cost and impact of Pension Plan Amendments	—	—	—	—
Plus, Year-End value of Awards Granted in Fiscal Year that are Unvested and Outstanding	\$1,508,382	\$436,885	\$879,706	\$479,458
Plus, Change in Fair Value of Prior Year awards that are Outstanding and Unvested	\$613,125	(\$143,057)	\$665,069	\$487,384
Plus, FMV of Awards Granted this Year and that Vested this Year	—	—	—	—
Plus, Change in Fair Value (from Prior Year-End) of Prior Year awards that Vested this year	\$99,722	(\$134,457)	\$68,807	(\$2,036)
Less, Prior Year Fair Value of Prior Year awards that failed to vest this year	—	—	—	—
<i>Total Adjustments</i>	\$1,500,064	(\$418,000)	\$1,079,680	\$529,092
"Compensation Actually Paid"	\$2,783,035	\$711,974	\$2,149,621	\$1,463,581

Pay versus Performance Descriptive Disclosure

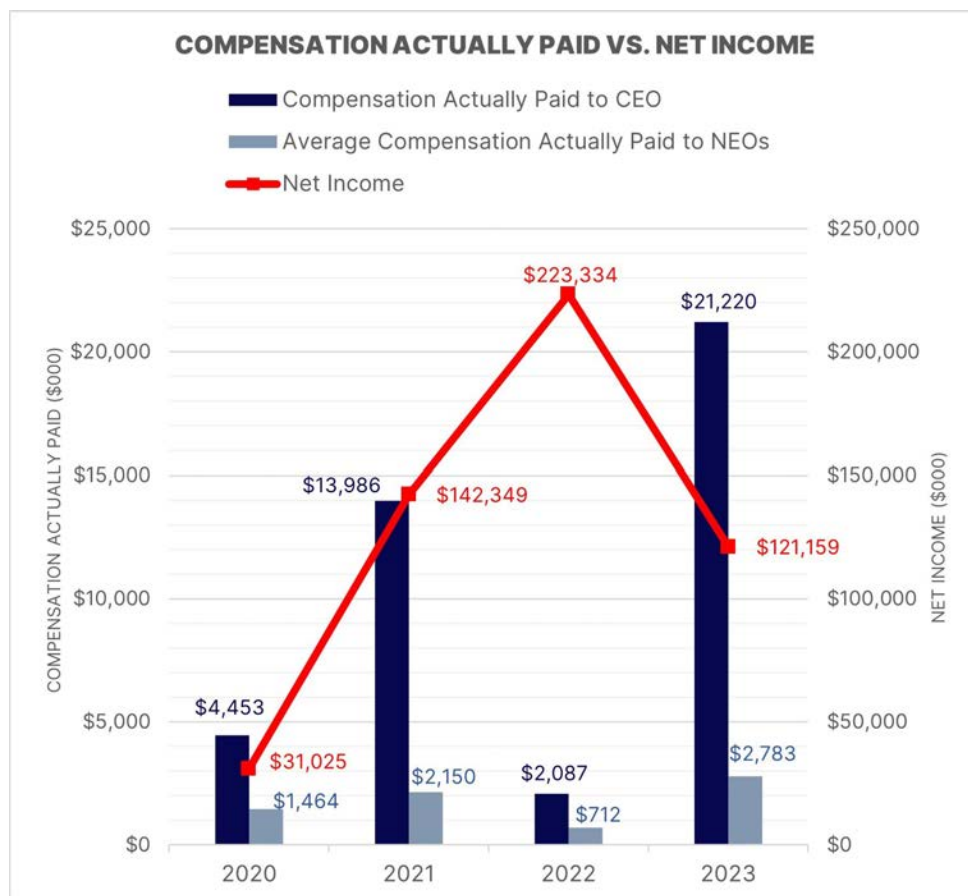
Compensation Actually Paid and Company TSR and Peer Group TSR

Our TSR lagged the TSR for our peer group in 2020 but increased significantly in 2021 both in terms of real dollars and in relation to our peer group TSR, which our TSR exceeded by approximately 40%. In 2022, the dollar value of our TSR dropped but was nonetheless over 100% greater than our peer group TSR. From 2022 to 2023 our TSR increased by over 250% and was almost twice that of our peer group TSR. There is a positive relationship between TSR and “Compensation Actually Paid” to our CEO and the other NEOs between 2020 and 2021, when both metrics increased, between 2021 and 2022, when both metrics dropped, despite our TSR equaling approximately twice our peer group TSR, and between 2022 and 2023, when both metrics increased again. The following chart illustrates the relationship between our Compensation Actually Paid and TSR:



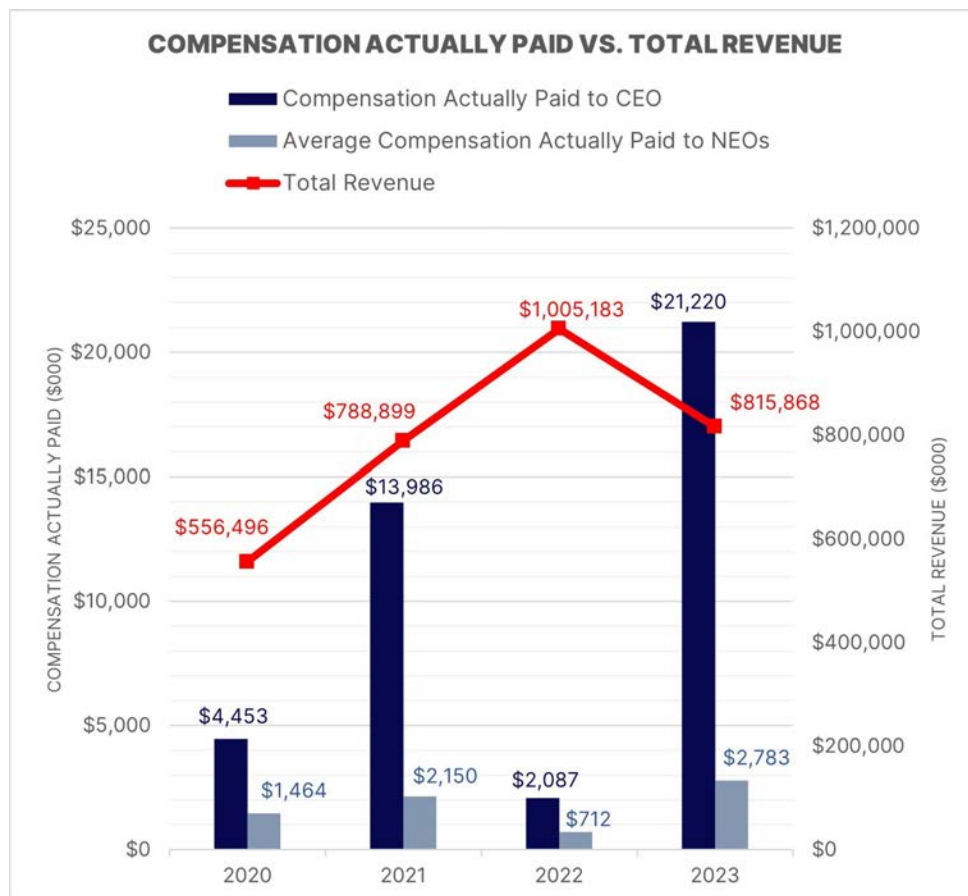
Compensation Actually Paid and Net Income

There is a positive relationship between Net Income and “Compensation Actually Paid” to our CEO and the other NEOs between 2020 and 2021, when both metrics increased. There is an inverse relationship between Net Income and “Compensation Actually Paid” to our CEO and the other NEOs between 2021 and 2022 when Net Income increased, but “Compensation Actually Paid” decreased. There is, again, an inverse relationship between Net Income and “Compensation Actually Paid” to our CEO and other NEOs between 2022 and 2023 when Net Income decreased but “Compensation Actually Paid” increased. The following chart illustrates the relationship between our Compensation Actually Paid and Net Income:



Compensation Actually Paid and Total Revenue

We chose Total Revenue as our Company Selected Measure for evaluating Pay versus Performance because it is a key metric, along with non-GAAP operating income, in determining the annual cash incentive compensation paid to the CEO and other NEOs. From 2020 to 2021 there is a positive relationship between Total Revenue and “Compensation Actually Paid,” when both metrics increased, an inverse relationship between 2021 and 2022 when Total Revenue increased, but “Compensation Actually Paid” to our CEO and the other NEOs decreased, and an inverse relationship between 2022 and 2023 when Total Revenue decreased, but “Compensation Actually Paid” to our CEO and the other NEOs increased. Much of the increase in CEO and NEO “Compensation Actually Paid” from 2022 to 2023 is attributable to the significant increase in the Company’s stock price during 2023. The following chart illustrates the relationship between our Compensation Actually Paid and Total Revenue:



Pay versus Performance Tabular List

The table below lists our most important performance measures used to link “Compensation Actually Paid” for our NEOs to Company performance, over the fiscal year ending December 30, 2023. Both Total Revenue and non-GAAP operating income factor into the annual cash incentive compensation paid to NEOs and Company TSR over two- and three-year measurement periods determine the ultimate value of PSUs awarded to NEOs. For a further discussion of how each of these financial measures relates to NEO compensation and for a reconciliation of the non-GAAP measure as compared to the GAAP measure reflected in our audited financial statements, see our “Compensation Discussion and Analysis” beginning on page 28 of this proxy statement. The performance measures included in this table are not ranked by relative importance.

Most Important Financial Measures
Total Revenue
Non-GAAP Operating Income ⁽¹⁾
Total Shareholder Return

(1) Refer to footnote (1) on page 40 of this proxy statement for a reconciliation of non-GAAP operating income to the most comparable GAAP measure.

Pension And Nonqualified Deferred Compensation

The Company does not have a defined benefit pension program, nor does it offer non-qualified deferred compensation.

Potential Payments Upon Termination Of Employment Or Change In Control

This section (including the following tables) summarizes each NEO’s estimated payments and other benefits that would be received by the NEO or the NEO’s estate if his or her employment had terminated on December 30, 2023, under the hypothetical circumstances set forth below.

Certain of our NEOs are entitled to certain termination payments upon his or her death or Disability, his or her involuntary termination without Cause, or his or her voluntary termination with Good Reason as described below. Although the definitions of each of these terms is specific to the NEO’s employment agreement or change-in-control agreement with the Company, the terms generally have the following meanings:

- “Disability” generally means that the executive officer, due to physical or mental impairment, is unable to perform his or her duties to the Company for a specified period of time.
- “Cause” generally means that the executive officer engaged in a crime, willful gross misconduct or other serious act involving moral turpitude; materially breached an agreement between him or her and the Company; or otherwise materially breached his or her obligations to the Company.
- A voluntary termination for “Good Reason” generally means, depending on the particular executive officer’s agreement, that the executive officer’s duties, responsibilities or status with the Company or its successor are materially reduced; his or her primary place of work is moved to a location outside a predetermined radius; in particular cases, certain reductions in compensation; or the Company materially breaches the terms of his or her agreement with the Company or any successor fails to assume the executive officer’s change-in-control agreement.

In addition to the payments and other benefits described below, under our 2020 Stock Plan, in the event of a change in control, unless the Board or Compensation Committee determine that some other treatment is warranted in their discretion, if the acquirer elects not to assume or substitute an equity award, then upon the effective date of the change in control all RSUs and PSUs held by any employees of the Company (including NEOs) become fully vested and the performance goals or other vesting conditions for PSUs shall be deemed achieved at 100% of the target levels.

NEO Employment and Change in Control Agreements

Mr. Plisinski

Mr. Plisinski's employment agreement provides for the following:

- In the event of any termination of Mr. Plisinski's employment, he is entitled to payment of all base salary due and owing through the termination date and an amount equal to all earned but unused vacation through the termination date.
- In the event Mr. Plisinski's employment is terminated due to his death, his estate would be entitled to:
 - Payment of his then-current base salary as if his employment had continued for three months following his death;
 - Continued co-payment for a period of six months following his death of amounts due under COBRA for continuation of the Company's group health and other group benefits for his covered dependents, if the covered dependents so elect;
 - Payment of his annual incentive cash bonus based on actual performance achievement, prorated for the time employed preceding his death, to be paid out with the Company's annual incentive plan payouts; and
 - Immediate vesting of stock options and SARs, and immediate vesting of RSU awards granted after his appointment as CEO which by their terms would vest within 12 months after death and, if a performance award, based on actual performance achievement for such performance period completed within 12 months after death.
- In the event Mr. Plisinski's employment is terminated due to his Disability, he would be entitled to:
 - Payment of his then-current base salary through the end of the month of such termination;
 - Continued co-payment for a maximum period of six months following his Disability of amounts due under COBRA for continuation of the Company's group health and other group benefits, if he or his covered dependents, as appropriate, so elects;
 - Payment of his annual incentive cash bonus based on actual performance achievement, prorated for the time employed preceding his termination, to be paid out with the Company's annual incentive plan payouts; and
 - Immediate vesting of stock options and SARs, and immediate vesting of RSU awards granted after his appointment as CEO which by their terms would vest within 12 months after termination for disability and, if a performance award, based on actual performance achievement for such performance period completed within 12 months after termination.
- In the event Mr. Plisinski's employment is terminated by the Company without Cause or Mr. Plisinski terminates his employment for Good Reason, he would be entitled to:
 - Payment of two times his then-current base salary, paid over 24 months (i.e., salary continuation for two years);
 - Continued co-payment for a period of up to 18 months of amounts due under COBRA for continuation of the Company's group health and other group benefits, if he so elects; and
 - Vesting of any equity incentive awards outstanding as of the termination date as follows:
 - For awards granted after the effective date of Mr. Plisinski's current employment agreement:
 - stock options and SARs which would have vested within 12 months following the date of termination, become immediately and fully vested and exercisable upon termination and remain exercisable until the first to occur of the second (2nd) anniversary of the termination date or the original expiration date of such option or stock appreciation right;
 - For awards granted before the effective date of Mr. Plisinski's current employment agreement:

- vesting of unvested awards which were earned based on a completed performance period under a performance-based award granted on or after the employment agreement effective date and which as of the termination date are then subject to time-based vesting only, or shares under such an equity incentive award granted on or after the employment agreement effective date which will be earned under a performance-based award based on actual achievement under a performance period which has been completed on or prior to the termination date but as to which performance period the actual number of shares earned against the award performance goals has not yet been determined by the Company; and
 - vesting of unvested awards that would have become vested based solely on the passage of time within the 12-month period immediately following the termination date had Mr. Plisinski continued in employment with the Company.
 - to the extent not vested, all other equity incentive awards outstanding at the time of termination will expire as of the termination date.
- If, within 18 months following the occurrence of a Change in Control, Mr. Plisinski's employment is terminated for any reason other than for Cause or Mr. Plisinski terminates his employment for Good Reason, he would be entitled to:
 - o Payment of two times the sum of his then-current base salary and target annual cash bonus, paid over 24 months;
 - o A pro rata incentive compensation payment for the calendar year in which the termination occurred based on the actual results for the calendar year;
 - o Continued co-payment for a period of up to 18 months of amounts due under COBRA for continuation of the Company's group health and other group benefits, if he so elects; and
 - o Immediate vesting of all unvested stock options, SARs and all unvested and outstanding performance-based (at target) and service-based RSUs and other equity awards.
 - o To the extent that Change in Control termination payments made to Mr. Plisinski under his agreement are subject to the excise tax imposed by Section 4999 of the IRC, Mr. Plisinski would either have to pay the excise tax or have his benefits reduced so that no portion of his termination payments were subject to the excise tax.
 - o In order to receive these termination or Change in Control termination payments, Mr. Plisinski would be required to sign a general release of all known and unknown claims that he may have against the Company.
 - o As part of his employment agreement, Mr. Plisinski is subject to non-solicitation and non-competition restrictions that limit his ability to compete with the Company during the term of the agreement and survive his resignation or termination for any reason for periods of two years and one year, respectively.
- For Mr. Plisinski, a "Change in Control" would generally be considered to have occurred if:
 - o any person or entity, or multiple persons or entities acting as a group, becomes the beneficial owner of more than 50% of our outstanding voting shares;
 - o Continuing Directors no longer constitute a majority of the Board, where "Continuing Director" means a Board member who was a Board member when the Executive Change in Control Agreement was executed or who was nominated, elected or approved by at least a majority of Board members who were, at that time, Continuing Directors, but excluding any individual whose initial assumption to office occurred as a result of any actual or threatened election contest or proxy solicitation, unless such person's treatment as a Continuing Director is subsequently approved by a majority of Continuing Directors; or
 - o there is consummation of a merger, consolidation, reorganization, recapitalization or statutory share exchange involving the Company or a sale or other disposition of all or substantially all of the assets of the Company in one or a series of transactions (a "Business Combination"), unless, immediately following such Business Combination, each of the following three conditions is satisfied: (A) all or substantially all

of the individuals and entities who were the beneficial owners of the then-outstanding shares of Common Stock entitled to vote immediately prior to such Business Combination still beneficially own more than 75% of the outstanding securities of the surviving entity in substantially the same proportions as their ownership immediately prior to such Business Combination; (B) the individuals who were members of the Board of Directors of the Company immediately prior to the execution of the agreement providing for such Business Combination constitute at least 50% of the members of the board of directors or other governing body of the acquiring entity; and (C) no person beneficially owns, directly or indirectly, securities that represent immediately after such merger or consolidation more than 50% of the combined voting power of the then outstanding voting securities of either the Company or the other surviving entity or its ultimate parent, or of the combined voting power of the then-outstanding securities of such entity entitled to vote generally in the election of directors or other governing body (except to the extent that such ownership existed prior to the Business Combination).

The following table reflects the potential payments to Mr. Plisinski in the event of his termination or his termination following a Change in Control as of December 30, 2023:

Termination Circumstances as of 12/30/2023	Cash Severance			Benefits Continuation
	Base Salary	Management Incentive Bonus	Value of Accelerated Unvested Equity ⁽¹⁾	
By the Company without Cause	\$1,400,000 (2x salary)	—	\$6,797,017	\$50,253
Executive officer resignation for Good Reason	\$1,400,000 (2x salary)	—	\$6,797,017	\$50,253
Death	\$175,000 (3 mos. salary)	\$624,741 (1x bonus)	\$15,250,552	\$16,751
Disability	—	\$624,741 (1x bonus)	\$6,797,017	\$16,751
Within 18 months following Change in Control:				
By the Company without Cause	\$1,400,000 (2x salary)	\$1,540,000 (2x bonus)	\$15,250,552	\$50,253
By the executive officer with Good Reason	\$1,400,000 (2x salary)	\$1,540,000 (2x bonus)	\$15,250,552	\$50,253

(1) For RSUs and PSUs the value represents the closing price of our Common Stock on the last trading day of the fiscal year multiplied by the number of accelerated units. For PSUs, the number of accelerated units assumes vesting at the target level.

Ms. Oh, Dr. Vedula and Messrs. Slicer and Yaldaei

The Executive Change in Control Agreements for Ms. Oh, Dr. Vedula and Messrs. Slicer and Yaldaei provide for the following:

- Upon cessation of the executive's employment at the Company for any reason under the Executive Change in Control Agreement, the executive (or his or her estate) shall be entitled to payment of:
 - All base salary earned through the executive's termination date but not yet paid;
 - Any unreimbursed business expenses that are eligible for reimbursement under the Company's policies;
 - Any accrued but unused vacation pay or paid time off;
 - Any amount arising from the executive's participation in, or benefits, under any employee benefits plans, programs or arrangements; and
 - Any amounts earned but not yet paid under any applicable bonus or incentive plan.
- The executive (or his or her estate) shall also be entitled to any applicable indemnification rights.
- If, within one year following the occurrence of a Change in Control, or within 60 days prior to the occurrence of a Change in Control, the executive's employment is terminated for any reason other than for Cause or the executive resigns for Good Reason, the executive shall be entitled to the following benefits in exchange for an unrevoked general release:
 - Payment of his or her then-current base salary for a period of 12 months;
 - Accelerated vesting of all unvested stock options, outstanding RSUs and other performance awards;
 - Any performance award that was assumed, substituted or continued with the Change in Control that had not already satisfied its performance conditions shall be treated as of the termination date as vested at the target level and fully vested as to any service conditions;
 - Payment of 100% of the executive's target annual bonus for the fiscal year in which the termination date occurs; and
 - The executive may elect to maintain the executive's and his or her dependent's health care benefit coverage to the same extent provided for by and with the same Company/Executive officer payment contribution percentages under the Company's group plans at the time of termination. Such coverage shall extend for a term of one year from the termination date unless he or she becomes covered as an insured under another employer's or spousal health care plan.
- Under the Executive Change in Control Agreements, a "Change in Control" would generally be considered to have occurred if:
 - any person or entity, or multiple persons or entities acting as a group, becomes the beneficial owner of more than 50% of our outstanding voting shares;
 - Continuing Directors no longer constitute a majority of the Board, where "Continuing Director" means a Board member who was a Board member when the Executive Change in Control Agreement was executed or who was nominated, elected or approved by at least a majority of Board members who were, at that time, Continuing Directors, but excluding any individual whose initial assumption to office occurred as a result of any actual or threatened election contest or proxy solicitation, unless such person's treatment as a Continuing Director is subsequently approved by a majority of Continuing Directors; or
 - there is consummation of a merger, consolidation, reorganization, recapitalization or statutory share exchange involving the Company or a sale or other disposition of all or substantially all of the assets of the Company in one or a series of transactions (a "Business Combination"), unless, immediately following such Business Combination, each of the following three conditions is satisfied: (A) all or substantially all of the individuals and entities who were the beneficial owners of the then-outstanding shares of Common Stock entitled to vote immediately prior to such Business Combination still beneficially own more than 50% of the outstanding securities of the surviving entity in substantially the same proportions as their ownership immediately prior to such Business Combination; (B) the individuals who were members of the

Board of Directors of the Company immediately prior to the execution of the agreement providing for such Business Combination constitute at least 50% of the members of the board of directors or other governing body of the acquiring entity; and (C) no person beneficially owns, directly or indirectly, securities that represent immediately after such merger or consolidation more than 50% of the combined voting power of the then outstanding voting securities of either the Company or the other surviving entity or its ultimate parent, or of the combined voting power of the then-outstanding securities of such entity entitled to vote generally in the election of directors or other governing body (except to the extent that such ownership existed prior to the Business Combination).

The following table reflects the potential payments to Ms. Oh and Dr. Vedula and Messrs. Slicer and Yaldae, in the event any of them are terminated without cause or resign for good reason within twelve months following a change in control as of December 30, 2023:

Name	Cash Severance (Base Salary)	Management Incentive Bonus	Value of Accelerated Unvested Equity ⁽¹⁾	Benefits Continuation
Mark R. Slicer	\$463,500	\$324,450	\$2,702,355	\$33,502
Yoon Ah E. Oh	\$371,315	\$222,789	\$2,885,529	\$8,651
Srinivas Vedula	\$311,240	\$217,868	\$1,429,003	—
Ramil Yaldae	\$315,000	\$204,750	\$1,149,808	\$33,502

(1) For RSUs and PSUs the value represents the closing price of our Common Stock on the last trading day of the fiscal year multiplied by the number of accelerated units. For PSUs, the number of accelerated units assumes vesting at the target level.

Each of Messrs. Slicer and Yaldae, Ms. Oh and Dr. Vedula also entered into a separate agreement upon employment with the Company that subjects him or her to non-competition and non-solicitation restrictions, which limit his or her ability to compete with the Company during his or her employment and for a period of one year following his or her resignation or termination for any reason.

Retention Bonus Agreements

No NEO has entered into a Retention Bonus Agreement with the Company.

CEO Pay Ratio

As required by Section 953(b) of the Dodd-Frank Wall Street Reform and Consumer Protection Act, and Item 402(u) of Regulation S-K, we have elected to identify our median employee every three years unless a significant change in employee population or employee compensation arrangements has occurred. Because there has been no change in our employee population or employee compensation arrangements in 2023 that we reasonably believe would result in a significant change to our pay ratio disclosure for 2023, we are using the same median employee identified in 2022 to calculate our 2023 CEO pay ratio. For information regarding the process utilized to identify our median employee, please refer to our proxy statement for the 2022 Annual Meeting of Stockholders. Accordingly, we are providing the following information about the relationship of our CEO's compensation to the compensation of all our employees:

- the annual total compensation of the median employee, as determined in 2023, was \$123,144;
- the annual total compensation of our CEO, Michael P. Plisinski, as reported in the Summary Compensation Table included in this proxy statement, was \$5,646,028; and
- the ratio of the annual total compensation of our CEO to the median employee's annual total compensation was 46 to 1.

This pay ratio is a reasonable estimate calculated in good faith, in a manner consistent with Item 402(u) of Regulation S-K, based on our payroll and employment records and the methodology described below. The SEC rules for identifying the "median employee" and calculating the pay ratio based on that employee's annual total compensation allow companies to adopt a variety of methodologies, to apply certain exclusions, and to make reasonable estimates and assumptions that reflect their compensation practices. As such, the pay ratios reported by other companies may not be comparable to the pay ratio set forth above, as other companies may have different employment and compensation practices and may utilize different methodologies, exclusions, estimates and assumptions in calculating their own pay ratios.

PROPOSAL 3

RATIFICATION OF APPOINTMENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Although ratification by stockholders is not required by law, the Board is submitting the Audit Committee's selection of Ernst & Young LLP ("EY") as the Company's independent registered public accounting firm for fiscal year 2024 for ratification as a matter of good corporate governance and recommends that the stockholders vote for ratification of such appointment. In the event of a negative vote on such ratification, the Board will reconsider its selection. Even if the selection is ratified, the Audit Committee may appoint a new independent registered public accounting firm at any time during the year if the Audit Committee believes that such a change would be in the best interests of the Company and its stockholders. EY has indicated that representatives of EY, the independent registered public accounting firm presented herein, will be in attendance at the Annual Meeting. Such representatives will have the opportunity to make a statement, if they desire to do so, and to respond to appropriate questions.

Independent Registered Public Accounting Firm Selection Process

EY served as the independent registered public accounting firm for Rudolph (the accounting acquirer in the merger with Nanometrics) from 2008 through the Merger Date and has been the Company's independent registered public accounting firm since the Merger Date, serving in this role during fiscal 2023. During this time, the firm has demonstrated:

- A high degree of independence and professionalism in their audit engagement with the Company;
- A solid record of partner and professional staff continuity;
- A knowledge of current and emerging accounting and auditing issues affecting the Company;
- A deep and ongoing understanding of the Company's business model and industry; and
- A readiness to assist the Company and its audit committee in keeping up to date with the latest accounting and auditing pronouncements and their application to the Company's business.

In making its selection of an independent registered public accounting firm, the Audit Committee assesses, among other factors:

- The performance of the independent registered public accounting firm in the prior year;
- The anticipated needs of the Company and ability of the accounting firm to address them in the coming year;
- The proposed fees for the coming year; and
- The potential impact of changing auditors for the coming year.

Ultimately, the selection of the independent registered public accounting firm is made with the best interest of the Company and its stockholders in mind.

Factors Used To Assess Independent Registered Public Accounting Firm Quality

Members of the Audit Committee have experience in dealing with audits of other public companies as well as experience with other accounting firms. After the Merger Date, the Audit Committee's basis for the selection of EY as the Company's independent registered public accounting firm included, among other considerations, familiarity with Rudolph's accounting practices as the accounting acquirer in the 2019 Merger, EY's breadth of services and international footprint as well as expense considerations. On an ongoing basis, EY has been responsive, reliable and professional in their dealings with the Audit Committee and has appropriately assisted the Audit Committee in its oversight of the Company's financial processes and financial statements. In addition, EY makes available to the Company specialists within EY to assist in the audit when consultation on specific and unique issues is warranted. These processes appear to be effective in assisting EY with their audit engagement.

As a part of the Audit Committee’s review of EY’s qualifications, EY provides the Company with the firm-wide comments from the Public Company Accounting Oversight Board (“PCAOB”) regarding PCAOB’s examinations of EY for the prior year. EY also updates the Company with the quality improvements that the firm has made as a result of the PCAOB comments as well as other changes to their quality and risk assessment processes.

Audit Committee’s Involvement In The Lead Partner Selection

In accordance with SEC and PCAOB independence guidelines, EY employs a regular schedule of rotation of both the lead engagement partner (“Lead Partner”) and the concurring partner. Such a regularly scheduled rotation provides for sufficient overlap of the new Lead Partner with the outgoing Lead Partner. This process allows the members of the Audit Committee and Company management to become familiar with the new Lead Partner and new staff and to introduce them to the Company’s business. Prior to the new Lead Partner’s full engagement, the Audit Committee and Company management meet with EY to review and offer feedback on the industry experience, financial acumen and anticipated fit of the new Lead Partner with the Company.

Public Accounting Firm

Pursuant to our Audit Committee charter, our Audit Committee must pre-approve all audit and permissible non-audit services provided by the Company’s independent registered public accounting firm. These services may include audit services, audit-related services, tax and other services. Pre-approval is generally provided for up to one year, and any pre-approval is detailed as to the particular service or category of services and is generally subject to a specific budget. The independent registered public accounting firm and management are required to periodically report to the Audit Committee regarding the extent of services provided by the independent registered public accounting firm in accordance with this pre-approval and the fees for the services performed to date. The Audit Committee may also pre-approve particular services on a case-by-case basis. During fiscal 2023, all services provided by EY to the Company were pre-approved by the Audit Committee in accordance with this policy, and the Audit Committee has concluded that the provision of these services is compatible with the accountants’ independence.

Audit and Non-Audit Fees

The following table sets forth the fees billed for the fiscal year ended December 30, 2023 and the fiscal year ended December 31, 2022 by EY, the Company’s independent registered public accounting firm.

Fees	2023	2022
Audit	\$2,190,000	\$2,025,000
Audit Related	\$48,000	\$45,000
Tax	—	\$45,000
All Other	—	\$5,400
Total	\$2,238,000	\$2,120,400

Audit Fees

Audit fees for the fiscal years ended December 30, 2023 and December 31, 2022 were for the audit of the Company’s annual financial statements including management’s assessment of internal control over financial reporting, the review of the Company’s quarterly financial statements and statutory and regulatory audits, consents, and other services. These fees may include services that are normally provided by the independent registered public accounting firm in connection with regulatory filings or engagements including any comfort letters and consents for financings and filings made with the SEC.

Audit Related Fees

Audit related fees for the fiscal years ended December 30, 2023 and December 31, 2022 were for assurance and related services reasonably related to the performance of the audit or review of the Company's annual financial statements that are not reported under "Audit Fees," and consisted primarily of fees for employee benefit plan audits.

Tax Fees

Tax fees may include fees for tax compliance, tax planning and tax advice. Tax fees for the fiscal year ended December 31, 2022 were for tax advice.

All Other Fees

All other fees would consist of fees for products and services other than the services described above. For the fiscal year ended December 31, 2022, all other fees included payments for an accounting and auditing information tool.

Negotiation of the annual independent registered public accounting firm fees is the responsibility of the Audit Committee with the support of the Company's CFO. All of the EY fees listed in the chart above for fiscal years 2023 and 2022 were pre-approved by the Audit Committee, which concluded that the provision of such services by EY was compatible with the maintenance of that firm's independence in the conduct of its audit functions.

Vote Required

The affirmative vote, in person or by proxy, of a majority of the shares present or represented at the meeting and entitled to vote will be required to ratify the appointment of Ernst & Young LLP as the Company's independent registered public accounting firm for the year ending December 28, 2024.

The Board recommends voting "FOR" the ratification of the appointment of Ernst & Young LLP as the Company's independent registered public accounting firm for the year ending December 28, 2024.

AUDIT COMMITTEE REPORT

The following is the Audit Committee's report submitted to the Board for the fiscal year ended December 30, 2023.

As noted in the Audit Committee's charter, management is responsible for the Company's internal controls and the financial reporting process. The independent registered public accounting firm is responsible for performing an independent audit of the Company's consolidated financial statements in accordance with the standards of the Public Company Accounting Oversight Board (United States) and for issuing a report thereon. Additionally, the independent registered public accounting firm is responsible for performing an independent audit of the Company's internal control over financial reporting and for issuing a report thereon. The Committee's responsibility is to monitor and oversee these processes.

In this context, the Audit Committee of the Board has:

- reviewed and discussed with management and with Ernst & Young LLP, the Company's independent registered public accounting firm, together and separately, the Company's audited consolidated financial statements contained in its Annual Report on Form 10-K for the fiscal year ended December 30, 2023;
- discussed with Ernst & Young LLP the matters required to be discussed by Statement on Auditing Standards No. 1301, Communications with Audit Committees;
- received the written disclosures and the letter from Ernst & Young LLP required by applicable requirements of the Public Company Accounting Oversight Board regarding the independent registered public accounting firm's communications with the Audit Committee concerning independence, and has discussed with Ernst & Young LLP its independence;
- discussed and reviewed with Ernst & Young LLP, with and without management present, the Company's work in complying with the requirements of Section 404 under the Sarbanes-Oxley Act of 2002 regarding internal control over financial reporting; and
- discussed Ernst & Young LLP's audit report on internal controls over financial reporting as of December 30, 2023 with management and Ernst & Young LLP.

Based on the foregoing review and discussions, the Audit Committee recommended to the Board that the audited financial statements be included in the Company's Annual Report on Form 10-K for the fiscal year ended December 30, 2023.

THE AUDIT COMMITTEE

Christine A. Tsingos (Chairperson)
Leo Berlinghieri
Stephen D. Kelley
Susan D. Lynch
Karen Rogge

EXECUTIVE OFFICER BIOGRAPHIES

Set forth below is certain information regarding the executive officers of the Company and their ages as of April 5, 2024. Information relating to Michael P. Plisinski is set forth above under the caption “PROPOSAL 1 - ELECTION OF DIRECTORS.” The individuals listed reflect the Company’s officers designated by the Board as “Executive Officers” for the 2024 fiscal year. The Company is unaware of any arrangements or understandings between the executive officers of the Company and other person(s) pursuant to which an executive officer was or is to be selected, except that Mr. Plisinski was appointed as CEO of the Company pursuant to the Merger Agreement for the 2019 Merger.

Named Executive Officers (NEOs)

Mark R. Slicer	Chief Financial Officer	Age: 53
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- Mr. Slicer has served the Company in his current role since May 2022.
- Prior Experience:
 - September 2019 to May 2022: Senior Vice President and Global Operations Controller at Boston Scientific, a global medical technology manufacturer, where he was responsible for the financial performance of the global manufacturing and distribution network having a production value of approximately \$3 billion.
 - February 2014 to September 2019: Senior Vice President and Corporate Controller, Boston Scientific, in which role he oversaw a team of over 500 finance employees across the globe, managing approximately \$10 billion in revenue.
 - February 2008 to February 2014: Executive roles in finance and internal audit, Boston Scientific.
 - Preceding Mr. Slicer’s tenure at Boston Scientific, he served in various finance and audit roles at General Electric and PricewaterhouseCoopers.
- Mr. Slicer holds a B.S. in Accounting from Providence College and is licensed as a Certified Public Accountant in the Commonwealth of Massachusetts.

Yoon Ah E. Oh	Vice President, General Counsel, and Corporate Secretary	Age: 42
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- Ms. Oh has served the Company in her current role since October 2021.
- Prior Experience:
 - June 2023 to January 2024: Vice President, Interim Global Human Resources, Onto Innovation.
 - June 2020 to September 2021: Associate General Counsel and Corporate Secretary, Analog Devices, Inc., a semiconductor company, where she led the team responsible for corporate, M&A, and securities law matters.
 - June 2018 to May 2020: Vice President, Associate General Counsel and Corporate Secretary, Endo International Plc., a specialty pharmaceutical company, where she was responsible for corporate and securities law matters.
 - May 2017 to June 2018: Vice President, Associate General Counsel, Endo International Plc.
 - September 2015 to April 2017: Senior Counsel, Corporate, Endo International Plc.
 - September 2013 to September 2015: Associate, Dechert LLP, an international law firm.
 - September 2007 to August 2013: Associate, Cahill Gordon & Reindel LLP, an international law firm.
- Ms. Oh holds a B.A. in Political Science from Yale University and a J.D. from Harvard Law School. Ms. Oh is admitted to practice in the States of Pennsylvania and New York.

- Dr. Vedula has served the Company in his current role since September 2021.
- Prior Experience:
 - October 2019 to August 2021: Vice President, Business Development, Metrology Business Unit, Onto Innovation.
 - December 2017 to September 2019: Vice President, Global Sales, Nanometrics.
 - January 2014 to November 2017: General Manager, Optical Metrology Solutions, Nanometrics.
 - January 2009 to December 2013: Director of Marketing and Applications, KLA Corporation, a U.S. semiconductor capital equipment manufacturer.
 - Prior to 2009, Mr. Vedula held additional roles in product marketing and applications engineering over 12 years with KLA Corporation.
- Dr. Vedula holds a Bachelor of Technology degree from the Indian Institute of Technology in Bombay, India and a Ph.D. from the University of Tennessee, both in Chemical Engineering.

- Mr. Yaldae has served the Company in his current role since May 2023.
- Prior Experience:
 - October 2022 to May 2023: Vice President, Global Operations, Metrology and Inspection, Onto Innovation.
 - September 2020 to January 2022: Senior Vice President, Global Supply Chain & Transformation, Visby Medical, a molecular diagnostics company, where he was responsible for supply chain strategy, including commodity management, procurement, sales and operations planning, and supplier quality and engineering.
 - November 2017 to November 2020: President, RYCC, LLC, a consulting company, where he served as an advisory member on the boards of directors of two leading semiconductor companies and acted as an advisor to corporate executives in executing strategic growth plans.
 - September 2005 to November 2017: Vice President & GM, Global Part Sourcing & Technology, Applied Materials, a U.S. semiconductor capital equipment manufacturer, where he was responsible for a supply chain of over \$2.2 billion in materials and managed over 550 employees globally.
 - September 2003 to October 2005: Managing Director, Global Sourcing and Operations, Lam Research, a U.S. semiconductor capital equipment manufacturer, where he was responsible for the global commodities supply chain and managed over 500 employees globally.
- Mr. Yaldae holds a B.S. and an M.S. in physics from San Jose State University.

Other Executive Officers

Robert Fiordalice	Senior Vice President & General Manager, Metrology Business Unit	Age: 61
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- Mr. Fiordalice has served the Company in his current role since January 2022.
- Prior Experience:
 - October 2019 to January 2022: Vice President & General Manager, Wafer Solutions Business Unit, Onto Innovation.
 - August 2017 to October 2019: General Manager, Materials Characterization Group, Nanometrics.
 - October 2013 to July 2017: General Manager, Advanced Packaging, Nanometrics.
 - August 2006 to August 2013: Vice President, Account Technology, Intermolecular, Inc., an advanced materials innovation company.
 - Prior to 2006, Mr. Fiordalice held technology management roles with both KLA Corporation and Motorola Inc, a multinational telecommunications company.
- Mr. Fiordalice holds a B.S. in Genetics from University of California at Berkeley and an M.S. in Physics from Syracuse University.

David Mayson Brooks	Vice President & General Manager, Inspection Business Unit	Age: 64
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- Mr. Brooks has served the Company in his current role since July 2023.
- Prior Experience:
 - May 2022 to July 2023: Vice President, Business Development - Advanced Packaging, Onto Innovation.
 - January 2020 to May 2022: Independent Consultant, during which time Mr. Brooks provided consulting services for semiconductor sales and business analysis for mergers and acquisitions.
 - December 2017 to December 2019: Vice, President, Global Sales & Service, Quantum Global Technologies, LLC (merged with Ultra Clean Holdings, Inc. in 2018), a company that provides outsourced tool cleaning services for the semiconductor industry, where he led the global sales and customer service teams in 10 countries worldwide.
 - July 2015 to December 2017: President, AkroMetrix, LLC, a global supplier of thermal warpage capital equipment to the semiconductor industry, where he led all facets of the company's operations.
 - October 2013 to November 2014: Senior Vice President, Worldwide Sales, Marketing & Field Operations, Rudolph.
 - Prior to October 2013, Mr. Brooks held other management roles at Rudolph for 14 years.
- Mr. Brooks holds a B.S. from the United States Naval Academy and an M.B.A. from the University of North Carolina at Chapel Hill.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS

The following table sets forth certain information with respect to beneficial ownership of the Common Stock as of March 25, 2024 (except as otherwise indicated), by (i) each individual or group known by the Company to own beneficially more than five percent (5%) of the Common Stock; (ii) each of the NEOs; (iii) each of the Company's directors and director nominees; and (iv) all directors, director nominees and executive officers as a group. Except as indicated in the footnotes to this table, the persons named in the table have sole voting and investment power with respect to all shares of Common Stock shown as beneficially owned by them, subject to community property laws where applicable.

Name and Address of Beneficial Owner	Amount and Nature of Beneficial Ownership	Percent of Class ⁽¹⁾
BlackRock, Inc. ⁽²⁾ , 50 Hudson Yards, New York, NY 10001	6,145,448	12.5%
The Vanguard Group ⁽³⁾ , 100 Vanguard Boulevard, Malvern, PA 19355	5,188,815	10.6%
Michael P. Plisinski	201,433	*
Mark R. Slicer	5,312	*
Yoon Ah E. Oh	4,309	*
Srinivas Vedula	15,130	*
Ramil Yaldae	2,802	*
Leo Berlinghieri	19,401	*
Susan D. Lynch ⁽⁴⁾	-	*
Stephen D. Kelley	2,700	*
David B. Miller	9,008	*
Karen M. Rogge	5,150	*
Christopher A. Seams	34,829	*
May Su	4,300	*
Christine A. Tsingos	42,109	*
All directors, director nominees and executive officers as a group (Fifteen (15) persons) ⁽⁵⁾	352,427	*

* Less than 1%

- (1) Applicable percentage ownership is based on 49,201,979 shares of Common Stock outstanding as of March 25, 2024. Beneficial ownership of shares is determined in accordance with the rules of the SEC and generally includes shares as to which a person holds sole or shared voting or investment power. Shares of Common Stock subject to RSUs which will vest within sixty (60) days of March 25, 2024 are deemed to be beneficially owned by the person holding such RSUs for the purpose of computing the percentage ownership of such person but are not treated as outstanding for the purpose of computing the percentage ownership of any other person. Unless otherwise noted, the address for the executive officers and directors named in this table is c/o Onto Innovation Inc., 16 Jonspin Road, Wilmington, Massachusetts 01887.
- (2) Information provided herein is based on the Schedule 13G/A that was filed by BlackRock, Inc. on January 23, 2024, which reported that BlackRock, Inc. had sole voting power over 6,061,549 shares, shared voting power over zero shares, sole dispositive power over 6,145,448 shares and shared dispositive power over zero shares.
- (3) Information provided herein is based on the Schedule 13G/A that was filed by The Vanguard Group on February 13, 2024, which reported that The Vanguard Group had sole voting power over zero shares, shared voting power over 82,524 shares, sole dispositive power over 5,054,083 shares and shared dispositive power over 134,732 shares.
- (4) Ms. Lynch did not become a Company director until March 15, 2024.

- (5) Includes 23,214 shares subject to restricted stock units vesting within 60 days of March 25, 2024 for all directors, director nominees, and executive officers as a group.

EQUITY COMPENSATION PLAN INFORMATION

The following table sets forth, as of December 30, 2023, certain information related to our equity compensation plans.

Plan Category	(A)	(B)	(C)
	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants, and Rights ⁽¹⁾	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights	Number of Securities Remaining Available For Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected In Column (A)) ⁽²⁾
Equity compensation plans approved by security holders	583,876	—	3,892,182
Equity compensation plans not approved by security holders	n/a	n/a	n/a
Total	583,876	—	3,892,182

(1) Includes 583,876 shares issuable upon vesting of outstanding restricted stock units under the Onto Innovation Inc. 2020 Stock Plan and the Rudolph Technologies, Inc. 2018 Stock Plan.

(2) As of December 30, 2023, 2,867,573 shares were available under the 2020 Stock Plan and 1,024,609 shares were available under the ESPP.

OTHER MATTERS

The Company knows of no other matters to be submitted for consideration at the Annual Meeting. If any other matters properly come before the Annual Meeting, it is the intention of the persons acting as proxies to vote the shares they represent as the Board may recommend.

QUESTIONS AND ANSWERS ABOUT THE ANNUAL MEETING

What Is The Purpose Of The Annual Meeting?

At the Annual Meeting, stockholders will be asked to vote upon the matters set forth in the accompanying Notice of Annual Meeting, including:

- the election of eight directors;
- an advisory vote to approve named executive officer compensation; and
- the ratification of the appointment of our independent registered public accounting firm for fiscal 2024,

all of which are more fully described herein.

Will Other Matters Be Voted On At The Annual Meeting?

We are not currently aware of any matters to be presented at the Annual Meeting other than those described in this proxy statement. If any other matters not described in the proxy statement are properly presented at the meeting, any proxies received by us will be voted in the discretion of the proxy holders.

Who Is Entitled To Vote?

If you were a stockholder of record as of the close of business on March 25, 2024, which is referred to in this proxy statement as the “record date,” you are entitled to receive notice of the Annual Meeting and to vote the shares of Common Stock that you held as of the close of business on the record date. Each stockholder is entitled to one vote for each share of Common Stock held by such stockholder on the record date.

May I Attend The Meeting?

All stockholders of record as of the record date may attend the Annual Meeting, which will be held at the Company’s offices located at 1550 Buckeye Drive, Milpitas, CA 95035. To obtain directions to attend the Annual Meeting and vote in person, please visit our website (www.ontoinnovation.com), and click on “Company,” then “Locations,” and then “California” to access the interactive map. As always, we encourage you to vote your shares prior to the Annual Meeting.

What is Required To Be Admitted To The Annual Meeting?

If you have a stock certificate or hold shares in an account with our transfer agent, you are considered the “stockholder of record” with respect to those shares. If you are a stockholder of record, you will need valid picture identification and proof that you are a stockholder of record of the Company as of the record date to gain admission to the Annual Meeting.

If you are a beneficial holder, you will be required to present a valid picture identification and proof from your bank, broker or other record holder of your shares that you are the beneficial owner of such shares to gain admission to the Annual Meeting. If you are a beneficial holder and wish to vote your shares at the meeting, you will need a legal proxy from your bank, broker or other record holder of your shares.

All attendees will be expected to comply with any health and safety protocols in effect at the Company’s facility at the time of the Annual Meeting.

What Constitutes A Quorum?

The required quorum for the transaction of business at the Annual Meeting is a majority of the issued and outstanding shares of Common Stock, present in person or by proxy and entitled to vote at the Annual Meeting. On the record date, 49,201,979 shares of the Common Stock were issued and outstanding, each entitled to one vote on each matter to be acted upon at the Annual Meeting. Your shares will be counted towards the quorum only if you submit a valid proxy (or one is submitted on your behalf by your broker, bank or other nominee) or if you vote in person at the meeting. Abstentions and broker non-votes will be counted to determine whether there is a quorum present. If a quorum is not present, the Annual Meeting may be adjourned or postponed to a later date.

What Are “Broker Non-Votes”?

A broker non-vote occurs when a bank, broker or other registered holder of record holds shares for a beneficial owner but is not empowered to vote on a particular proposal on behalf of such beneficial owner because the proposal is considered “non-routine” and the beneficial owner has not provided voting instructions on that proposal. The election of directors and the advisory vote to approve named executive officer compensation are treated as “non-routine” proposals. This means that if a brokerage firm holds your shares on your behalf, those shares will not be voted with respect to any of these proposals unless you provide instructions to that firm. See below under “What Is the Vote Required for Election of Directors?” and “What Is the Vote Required for the Approval of Proposals Other Than Director Elections?” for a discussion of the impact of broker non-votes on each of the proposals that will be presented at the Annual Meeting. In order to ensure that any shares held on your behalf by a bank, broker or other registered holder of record are voted in accordance with your wishes, we encourage you to provide instructions to that firm or organization in accordance with the Notice or voting instruction form provided by the broker, bank or other registered holder or to contact your broker, bank or other registered holder to request a proxy form.

Who Bears The Cost Of Soliciting Proxies?

The Company will bear the cost of soliciting proxies. In addition, the Company may reimburse brokerage firms and other persons representing beneficial owners of shares for their expenses in forwarding solicitation material to such beneficial owners. Solicitation of proxies by mail may be supplemented by telephone, facsimile, e-mail or other electronic means or personal solicitation by directors, officers or regular employees of the Company. No additional compensation will be paid to such persons for such services.

Why Did I Receive A “Notice Of Internet Availability Of Proxy Materials” But No Proxy Materials?

We are distributing the Company’s proxy materials to stockholders of record via the Internet in accordance with the “Notice and Access” approach permitted by rules of the SEC. This approach benefits the environment, while providing a timely and convenient method of accessing the materials and voting. Accordingly, we have sent you a Notice because the Board of the Company is soliciting your proxy to vote at the 2024 Annual Meeting of Stockholders, including at any adjournments or postponements of the meeting. On or about April 5, 2024, the Company will begin mailing the Notice to all stockholders of record entitled to vote at the Annual Meeting. All stockholders will have the ability to access the proxy materials on the website referred to in the Notice or request to receive a printed set of the proxy materials. Instructions on how to access the proxy materials over the Internet or to request a printed copy of the proxy materials and the Company’s 2023 Annual Report may be found in the Notice.

What Does It Mean If I Received More Than One Notice?

If you receive more than one Notice, your shares may be registered in more than one name or in different accounts. Please follow the voting instructions on each of the Notices to ensure that all of your shares are voted.

How Do I Go About Voting?

You may vote “For” or “Against” each of the director nominees or you may “Abstain” from voting with respect to any nominee. For each of the other matters to be voted on, you may vote “For” or “Against” or “Abstain” from voting.

Voting For Shares Registered Directly In The Name Of The Stockholder

If you are a stockholder of record with shares registered in your name, you can vote by one of the following methods:

- **In Person** - To vote in person, come to the Annual Meeting and you will receive a ballot when you arrive. You will be required to show valid picture identification and proof that you are a stockholder of record of the Company as of the record date to be admitted to the Annual Meeting.
- **Via the Internet** - To submit your proxy by Internet, go to www.proxyvote.com and follow the instructions on the secure website. The deadline for proxy submission via the Internet is 11:59 p.m. (ET) on May 21, 2024.
- **Via Telephone** - To submit your proxy by telephone, call toll free 1-800-690-6903 within the United States, US territories and Canada. The deadline for voting by phone is 11:59 p.m. (ET) on May 21, 2024.

- **By Mail** – Stockholders who receive a paper proxy card may complete, sign and date their proxy card and mail it in the pre-addressed postage-paid envelope that accompanies the proxy card. Proxy cards submitted by mail must be received prior to the time of the Annual Meeting in order for your shares to be voted.

Even if you plan to attend the Annual Meeting, we recommend that you submit your proxy in advance so that your shares are represented at the Annual Meeting in the event you are unable to attend the meeting. Each stockholder of record is entitled to one vote for each share of Common Stock owned by such stockholder on all matters presented at the Annual Meeting. Stockholders do not have the right to cumulate their votes in the election of directors.

If you return a signed and dated proxy card but do not indicate how the shares are to be voted, those shares will be voted in accordance with Onto Innovation's Board's recommendations. A valid proxy card also authorizes the individuals named therein as proxies to vote your shares in their discretion on any other matters, which, although not described in the proxy statement, are properly presented for action at the Annual Meeting. If you indicate on your proxy card that you wish to "abstain" from voting on an item, your shares will not be voted on that item.

While Internet proxy voting is being provided to allow you to submit your proxy online, with procedures designed to ensure the authenticity and correctness of your proxy vote instructions, please be aware that you must bear any costs associated with your Internet access, such as usage charges from Internet access providers and telephone companies.

Voting By Proxy For Shares Registered In Street Name

If your shares are held in a stock brokerage account or by a bank or other holder of record, you are considered the "beneficial owner" of shares held in "street name." As the beneficial owner, you have the right to direct your broker, bank or other holder of record on how to vote your shares by submitting voting instructions to such person in accordance with the directions that the entity provides. In the event you are considered the "beneficial owner" of shares held in "street name" and you wish to vote in person at the Annual Meeting, you must obtain a legal proxy from your broker, bank or another agent. Your vote also authorizes the person(s) acting as your proxy to vote your shares in their discretion. Follow the instructions from your broker or bank included with these proxy materials or contact your broker or bank to request a legal proxy.

May I Revoke My Proxy Or My Voting Instructions?

If you are a stockholder of record, you may revoke your proxy or change your vote after submitting your proxy at any time before the polls close at the Annual Meeting by doing any of the following:

- By delivering a written notice of revocation or a duly executed proxy card bearing a later date to the Corporate Secretary of the Company at the Company's principal executive offices prior to the Annual Meeting;
- By submitting a timely and valid later proxy online at www.proxyvote.com;
- By submitting a timely and valid later proxy by telephone call to 1-800-690-6903 within the USA, US territories and Canada; or
- By attending the Annual Meeting and voting in person.

If you are a beneficial owner of shares, please contact your bank, broker or other holder of record for specific instructions on how to change or revoke your voting instructions.

What Happens If I Do Not Vote?

Stockholder Of Record: Shares Registered In Your Name

If you are a stockholder of record and do not submit a proxy by mail, telephone, or the Internet or by attending the Annual Meeting and voting in person, your shares will not be voted.

Beneficial Owner: Shares Registered In The Name Of Broker Or Bank

If you are a beneficial owner and do not instruct your broker, bank, or other agent how to vote your shares, the question of whether your broker or nominee will still be able to vote your shares depends on whether the NYSE deems the particular proposal to be a "routine" matter. Brokers and nominees can use their discretion to vote "uninstructed" shares

with respect to matters that are considered to be “routine,” but not with respect to “non-routine” matters. Under the rules and interpretations of the NYSE, “non-routine” matters are matters that may substantially affect the rights or privileges of stockholders, such as mergers, stockholder proposals, elections of directors (even if not contested), executive officer compensation (including any advisory stockholder votes on executive officer compensation and on the frequency of stockholder advisory votes on named executive officer compensation), and certain corporate governance proposals, even if management supported. Accordingly, your broker or nominee may not vote your shares on the election of directors or the advisory proposal to approve the named executive officer compensation without your instructions, but may vote your shares on the proposal to ratify the appointment of Ernst & Young LLP as the Company’s independent registered public accounting firm for the fiscal year ending December 28, 2024 even in the absence of your instruction.

What If I Return A Proxy Card Or Otherwise Submit a Proxy But Do Not Make Specific Choices?

If you return a signed and dated proxy card or otherwise submit a proxy without marking voting selections, your shares will be voted, as applicable, “For” the election of all eight nominees for director, “For” the advisory approval of the named executive officer compensation, and “For” the ratification of the appointment of Ernst & Young, LLP as the independent registered public accounting firm of the Company for its fiscal year ending December 28, 2024. If any other matter is properly presented at the meeting, your proxyholder will vote your shares using his or her best judgment.

What Is The Vote Required For Election Of Directors?

For the election of directors, each director is elected by a majority of the votes cast (except that if the number of nominees exceeds the number of directors to be elected, directors will be elected by a plurality voting standard). This means that for a director nominee to be elected to our Board, the number of votes cast “for” a director’s election must exceed the number of votes cast “against” that director’s election (with “abstentions” and “broker non-votes” not counted as a vote cast either “for” or “against” that director’s election, although abstentions and broker non-votes count for the purpose of determining a quorum). Our Bylaws provide for election of directors by a majority of votes cast in uncontested elections, and our Corporate Governance Guidelines provides that any incumbent director nominee in an uncontested election who does not receive an affirmative majority of votes cast must promptly tender such director’s resignation to our Board. Further information regarding the process that will be followed if such an event occurs can be located under the heading “Proposal 1 - Election of Directors.”

What Is The Vote Required For The Approval Of Proposals Other Than Director Elections?

The proposal to approve, on an advisory basis, the compensation of our named executive officers and the proposal to ratify the appointment of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 28, 2024 each requires the affirmative vote, in person or by proxy, of a majority of the shares present in person or represented by proxy at the meeting and entitled to vote on the matter to be approved. For each of these two proposals, abstentions in effect count as negative votes, because they are shares represented in person or by proxy that are entitled to vote on the matter and not voted in the affirmative. Broker non-votes are not counted as part of the vote total (because they are not considered “entitled to vote” on the matter) and have no effect on the outcome.

What Is Householding?

The Company has adopted a procedure approved by the SEC called “householding.” Under this procedure, when multiple stockholders of record share the same address, we may deliver only one (1) Notice or set of householding materials to that address unless we have received contrary instructions from one or more of those stockholders. The same procedure may be followed by brokers and other nominees holding shares of our stock in “street name” for more than one beneficial owner with the same address.

If a stockholder holds shares of stock in multiple accounts (e.g., with our transfer agent and/or banks, brokers or other registered stockholders), we may be unable to use the householding procedures and, therefore, that stockholder may receive multiple copies of the Notice. You should follow the instructions on each Notice that you receive in order to vote the shares you hold in different accounts.

A stockholder that shares an address with another stockholder if such household has received only one Notice, may write or call us as specified below:

- To request a separate copy of such materials, which will be promptly mailed without charge; and
- To request that separate copies of these materials be sent to his or her home for future meetings.

Conversely, a stockholder of record who shares the same address with another stockholder of record may write or call us as specified below to request that a single set of proxy materials be delivered to that address. Such stockholder requests may be made to our Investor Relations Department either via phone at 978-253-6200 or by mail directed to:

Onto Innovation Inc.
Attention: Investor Relations
16 Jonspin Road
Wilmington, Massachusetts 01887

If you are a beneficial owner of shares held in street name, please contact your bank, broker or other holder of record regarding such requests.

How Can I Find Out the Results Of The Voting At The Annual Meeting?

Preliminary voting results will be announced at the Annual Meeting. Final voting results will be published in a Current Report on Form 8-K that we expect to file within four business days after the Annual Meeting. If final voting results are not available to us in time to file a Form 8-K within four business days after the meeting, we intend to file a Form 8-K to publish preliminary results and, within four business days after the final results are known to us, file an additional Form 8-K to publish the final results.

What Are The Deadlines For Submission Of Stockholder Proposals For The 2025 Annual Meeting?

Stockholders of the Company are entitled to present proposals for consideration at forthcoming stockholder meetings provided that they comply with the proxy rules promulgated by the SEC, if applicable, and the Bylaws of the Company. Stockholders wishing to present a proposal at the Company's 2025 Annual Meeting of Stockholders must submit such proposal in writing to the Corporate Secretary at Onto Innovation Inc., 16 Jonspin Road, Wilmington, Massachusetts 01887 no later than December 6, 2024 in accordance with Rule 14a-8 under the Exchange Act, if they wish for it to be eligible for inclusion in the proxy statement and form of proxy relating to that meeting. In addition, under the Company's Bylaws, a stockholder wishing to nominate a director or make a proposal at the 2025 Annual Meeting of Stockholders outside of Exchange Act Rule 14a-8 must submit such nomination or proposal in writing to the Corporate Secretary at the above address no earlier than January 22, 2025 and no later than February 21, 2025. In addition, to comply with the universal proxy, stockholders who intend to solicit proxies in support of director nominees other than the Company nominees in connection with the 2025 Annual Meeting of Stockholders must provide notice that sets forth the information required by Rule 14a-19 under the Exchange Act, postmarked or submitted electronically to the Company at its principal executive office no later than March 24, 2025.

The Nominating & Governance Committee will also consider qualified director nominees recommended by stockholders. Our process for receiving and evaluating Board member nominations from our stockholders is described above under the caption "Consideration Of Director Nominees."

You are also advised to review the Company's Bylaws, which contain additional requirements about advance notice of stockholder proposals and director nominations.

ADDITIONAL INFORMATION

Stockholders may obtain a copy of the Company's Annual Report on Form 10-K for the fiscal year ended December 30, 2023, including financial statements and schedules included in the Annual Report on Form 10-K, without charge, by visiting the Company's website at <https://investors.ontoinnovation.com/> or by writing to:

Onto Innovation Inc.
Attention: Investor Relations
16 Jonspin Road
Wilmington, Massachusetts 01887

Upon written request to the Company, at the above address for Investor Relations, the exhibits set forth on the exhibit index of the Company's Annual Report on Form 10-K will be made available at reasonable charge (which will be limited to our reasonable expenses in furnishing such exhibits).

BY ORDER OF THE BOARD OF DIRECTORS

Yoon Ah E. Oh
Corporate Secretary

Dated: April 5, 2024

Board of Directors

Christopher A. Seams

Chairman of the Board
Former Chief Executive Officer
Deca Technologies

Leo Berlinghieri

Former Chief Executive Officer and President
MKS Instruments, Inc.

Stephen D. Kelley

President and Chief Executive Officer
Advanced Energy Industries, Inc.

Susan D. Lynch

Former Senior Vice President and Chief
Financial Officer
V2X, Inc.

David B. Miller

Former President
DuPont Electronics & Communications

Michael P. Plisinski

Chief Executive Officer

Karen M. Rogge

Founder and President
RYN Group LLC

May Su

Former Chief Executive Officer
Kateeva, Inc.

Christine A. Tsingos

Former Executive Vice President and Chief
Financial Officer
Bio-Rad Laboratories

Executive Officers

Michael P. Plisinski

Chief Executive Officer

Mark R. Slicer

Chief Financial Officer

Ramil Yaldaeï

Chief Operating Officer

Robert Fiordalice

Senior Vice President and General Manager,
Metrology Business Unit

Mayson Brooks

Vice President and General Manager,
Inspection Business Unit

Srinivas Vedula

Senior Vice President, Customer Success

Yoon Ah Oh

Vice President,
General Counsel and Corporate Secretary



NYSE
ONTO

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ontoinnovation.com