



2024
Annual Report

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2024

OR

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

For the transition period from __ to __

Commission file number 001-41979

Astera Labs, Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

82-3437062

(I.R.S. Employer Identification No.)

2901 Tasman Drive, Suite 205, Santa Clara, CA 95054

(Address of Principal Executive Offices) (Zip Code)

(408) 766-3806

(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value \$0.0001 per share	ALAB	Nasdaq Global Select Market

Securities Registered Pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 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 (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

Yes ☒ No ☐

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

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input checked="" 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 common stock held by non-affiliates of the registrant, based on the closing price of \$60.50 per share of the registrant's common stock on June 28, 2024, the last business day of the registrant's most recently completed second fiscal quarter, as reported by the Nasdaq Stock Market LLC on such date, was \$6.6 billion.

On January 31, 2025, there were 162,153,472 shares of the Registrant's Common Stock, \$0.0001 par value, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of Part III of this Form 10-K are incorporated by reference from the registrant's definitive proxy statement for its 2025 annual meeting of shareholders, which will be filed with the Securities and Exchange Commission within 120 days after the end of the fiscal year covered by this Form 10-K. Except with respect to information specifically incorporated by reference in this Form 10-K, the proxy statement is not deemed to be filed as part of this Form 10-K.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements within the meaning of the federal securities laws, which are statements that involve substantial risks and uncertainties. Forward-looking statements generally relate to future events or our future financial or operating performance. All statements other than statements of historical fact included in this Annual Report on Form 10-K, including statements regarding our strategy, future operations, financial position, estimated revenues and losses, projected costs, prospects, plans and objectives of management are forward-looking statements. In some cases, you can identify forward-looking statements because they contain words such as “will,” “shall,” “should,” “expects,” “plans,” “anticipates,” “could,” “intends,” “target,” “projects,” “contemplates,” “believes,” “estimates,” “predicts,” “potential,” or “continue” or the negative of these words or other similar terms or expressions that concern our expectations, strategy, plans or intentions. When considering forward-looking statements, you should keep in mind the risk factors and other cautionary statements described under the heading “Risk Factors” included in this Annual Report on Form 10-K. Forward-looking statements contained in this Annual Report on Form 10-K include, but are not limited to, statements about:

- our expectations regarding our revenue, expenses, and other operating results;
- our ability to acquire new customers and grow our customer base;
- our ability to successfully retain existing customers and expand sales within our existing customer base;
- launching new products, adding new product capabilities and the market potential of those products and capabilities;
- future investments in developing and enhancing our business;
- our expectations regarding our ability to expand;
- our anticipated capital expenditures and our estimates regarding our capital requirements;
- the estimated size of our overall market opportunity;
- investments in our selling and marketing efforts;
- our ability to compete effectively with existing competitors and new market entrants;
- our reliance on our senior management team and our ability to identify, recruit, and retain skilled personnel;
- our ability to effectively manage our growth;
- economic and industry trends and other macroeconomic factors, such as fluctuating interest rates and inflation; and
- the impact of global pandemics, health crises, political conflicts and other global financial, economic, and political events on our industry, business, and results of operations.

We caution you that the foregoing list may not contain all of the forward-looking statements made in this Annual Report on Form 10-K. You should not rely upon forward-looking statements as predictions of future events.

We have based the forward-looking statements contained in this Annual Report on Form 10-K primarily on management’s current beliefs and our current expectations and projections about future events and trends that we believe may affect our business, results of operations, financial condition, and prospects. The outcome of the events described in these forward-looking statements is subject to risks, uncertainties, and other factors described in the section titled “Risk Factors” and elsewhere in this Annual Report on Form 10-K. Moreover, we operate in a very competitive and rapidly changing environment. New risks and uncertainties emerge from time to time, and it is not possible for us to predict all risks and uncertainties that could have an impact on the forward-looking statements contained in this Annual Report on Form 10-K. The results, events, and circumstances reflected in the forward-looking statements may not be achieved or occur, and actual results, events, or circumstances could differ materially from those described in the forward-looking statements.

The forward-looking statements made in this Annual Report on Form 10-K relate only to events as of the date on which the statements are made. We undertake no obligation to update any forward-looking statements made in this Annual Report on Form 10-K to reflect events or circumstances after the date of this Annual Report on Form 10-K or to reflect new information or the occurrence of unanticipated events, except as required by law. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our

forward-looking statements. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make. Although we undertake no obligation to revise or update any forward-looking statements, whether as a result of new information, future events or otherwise, you are advised to consult any additional disclosures that we may make directly to you or through documents that we, in the future, may file with the SEC.

In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this Annual Report on Form 10-K, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and you are cautioned not to unduly rely upon these statements.

In this document, unless otherwise indicated or unless the context requires otherwise, all references in this document to “Astera Labs”, “the Company”, “we”, “us”, “our”, or similar references are to Astera Labs, Inc. and its consolidated subsidiaries.

Part I

Item 1. Business

Overview

Our mission is to innovate, design, and deliver semiconductor-based connectivity solutions that are purpose-built to unleash the full potential of cloud and AI infrastructure.

Building on years of experience with a singular focus on addressing connectivity challenges in data-centric systems, we have developed and deployed our leading Intelligent Connectivity Platform built from the ground up for cloud and AI infrastructure. Our Intelligent Connectivity Platform comprises of Semiconductor-based, high-speed, mixed-signal connectivity products that integrate a matrix of microcontrollers and sensors, and COSMOS, our software suite, which is embedded in our connectivity products and integrated into our customers' systems.

Our Intelligent Connectivity Platform provides our customers with the ability to deploy and operate high-performance cloud and AI infrastructure at scale, addressing an increasingly diverse set of requirements. We provide our connectivity products in various form factors including Integrated Circuits ("ICs"), boards, and modules. Our patented software-defined platform approach delivers critical connectivity performance, enable flexibility and customization, and support observability and predictive analytics. This approach aims to efficiently address the data, network, and memory bottlenecks, scalability, and other unique infrastructure requirements of our hyperscaler and system OEM customers.

Based on trusted relationships with the leading hyperscalers and collaboration with data center infrastructure suppliers, our platform is designed to meet our customers' unique cloud scale requirements. Our COSMOS software suite is foundational to our Intelligent Connectivity Platform and is designed to enable our customers to seamlessly configure, manage, monitor, optimize, troubleshoot, and customize functions in our IC, board, and module products.

Today, our connectivity solutions are at the heart of major AI platforms deployed worldwide featuring both commercially available Graphic processing Units ("GPUs") and proprietary AI accelerators. We offer our customers four product families across multiple form factors including ICs, boards, and modules, shipping millions of devices across all of the major hyperscalers. Our products, which include Aries PCIe®/CXL® Smart DSP Retimers, Aries PCIe®/CXL® Smart Cable Modules™, Taurus Ethernet Smart Cable Modules™, Leo CXL Memory Connectivity Controllers, and Scorpio Smart Fabric Switches are built upon industry standard connectivity protocols such as peripherals Component Interconnect Express ("PCIe"), Ethernet, and Computer Express Link ("CXL") to address the growing demand for purpose-built connectivity solutions that solve critical data, network, and memory bottlenecks inherent in cloud and AI infrastructure.

Industry Overview

Astera Labs is a global semiconductor company which provides hardware and software solutions for AI and cloud infrastructure applications to solve data, memory, and networking bottlenecks. We believe we are well-positioned to benefit from the AI and cloud infrastructures positive trends by addressing the industry's next generation of connectivity challenges driven by increasing speed requirements and system complexity. Several of these trends and challenges include the rapid global adoption of cloud computing which has led to increasing demand for compute-intensive AI workloads that are truly optimized only when deployed at cloud scale; increasing use of AI and increasingly larger and more complex AI workloads; and the need for purpose-built connectivity solutions that connect GPUs and other AI accelerators with each other directly or between servers to unleash AI accelerators' full potential at cloud scale and solve critical data, network, and memory bottlenecks.

Our Products and Solutions

In the last five years, we have successfully introduced four revenue-generating product families across multiple form factors including ICs, boards, and modules that are built upon our software-defined IC architecture. Additionally, we have developed a software suite which is embedded in our connectivity products and integrated into our customers' systems.

Aries PCIe®/CXL® Smart DSP Retimers and Aries PCIe®/CXL® Smart Cable Modules™. Our Aries products, which include our COSMOS software suite, are essential to enable higher PCIe/CXL data bandwidth and lower latency interconnectivity between various heterogeneous compute processors, storage, and network controllers. Aries digitally recovers degraded high-speed signals and retransmits a clean copy of the data, thereby extending the reach of existing cost-effective interconnects, while enabling higher data bandwidth. Aries Smart Cable Modules are highly integrated systems consisting of the Aries PCIe Smart Retimer integrated circuit (IC) and peripheral components assembled on multiple form factors. The paddle card module is designed to be integrated into active electrical cable (AEC) assemblies supporting a variety of applications, such as straight cables and breakout cables.

Taurus Ethernet Smart Cable Modules™. Our Taurus products are hardware modules based on our Taurus ICs that increase network connectivity bandwidth between servers and switches over copper media. Taurus modules incorporate our COSMOS software suite and extend Ethernet signaling reach at higher data rates, providing cost-effective, rack-level network connectivity for cloud and AI infrastructure, removing rack-level Ethernet connectivity bottlenecks.

Leo CXL Memory Connectivity Controllers. Our Leo products allow our customers to overcome processor memory bandwidth bottlenecks and capacity limitations, while leveraging our COSMOS software suite's built-in memory management and deep diagnostic capabilities. Leo ICs and boards enable expanding, sharing, and pooling of industry standard DRAM memory over high-speed serial links to support memory-intensive workloads running on AI accelerators and CPUs.

Scorpio Smart Fabric Switches. Our Scorpio products are purpose-built to enable our hyperscaler customers to deploy AI platforms at rapid pace and scale by improving energy efficiency, optimizing performance per watt, increasing AI accelerator utilization, reducing time to market, and maximizing uptime with our COSMOS software suite. Scorpio P-Series for PCIe Gen 6.0 connectivity is architected to support mixed traffic head-node connectivity across a diverse ecosystem of PCIe hosts and endpoints. Scorpio X-Series for GPU clustering is designed to deliver back-end GPU-to-GPU bandwidth with platform specific customization.

COSMOS Software Suite. Our COSMOS software suite is foundational to our Intelligent Connectivity Platform. COSMOS is designed to enable our hyperscaler customers to seamlessly configure, manage, monitor, optimize, troubleshoot, and customize functions in our IC, board, and module products. COSMOS has a software component that operates on our customers' operating systems, and interfaces with other COSMOS software components running on microcontrollers integrated into our ICs, boards, and modules.

Our software suite provides three distinct capabilities to our customers which include Link Management, Fleet Management, and Reliability, Availability, Serviceability ("RAS").

Ecosystem and Customers

Our customers include major hyperscalers, leading AI accelerator vendors (including GPU vendors), and system OEMs. We collaborate closely with our customers' manufacturing and design partners, our ecosystem partners, and, importantly, directly with our customers. For instance, we have developed multiple reference and/or commercial designs with different processor vendors.

We engage with our customers and data center infrastructure suppliers through our Interop Lab, where industry participants work together to establish compatibility, and stress-test products early in their product development process and prior to large-scale deployments. These tests validate performance and interoperability between our connectivity products and other data center infrastructure suppliers' products in real-world scenarios to minimize interoperation risk, reduce system development costs, lower unplanned downtime, and accelerate time-to-market. We enhance the value of our platform with our Interop Lab and by providing early interoperability reports with other data center infrastructure suppliers.

We sell our products directly to our customers and through distributors. Our distributors are primarily focused on fulfillment and logistical purposes, rather than selling, marketing, or providing technical support for our products. Our customers are closely involved in the design and often dictate the sourcing decisions for the systems that incorporate our products. They often engage third party contract manufacturers and design partners to manufacture their systems.

Our customers is defined as our end customers, our end customers' manufacturing partners, and our distributors. When the context requires, we may use "end customers," which are primarily hyperscalers and System OEMs, to distinguish from our end customers' manufacturing partners and our distributors. When used in our audited consolidated financial statements included in Part II, Item 8 of this Annual Report, "customers" refers to parties we directly invoice for products or services, which primarily include our end customers' manufacturing partners and our distributors.

Sales and Marketing

Our sales and marketing strategy is to maintain a deep understanding of our customers' needs and to design products that are specifically tailored to each customer's unique requirements. Our deep market knowledge, successful execution track record, and customer trust allow us to identify opportunities for new product design wins as well as for our product roadmap.

We focus our sales and marketing efforts on hyperscalers, leading AI accelerator vendors, and system OEMs. The universe of available end customers in our industry is small and concentrated, and as a result, it is very important to our success that we maintain strong and collaborative relationships with the end customers in our industry. For example, in

2024, our top three end customers represented an aggregate of approximately 80% of our revenue. Our arrangements with our customers are typically effected via purchase orders for specific products. These purchase orders dictate the material terms of the arrangement, such as purchase price, purchase quantity, delivery date, and delivery destination.

We primarily sell our products to distributors and our end customers' manufacturing partners, whom are primarily located in North America and Asia. Once sold, our products are typically incorporated into hyperscaler, leading AI accelerator vendor, and OEM systems. These systems are deployed in data center infrastructure around the world. Because of the global deployment of our products, we maintain a field applications engineering ("FAE") team, which provides customers with on-site technical resources as required. Our FAE teams are located near customer research and development sites in North America, Asia, and Israel. Our field teams are internally supported by product applications engineers, marketing, and business development teams in North America, Asia, and Israel.

Manufacturing and Suppliers

We use third parties to manufacture our products which include ICs, boards, and modules. The manufacturing process is subject to extensive testing and verification. We use a fabless manufacturing model and partner with TSMC to fabricate all of our ICs. We use Advanced Semiconductor Engineering and Amkor Technologies to assemble, package, and test our ICs. We also rely on a small, limited number of other manufacturing partners for our modules, boards, and IC substrates.

We are committed to supplying the highest quality devices to meet the most stringent demands of the world's largest hyperscalers. As a result, our supply chain is optimized for quality and for rapid high-volume increases in production.

It is important that our products meet and exceed the Joint Electron Device Engineering Council ("JEDEC") specifications that define the methodology for reliability testing and qualification of electrical components. Our quality management includes high production test coverage and full product traceability. We have a dedicated quality team which allows us to continuously monitor our customers' feedback and improve our product quality by incorporating that feedback into our designs. Our partners and suppliers are committed to complying with Registration, Evaluation, Authorization, and Restriction of Chemicals ("REACH"), Restriction of Hazardous Substances Directive ("RoHS"), and industry standards. We are focused on sourcing components and materials that lessen our environmental footprint.

Research and Development

We believe our cloud-based approach to research and development is a valuable competitive strength. We use the cloud to both design new products and improve upon existing products. By harnessing the scale of cloud computing, we accelerate the speed of our research and development efforts, which in turn allows us to get to market faster and more efficiently. We partner with Electronic Design Automation ("EDA") tool providers to run physical design and development flows in the cloud. With this approach, we can quickly simulate thousands of regressions in parallel with the most up to date and high-performance servers. This enables us to significantly increase our design verification iterations, leading to high quality tapeouts and an overall expedited development schedule.

Our research and development efforts focus on connectivity infrastructure for high-performance data center applications. We have committed, and intend to continue to commit, significant financial and other resources to technology and product innovation and development. We invest heavily in a global team of highly skilled engineers, with dedicated research and development offices in United States, Canada, India, and Israel.

Intellectual Property

Our commercial success depends in part on our ability to obtain and maintain intellectual property protection for our brand, products and technology, defend and enforce our intellectual property rights, preserve the confidentiality of our trade secrets, operate our business without infringing, misappropriating, or otherwise violating the intellectual property or proprietary rights of third parties and prevent third parties from infringing, misappropriating, or otherwise violating our intellectual property rights. We rely on a combination of intellectual property rights, including patents, copyrights, trademarks, trade secrets, and contractual protections, to protect our core technology.

As of December 31, 2024, we owned 18 issued patents and 28 pending patent applications in the United States, and four pending foreign patent applications. Our issued patents and pending patent applications generally relate to interconnect and memory control technology, and printed circuit board and package designs. These issued patents, and any patents granted from our pending patent applications, are expected to expire between 2039 and 2043, without taking potential patent term extensions or adjustments into account. We routinely review our development efforts to assess the existence and patentability of new inventions.

Moreover, we rely, in part, on trade secrets to protect aspects of our business that are not amenable to, or that we do not consider appropriate for, patent protection. However, trade secrets can be difficult to protect. While we take

commercially reasonable steps to protect and maintain our trade secrets, including by entering into confidentiality agreements with our employees, consultants, and contractors and by maintaining physical security of our premises and physical and electronic security of our information technology systems, such measures may not prove to be adequate and there may not be any available remedies. In addition, our trade secrets may otherwise become known or be independently discovered by competitors or others.

We also protect our brand through common law trademark protections and trademark registrations. As of December 31, 2024, we owned one trademark registration for the “ASTERA LABS” mark in the United States, a trademark application for “ASTERA LABS” in the United States and 12 related foreign trademark applications.

Competition

We offer a differentiated and holistic Intelligent Connectivity Platform purpose-built for cloud and AI infrastructure workloads. Our competitors typically compete with us with respect to some, but not all, of our solutions. Our principal competitors include Broadcom, Inc., Credo Technology Group Holding Ltd., Marvell Technology, Inc., Microchip Technology Inc., Montage Technology, Parade Technologies, Ltd, and Rambus, Inc.

The principal competitive factors in our market include:

- Ability to provide a complete platform coupled with software and interoperability reports that ensure ease of integration and customer adoption;
- Product performance in terms of high data throughput, low latency connectivity, robust signal integrity to overcome extended channel insertion loss, and scalable memory expansion;
- Customization to support the specific requirements of each hyperscaler throughout the lifecycle of their infrastructure;
- Interoperability with major host processors and endpoint devices to ensure seamless system operation;
- Near-zero defect tolerance along with stringent qualification processes meeting industry standards and the specific customer requirements;
- Server-grade RAS;
- Sophisticated link telemetry features that enable signal monitoring at scale;
- Ease of making software updates to products to ensure regular software suite enhancements; and
- Ability to deliver products at large volumes in a timely manner to the quality standards required by our customers.

Human Capital

As of December 31, 2024, we had a total of 440 full-time employees located in six countries, 331 of our employees are located in the United States, 50 are located in Canada, 25 are located in Taiwan, 17 are located in China, 9 are located in India, and 8 are located in Israel. We also supplement our workforce with additional contractors and consultants.

To our knowledge, none of our employees are represented by a labor union or covered by a collective bargaining agreement. We have not experienced any work stoppages, and we consider our relations with our employees to be good. Our human capital resource objectives include, as applicable, identifying, recruiting, retaining, incentivizing, and integrating our existing and new employees. The principal purposes of our equity incentive plans are to attract, retain, and reward personnel through the granting of stock-based compensation awards in order to increase stockholder value and the success of our company by motivating such individuals to perform to the best of their abilities and achieve our objectives.

Government Regulation

We are subject to the laws and regulations of various jurisdictions and governmental agencies affecting our operations and the sale of our products in areas including, but not limited to: intellectual property; tax; import and export requirements; anti-corruption; economic and trade sanctions; national security and foreign investment; foreign exchange controls and cash repatriation restrictions; data privacy and security requirements (such as the CCPA); competition; advertising; employment; product regulations; environment, health and safety requirements; and consumer laws. To date, costs and accruals incurred to comply with these governmental regulations have not been material to our capital expenditures and results of operations. Although there is no assurance that existing or future governmental laws and regulations applicable to our operations and the sale of our products will not have a material adverse effect on our capital expenditures, results of operations, and competitive position, we do not currently anticipate material expenditures for

government regulations. Nonetheless, we believe that significant changes in global trade regulations could potentially have a material impact on our business.

As a global company, the import and export of our products and technology are subject to laws and regulations including international treaties, U.S. export controls and sanctions laws, customs regulations, and local trade rules around the world. The scope, nature, and severity of such controls varies widely across different countries and may change frequently over time. Such laws, rules, and regulations may delay the introduction of some of our products or impact our competitiveness through restricting our ability to do business in certain places or with certain entities and individuals. For example, the U.S. Department of Commerce continues to add Chinese firms to the Entity List. These export restrictions, which would require that we obtain licenses from the U.S. Department of Commerce to allow us to export products to such listed firms, will likely limit or prevent us from doing business with certain potential customers or potential suppliers. These restrictive governmental actions and any similar measures that may be imposed on U.S. companies by other governments, especially in light of ongoing trade tensions between the United States and other countries, particularly China, could limit our ability to conduct business globally.

See the section titled “Risk Factors” for additional information regarding risks we face related to government regulation.

Available Information

Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K, including exhibits, and amendments to reports filed pursuant to Sections 13(a) and 15(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), are filed with the U.S. Securities and Exchange Commission (the “SEC”). We are subject to the informational requirements of the Exchange Act and file or furnish reports, proxy statements, and other information with the SEC. Such reports and other information filed by us with the SEC are available free of charge on our website at <https://asteralabs.gcs-web.com/financials/sec-filings> when such reports are available on the SEC's website. We use <https://asteralabs.gcs-web.com/news-events/news-releases> as means of disclosing material non-public information and for complying with our disclosure obligations under Regulation FD.

The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC at www.sec.gov. The contents of the websites referred to above are not incorporated into this filing. Further, our references to the URLs for these websites are intended to be inactive textual references only.

Item 1A. Risk Factors

Our operations and financial results are subject to various risks and uncertainties, including those described below. You should carefully consider the risks and uncertainties described below, together with all of the other information in this Annual Report on Form 10-K, including the section titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our consolidated financial statements and related notes. The risks described below are not the only ones we face and we could be harmed by risks and uncertainties not currently known to us or that we do not currently believe to be material. If any of these risks actually occur, our business, results of operations, financial condition, and prospects could be materially adversely affected. In that event, the trading price of our common stock could decline, and you could lose part or all of your investment. You should not interpret our disclosure of any of the following risks to imply that such risks have not already materialized. Certain statements contained in the risk factors described below are forward-looking statements. See the section titled “Special Note Regarding Forward-Looking Statements” for more information.

Risk Factors Summary

Risks Related to Our Business

- We may not sustain our growth rate, and we may not be able to manage future growth effectively;
- We have a history of generating net losses, and if we are unable to achieve adequate revenue growth while our expenses increase, we may not maintain profitability in the future;
- We have a limited operating history, and we may have difficulty accurately predicting our future revenue for the purpose of appropriately budgeting and adjusting our expenses;
- We may be unsuccessful in anticipating and responding to new market trends and evolving industry standards, developing and selling new products, or penetrating new markets;
- A substantial portion of our revenue is driven by a limited number of our end customers, and the loss of, or a significant reduction in, demand from one or a few of our top end customers would adversely affect our operations and financial condition;
- If we fail to achieve design wins for our products, we may lose the opportunity for sales to customers for a significant period of time and be unable to recoup our investments in our products;
- We may experience difficulties demonstrating to customers the value of our new products or newer generations of our existing products;
- The adoption, use, and commercialization of AI technology, and the continued rapid pace of developments in the AI field, are inherently uncertain. Failure by our customers to continue to adopt infrastructure to support AI use cases in their systems, or our ability to keep up with evolving AI infrastructure requirements, could have a material adverse effect on our business, financial condition, and results of operations;
- We rely on a limited number of third-party manufacturing partners for our manufacturing and supply chain services, and the failure to manage our relationships successfully with our third-party manufacturing partners in order to obtain adequate services and supplies could adversely affect our ability to market and sell our products and our reputation;
- Our customers require our products and our third-party manufacturing partners to undergo a lengthy and expensive qualification process which does not assure volume product sales. If we are unsuccessful or delayed in qualifying any of our products with a customer, our business and operating results would suffer;
- Pricing for the current generation of our existing products often decreases over time, which could negatively impact our revenue and gross margins;
- We generally do not maintain long-term supply contracts with our third-party manufacturing partners, and any disruption in our supply of products could have a material adverse effect on our business, financial condition, and results of operations;
- The complexity of our products could result in unforeseen delays or expense or undetected defects, bugs, or security vulnerabilities, which could adversely affect the market acceptance of new products, damage our reputation with current or prospective customers, and materially and adversely affect our operating costs;

- Adverse changes in the political, regulatory, and economic policies of governments in connection with trade with China and Chinese customers have reduced the demand for our products and damaged our business;
- Our business would be adversely affected by the departure of existing members of our senior management team.
- Cybersecurity risks, including cyber-attacks, data breaches, and system vulnerabilities could adversely affect our business and disrupt our operations;
- We may be subject to warranty claims and product liability;
- Litigation and other legal proceedings may adversely affect our business;
- The occurrence of events for which we are self-insured, or which exceed our insurance limits, may adversely affect our profitability and liquidity;
- We may pursue acquisitions, joint ventures, and dispositions, which could adversely affect our results of operations, and any acquisitions we do make could disrupt our business and harm our financial condition;
- Our global operations expose us to numerous legal and regulatory requirements and failure to comply with such requirements, including unexpected changes to such requirements, could adversely affect our results of operations; and
- Changes in existing tax laws, tax rules, or tax practices may adversely affect our financial results.

Risks Related to Our Industry

- We operate in intensely competitive markets. Our failure to compete effectively, including as a result of industry consolidation, would harm our results of operations.

Risks Related to our Intellectual Property

- Our failure to protect our intellectual property rights adequately could impair our ability to compete effectively or to defend ourselves from litigation, which could harm our business, financial condition, and results of operations;
- We rely on third-party technologies for the development of our products and our inability to use such technologies in the future would harm our ability to remain competitive;
- We may face claims of intellectual property infringement, misappropriation or other violations, which could be time-consuming or costly to defend or settle, result in the loss of significant rights or harm our relationships with our customers or reputation in the industry; and
- Any potential dispute involving patents or other intellectual property could affect our customers, which could trigger our indemnification obligations to them and result in substantial expense to us.

Risks Related to the Ownership of Our Common Stock

- Our executive officers, directors, and stockholders, if they choose to act together, have the ability to control or significantly influence all matters submitted to shareholders for approval.

Risks Related to Our Business

We may not sustain our growth rate, and we may not be able to manage future growth effectively.

We have experienced significant growth in a short period of time. Our revenue increased from \$115.8 million for the year ended December 31, 2023 to \$396.3 million for the year ended December 31, 2024. We may not achieve similar growth rates in future periods. You should not rely on our operating results for any prior quarterly or annual periods as an indication of our future operating performance. If we are unable to maintain adequate revenue growth, our financial results could suffer, and our stock price could decline.

To manage our growth successfully and handle the responsibilities of being a public company, we believe we must effectively, among other things:

- recruit, hire, train, and manage additional qualified personnel for our research and development activities;
- continue to make significant investments in our new and existing products;
- add additional sales personnel; and

- implement and improve our administrative, financial and operational systems, procedures, and controls.

If we are unable to manage our growth effectively, we may not be able to take advantage of market opportunities or develop new products, and we may fail to satisfy customer requirements, maintain product quality, execute our business plan, or respond to competitive pressures.

We have a history of generating net losses, and if we are unable to achieve adequate revenue growth while our expenses increase, we may not maintain profitability in the future.

We have a history of generating net losses. We incurred net losses of \$83.4 million and \$26.3 million for the years ended December 31, 2024 and 2023, respectively. As of December 31, 2024 and 2023, we had an accumulated deficit of \$208.8 million and \$125.4 million, respectively. These losses and our accumulated deficit are a result of the substantial investments we have made to grow our business. We expect our costs will increase over time and our losses may continue if such increases in costs are not more than fully offset by increases in our revenue. We expect to continue to invest significant additional funds in expanding our business and research and development activities as we continue to develop new products. We have experienced and expect to continue to incur additional general and administrative expenses as a result of our growth and increased costs to support our operations as a public company. Historically, our costs have increased over the years due to these factors, and we expect to continue to incur increasing costs to support our anticipated future growth.

If our revenue or revenue growth rate declines or our operating expenses exceed our expectations, our financial performance will be adversely affected. We will need to generate and sustain increased revenue levels in future periods in order to maintain profitability. If we cannot successfully grow our revenue at a rate that exceeds the costs associated with our business, we will not be able to maintain profitability, and the trading price of our common stock could decline.

We have a limited operating history, and we may have difficulty accurately predicting our future revenue for the purpose of appropriately budgeting and adjusting our expenses.

We were established in October 2017. Our limited operating experience, a dynamic and rapidly evolving market in which we sell our products, our dependence on a limited number of customers, as well as numerous other factors beyond our control, could impede our ability to forecast quarterly and annual revenue accurately. As a result, we could experience budgeting and cash flow management problems, unexpected fluctuations in our results of operations and other challenges, any of which could make it difficult for us to maintain profitability and could increase the volatility of the market price of our common stock.

We may be unsuccessful in anticipating and responding to new market trends and evolving industry standards, developing and selling new products, or penetrating new markets.

We operate in an industry characterized by rapidly changing technologies and evolving industry standards. We believe that our future success depends on our ability to develop and introduce new technologies and products that generate new sources of revenue to replace, or build upon, existing product revenue streams. If we are not able to repeatedly introduce, in successive years, new products or new generations of existing products that ship in volume and meet customer demands, our revenue will likely not grow and may decline significantly and rapidly.

To compete successfully, we must design, develop, market, and sell new products or new generations of existing products that provide increasingly higher levels of performance while meeting evolving industry standards, and the cost and quality expectations, of our customers. The introduction of new products by our competitors, the delay or cancellation of a system for which any of our products are designed in, the market acceptance of products based on new or alternative technologies, or the emergence of new industry standards could render our existing or future products uncompetitive, obsolete, or otherwise unmarketable.

Our failure to anticipate or timely develop new products or new generations of existing products in response to technological shifts or evolving industry standards could result in decreased revenue and our competitors securing a competitive advantage. In particular, we may experience difficulties with product design, manufacturing, assembly, test, and qualification or marketing that could delay or prevent our development, introduction, or marketing of new or enhanced products. Although we believe our products comply with applicable industry standards, our existing and new products may not fully conform under all circumstances, and we are unable to guarantee that proprietary enhancements in the future will fully conform with applicable industry standards under all circumstances as industry standards evolve and change.

Products for our target markets are based on industry standards that are continually evolving, and industry standards are often developed and promoted by larger companies who are industry leaders and provide other components of the systems into which our products are incorporated. In choosing products to develop, we also make certain assumptions

about which industry standards we believe will be adopted by industry leaders. For example, CXL connectivity solutions are in the early stages of market adoption. If our assumptions are incorrect, and larger companies do not support the same industry standards that we do, or if competing standards emerge, it could be difficult for our products to meet the requirements of certain customers. As a result, if we fail to introduce new products or new generations of our existing products that meet prevailing industry standards and the needs of our customers, or penetrate new markets in a timely fashion, and our designs do not gain acceptance, we will likely lose market share and our competitive position, potentially on an extended basis, and our operating results will be adversely affected.

Our competitiveness and future success depend on our and our third-party manufacturing partners' ability, as applicable, to design, develop, manufacture, assemble, and test new products and product enhancements on a timely and cost-effective basis. Our failure to anticipate fundamental shifts in technologies in any of our product markets, to develop new technologies or to react to changes in existing technologies could materially delay our development of new products or new generations of our existing products. For example, we anticipate that our customers will continue to have increasing needs for connectivity and memory products as a result of the increased adoption of the cloud and AI infrastructure, and if we are unable to successfully design and produce products that our customers can incorporate into their cloud and AI systems, we expect that our competitive positioning and financial performance would be harmed as our competitors more effectively help our customers scale into these developing sectors.

We believe the success of new products depends on accurate forecasts of long-term market demand and future technological developments, as well as on a variety of specific implementation factors, including:

- timely and efficient completion of our design and transfer to manufacturing, assembly, and test processes;
- the quality, performance, and reliability of our products; and
- effective marketing, sales, and service.

If we fail to introduce new products or new generations of existing products that meet the demand of our customers or penetrate new markets that we have targeted, our revenue will likely decrease over time and our financial condition could suffer.

A substantial portion of our revenue is driven by a limited number of our end customers, and the loss of, or a significant reduction in, demand from one or a few of our top end customers would adversely affect our operations and financial condition.

A substantial portion of our revenue is driven by a limited number of end customers. In 2024, no end customer represented more than 40% of our revenue; the top three end customers represented an aggregate of approximately 80% of our revenue. Our distributors and end customers' manufacturing partners provide us with information in their purchase orders about which end customer will receive the products purchased. This data allows us to estimate the portion of our revenue that is due to specific end customer demand. We anticipate that we will continue to be dependent on a limited number of end customers for a significant portion of our revenue in the future, and in some cases, the portion of our revenue attributable to certain end customers may increase in the future. However, we may not be able to maintain or increase sales to certain of our top end customers for a variety of reasons, including the following:

- our master agreements with our end customers generally do not require them to purchase a minimum quantity of our products and our end customers' demand for our products may be volatile;
- some of our end customers may redesign their systems to use fewer or none of our products with limited notice to us; and
- many of our end customers have pre-existing or concurrent relationships with our current or potential competitors that may affect such end customers' decisions to purchase our products.

End customer relationships often require us to develop new products that may involve significant technological and design challenges, and our end customers frequently place considerable pressure on us to meet tight development schedules. Accordingly, we may have to devote a substantial amount of our resources to our strategic relationships, which could detract from or delay our completion of other important development projects. Delays in development could impair our relationships with our end customers and negatively impact forecasted sales of the products under development. Moreover, it is possible that our end customers may develop their own products that may compete with our solutions, or adopt a competitor's solution for products that they currently buy from us. If that happens, our sales would be adversely impacted and our business, financial condition, and results of operations would be materially and adversely affected.

In addition, to attract new customers or retain existing end customers, we may offer (in some cases through distributors) certain customers favorable prices for our products. In that event, our revenue and gross margins may decline.

The loss of a top end customer, a reduction in sales to any top end customer, or our inability to attract new end customers could impact our revenue and materially and adversely affect our results of operations.

If we fail to achieve design wins for our products, we may lose the opportunity for sales to customers for a significant period of time and be unable to recoup our investments in our products.

Our business is dependent on design wins. Design wins occur once a customer has validated and placed an order for our product(s). We often incur significant expenditures in the development of a new product or new generation of an existing product without any assurance that our customers will select our product for use in their systems. Additionally, we are often required to anticipate which product designs will generate demand in advance of our customers expressly indicating a need for that particular design. Even if our customers select our products, a substantial period of time will elapse before we generate revenue related to the significant expenses we have incurred. The reasons for this delay generally include the following elements of our product sales and development cycle timeline and related influences:

- our customers usually require a comprehensive technical evaluation of our products before they incorporate them into their designs;
- it can take up to two years from the time a design win is secured to commencement of volume commercial shipments (assuming no changes in market conditions or customer development schedules); and
- our customers may be impacted by changing market conditions, product development issues of their own, or choose to delay their system designs.

The resources devoted to product development and sales and marketing may not generate material revenue for us, and we have needed in the past, and may need in the future, to write off excess and obsolete inventory if we have produced a product in excess of forecasted demand which does not materialize. If we incur significant expenses and investments in inventory in the future that we are not able to recover, and we are not able to compensate for those expenses, our operating results could be adversely affected.

A design win does not guarantee sales to a customer. A delay or cancellation of a customer's plans could materially and adversely affect our financial results, as we incur significant expense in the design process and may generate little or no revenue from it. In addition, the timing of design wins is unpredictable and supporting production for a major design win, or multiple design wins at the same time, may strain our resources. In such event, we may be forced to dedicate significant additional resources and incur additional costs and expenses. Customers could also choose at any time to stop using our products, or could fail to successfully market and sell their products, either of which could reduce demand for our products.

Once a customer designs a product into its systems, the same product or enhanced versions of that product from the same supplier is likely to be used across a number of similar and successor products. This can be for a lengthy period of time due to the significant costs associated with qualifying a new supplier and potentially redesigning the product to incorporate a different solution. If a customer initially chooses a competitor's product, it becomes more difficult for us to sell our products for use in that system because changing suppliers can involve significant cost, time, effort, and risk for our customers, and additional design opportunities may be infrequent or delayed. Thus, our failure to obtain a design win can result in our foregoing revenue from a given customer's system for the life of that system. Our ability to compete in the future will depend, in large part, on our ability to develop products that comply with our customers' and potential customers' system specifications. However, even if our customers use our products in their systems, these customers may not deploy their systems in volume and we may not receive significant revenue from the sales of our products for those systems. As a result, we may be unable to accurately forecast the volume and timing of our orders and revenue associated with any new product introductions.

We may experience difficulties demonstrating to customers the value of our new products or newer generations of our existing products.

As we develop and introduce new products or new generations of our existing products, we face the risk that our new products do not meet the needs of our customers' next generation systems and applications or that our customers may forego adopting one or more newer generations of our existing products. Regardless of the improved features or superior performance of the newer generations of our existing products, customers may be unwilling to adopt our new products due to design or pricing constraints, among other reasons. Even if customers choose to adopt our new products or new generations of our existing products, they may be slow to do so, which may result in certain of our products selling more frequently than other products for sustained periods of time. For example, most of our historical sales have been for our Aries Smart DSP Retimer product family. Because of the extensive time and resources that we invest in researching and developing new products and new generations of our existing products, if we are unable to sell new products or new

generations of our existing products, our revenue could decline and our business, financial condition, and results of operations would be negatively affected.

The adoption, use, and commercialization of AI technology, and the continued rapid pace of developments in the AI field, are inherently uncertain. Failure by our customers to continue to adopt or invest in AI infrastructure to support AI use cases in their systems, or our ability to keep up with evolving AI infrastructure requirements, could have a material adverse effect on our business, financial condition, and results of operations.

As part of our growth strategy, we seek to attract and acquire customers focused on AI. We foresee emerging demand from companies that are dedicated to providing infrastructure for AI use cases, AI-dedicated data centers, and larger enterprises, as they begin to build systems to meet their unique requirements. However, AI has been developing at a rapid pace, and continues to evolve and change. If we are unable to keep up with the changing AI landscape or in developing products to meet our customers' evolving AI needs, or if the AI landscape does not develop to the extent we or our customers expect, our business, and financial results may be adversely impacted.

Additionally, our efforts in developing new AI infrastructure technology solutions are inherently risky and may not always succeed. We may incur significant costs and expect significant delays in developing new products or new generations of existing products to adapt to the changing AI landscape, and may not achieve a return on investment or capitalize on the opportunities presented by demand for AI solutions. Moreover, while AI-adoption is likely to continue and may accelerate, the long-term trajectory of this technological trend is uncertain.

Additionally, we expect to see increasing government and supranational regulation related to artificial intelligence use and ethics, which may also significantly increase the burden and cost of research, development, and compliance in this area. For example, the EU's Artificial Intelligence Act, or the EU AI Act, — the world's first comprehensive AI law — entered into force in June 2024 and, with some exceptions, become effective 24 months thereafter. This legislation imposes significant obligations on providers and deployers of high risk artificial intelligence systems, and encourages providers and deployers of artificial intelligence systems to account for EU ethical principles in their development and use of these systems. If we develop or use AI systems that are governed by the EU AI Act, it may necessitate ensuring higher standards of data quality, transparency, and human oversight, as well as adhering to specific and potentially burdensome and costly ethical, accountability, and administrative requirements. Significant resources will be required to design, develop, test and maintain our products to help ensure that artificial intelligence is implemented and deployed in accordance with applicable law and regulation and in a socially responsible manner and to minimize any real or perceived unintended harmful impacts. Our customers may also become subject to such upcoming AI regulations, which could cause a delay or impediment to the commercialization of AI technology and could lead to a decrease in demand for our customers' AI systems, and may adversely affect our business, financial condition, and results of operations.

We rely on a limited number of third-party manufacturing partners for our manufacturing and supply chain services, and the failure to manage our relationships successfully with our third-party manufacturing partners in order to obtain adequate services and supplies could adversely affect our ability to market and sell our products and our reputation.

We operate an outsourced manufacturing business model. We currently partner with TSMC to manufacture our integrated circuits. TSMC is our sole manufacturing partner for our integrated circuits and we currently have not qualified another source. We also use Advanced Semiconductor Engineering and Amkor Technologies to assemble, package, and test our integrated circuits. We also rely on a small, limited number of other manufacturing partners for our modules, boards, and integrated circuit substrates. Relying on third-party manufacturing partners presents significant risks, including:

- failure by us, our customers, or their customers to qualify a selected supplier;
- capacity shortages during periods of high demand;
- reduced control over delivery schedules and quality;
- shortages of materials;
- third parties infringing, misappropriating, or otherwise violating our intellectual property rights;
- impairment of the operation of our products if errors or other defects occur in the third-party technologies we use, and difficulties correcting such errors or defects because the development and maintenance of those technologies is not within our control;
- limited warranties on products supplied to us; and
- potential increases in prices or reduced yields.

The ability and willingness of our third-party manufacturing partners to perform is largely outside of our control. We have experienced and may continue to experience the failure of one or more of our third-party manufacturing partners or other outsourcers to perform its obligations in a timely manner or at satisfactory quality levels, which can negatively impact our ability to bring products to market and our reputation. In particular, if TSMC is unable to supply us with sufficient quantities of wafers to meet all of our requirements, we could have difficulties fulfilling our customer orders and our revenue could decline. In addition, if our third-party manufacturing partners fail to deliver quality services, products, and components on time and at reasonable prices, we could have difficulties fulfilling our customer orders, which would materially and adversely affect our business, financial condition, and results of operations.

Our third-party manufacturing partners and distributors, and the majority of our revenue, are concentrated primarily in Taiwan, China, and South Korea, areas that are or may be subject to geopolitical uncertainty, trade disputes and restrictions, environmental disasters, and other risks. Any disruption to the operations of these manufacturing partners or distributors could cause significant delays in the production or shipment of our products and impact our financial condition.

Our success depends in part on the uninterrupted and reliable operation of our business, including the operation of our day-to-day business operations, or manufacturing, assembly, and testing done by our third-party manufacturing partners and other vendors. Unforeseen disruption of the production or distribution of our products could be caused by a number of events, including a maintenance outage, systems outage or other disruption, power or equipment failure, fires, floods, earthquakes or other natural disasters, social unrest or terrorist activity, work stoppages, public health concerns (including pandemics), regulatory measures, or other operational problems. For example, the foundry used by our primary manufacturer, TSMC, as well as our primary distributor, is located in Taiwan. The risk of an earthquake in Taiwan and elsewhere in the Pacific Rim region on our business is significant due to the proximity of major earthquake fault lines to the foundry's facilities. Any disruption resulting from such events could cause significant delays in the production or shipment of our products until we are able to shift our manufacturing from the affected location to another location. We may not be able to obtain alternate capacity on favorable terms, if at all.

In addition, our dependence on our relationship with our third-party manufacturing partners or distributors may be affected by changes in governmental policies, taxation, rising inflation or interest rates, social instability, geopolitical conflicts and tensions, and diplomatic and social developments which are outside of our control. The occurrence of such events may have an adverse impact because the majority of our revenue derives from sales into East Asia. For example, since 1949, Taiwan and mainland China have been separately governed. Although significant economic and cultural relations have been established between Taiwan and mainland China in the past few years, past developments in relations between Taiwan and mainland China have on occasion depressed the market prices of the securities of companies doing business in Taiwan, and may depress the price of our common stock. Additionally, trade tensions between the United States and China may lead to restrictions on our ability to use our third-party manufacturing partners or distributors located in China or may impose restrictions such that our use of such manufacturing partners or distributors may no longer be practical or on terms favorable to us. Further, continued or heightened tension between South Korea and North Korea, an outbreak in military hostilities, or other actions or occurrences could cause significant delays in the production or shipment of our products until we are able to shift our manufacturing, assembling, testing, or distribution from the affected contractor to another third-party.

Furthermore, our industry generally relies on a limited number of manufacturers whose operations tend to be concentrated in Taiwan and other parts of East Asia, which makes us especially susceptible to adverse developments in these regions' economic and political conditions, particularly to the extent that such developments create an unfavorable business environment that significantly affects our and our customers' operations. Although the governments of certain countries, including the United States, have taken actions to make their countries more attractive for chip manufacturing operations, there can be no assurances that the current geographic concentration of chip manufacturing will be meaningfully changed in the near term or at all.

If any of these events, or other macroeconomic trends, should cause a prolonged disruption of operations that impact our third-party manufacturing partners, we may see operational downtimes or operation at reduced capacities, preventing us from completing our operations or production in a timely manner, leading to loss of business volume and reduced productivity or profitability which could have a material adverse effect on our business, financial conditions, and results of operations. Given the concentration of chip manufacturing in Taiwan and other parts of East Asia, as well as the other risks described herein, we may not be able to obtain alternate service or materials quickly and on favorable terms, if at all. Any unplanned production downtime or other operational problems and delays, if significant, could have a material adverse effect on our business, financial condition, and results of operations.

Our customers require our products and our third-party manufacturing partners to undergo a lengthy and expensive qualification process which does not assure volume product sales. If we are unsuccessful or delayed in qualifying any of our products with a customer, our business and operating results would suffer.

Prior to purchasing our products and deploying them in volume in their systems, our customers require that our products and our third-party manufacturing partners undergo extensive qualification processes, which involve testing of our products in our customers' systems, as well as testing for reliability. This qualification process may continue for several months or more. Moreover, qualification of a product by a customer does not assure any sales of the product to that customer. Further, even after successful qualification and sales of a product to a customer, a subsequent revision in our third-party contractors' manufacturing process or our selection of a new supplier may require a new qualification process by our customers, which may result in delays and in our holding excess or obsolete inventory. After our products are qualified, it can take several months or more before the customer commences volume deployment of our products in their systems. Despite these uncertainties, we devote substantial resources, including design, engineering, sales, marketing, technical support, and management efforts, to qualify our products with customers in anticipation of sales. If we are unsuccessful or delayed in qualifying any of our products with a customer, sales of those products to the customer may be precluded or delayed, which may impede our growth and materially and adversely affect our business, financial condition, and results of operations.

We make substantial investments in research and development, and unsuccessful investments could materially adversely affect our business, financial condition, and results of operations.

The industry in which we compete is characterized by rapid technological change, changes in customer requirements, frequent new product introductions and enhancements, short product cycles and evolving industry standards, and new delivery methods. In addition, the fabrication of semiconductor products has transitioned over time to increasingly smaller line width geometries, and failure to successfully transition to product designs utilizing smaller geometry process nodes could impair our competitive position. In order to remain competitive, we have made, and expect to continue to make, significant investments in research and development. For the years ended December 31, 2024 and 2023, research and developments expenses were \$200.8 million and \$73.4 million, respectively. If we fail to develop new and enhanced products and technologies, if we focus on technologies that do not become widely adopted, or if new competitive technologies or industry standards that we do not support become widely accepted, demand for our products may be reduced. Increased investments in research and development or unsuccessful research and development efforts could cause our cost structure to fall out of alignment with demand for our products, which would have a negative impact on our financial results.

Our future success will depend in large part on our ability to successfully execute our strategy.

Our business strategy is to maximize our return on investment by aligning with our customers to address high-value problem sets. We are still in the process of implementing our strategy to align with this select customer group, and we cannot be certain that this strategy will succeed. To succeed, we will need to significantly increase sales to our existing customers in the cloud and AI markets, continue to develop and pursue adoption of our PCIe, Ethernet, CXL and UALink™ connectivity solutions, increase our value-per-product and leverage our differentiated product families to grow with our customers into new data intensive end-markets, including developing, introducing, and marketing new products and technologies on a timely basis.

Our gross margins may decline due to a variety of factors, which could negatively impact our results of operations and our financial condition.

Our gross margins may decline due to a number of factors, including customer and product mix, revenue mix between various offerings, market acceptance of our new products, yield, pricing, packaging and testing costs, competitive pricing dynamics, and geographic and market pricing strategies. Increases in gross margins over certain periods may be a result of individual changes in customer need or market shifts, and may not be indicative of future results.

To attract new customers or retain existing customers, we have in the past and will in the future offer certain customers favorable prices, which would decrease the prices that we receive for our products and likely impact our gross margins. Further, we may also offer pricing incentives to our customers on earlier generations of products that inherently have a higher cost structure, which would negatively affect our gross margins. In addition, in the event our customers, including our larger customers, exert more pressure with respect to pricing and other terms with us, it could put downward pressure on our margins.

In addition, we maintain an inventory of our products at various stages of production and in finished goods inventory. We hold these inventories in anticipation of customer orders. If those customer orders do not materialize in a timely

manner, we may have excess or obsolete inventory which we would have to reserve or write-down, and our gross margins would be adversely affected.

Pricing for the current generation of our existing products often decreases over time, which could negatively impact our revenue and gross margins.

Our operating results may be impacted by a decline in the pricing for the current generation of our existing products. If competition increases in our target markets, we may need to reduce the prices of our existing products in anticipation of competitive pricing pressures, new product introductions by us or our competitors, new generations of such existing products, or for other reasons. If we are unable to offset any reductions in pricing for existing products by increasing our sales volumes or introducing new products or new product generations of such existing products with higher margins, our revenue and gross margins will suffer. To maintain our revenue and gross margins, we must develop and introduce new products, next-generation products, and product enhancements on a timely basis and continually reduce our costs as well as our customers' costs. Failure to do so may cause our revenue and gross margins to decline.

Fluctuations in the mix of products sold may materially adversely affect our gross margins and financial results.

Price and cost differences among our products and the mix and types of products sold, including from a features and form factor perspective, may affect the pricing of our products and have a substantial impact on our revenue. Fluctuations in the mix and types of our products may also affect the extent to which we are able to recover our fixed costs and investments that are associated with a particular product, and as a result may negatively and materially impact our financial results.

If we are unable to accurately predict end customer demand, or if our distributors or end customers' manufacturing partners cancel or change their orders, we may hold excess or obsolete inventory, which would reduce our gross margins and may damage our relationships with our customers.

Our revenue and operating results could fluctuate materially and could be materially and disproportionately impacted by the purchasing decisions of our end customers. Due to the inability to predict demand or other reasons, some of our distributors and end customers' manufacturing partners may accumulate excess inventories and, as a consequence, defer purchases of our products. For example, in the first quarter of 2023 we had a \$9.7 million charge to write down inventory in excess of our sales forecast for a legacy customer system. Anticipating demand is difficult because our end customers face unpredictable demand for their own products and/or deployment of their own systems. If we overestimate end customer demand, or end customer demand is otherwise impacted by other factors impacting our assumptions, we might produce significant excess inventory, which would reduce our gross margin and adversely affect our financial results. Conversely, if we underestimate customer demand or if insufficient manufacturing capacity is available, we may miss revenue opportunities, potentially lose market share and damage our customer relationships. In addition, as an increasing number of our products are being incorporated into end customer systems, we anticipate greater fluctuations in demand for our products, which makes it more difficult to forecast end customer demand.

We generally do not maintain long-term supply contracts with our third-party manufacturing partners, and any disruption in our supply of products could have a material adverse effect on our business, financial condition, and results of operations.

We generally do not have long-term contracts with our third-party manufacturing partners that require them to supply manufacturing capacity, materials, or services, and substantially all of our purchases are on a purchase order basis. We place orders with our third-party manufacturing partners for manufacturing, assembling, and testing our products and purchasing components that are integrated into our products according to our estimates of customer demand many months prior to the anticipated delivery date to our customer. This process requires us to make multiple demand forecast assumptions with respect to our customers' demands in advance of actual purchase orders, each of which may introduce error into our estimates. In addition, while many of our customers are subject to purchase orders or other agreements that do not allow for cancellation without penalty within a certain number of days before the estimated ship date, there can be no assurance that these customers will honor these contract terms, and any cancellation of these orders may adversely affect our business operations and demand forecast which is the basis for us to have products made.

Our third-party manufacturing partners may also extend lead times, limit supplies, place products on allocation, or increase prices that could lead to interruption of supply or increased demand in the industry. For example, the supply of these materials may be negatively impacted by increased trade tensions between the United States and its trading partners, particularly the People's Republic of China. Moreover, TSMC has increased and may increase in the future the wafer prices we pay. Our products are incorporated into complex devices and systems, which creates supply chain cross-dependencies. Due to these cross dependencies, any supply chain disruptions could impact the demand for our products in the short term.

In the event that we cannot obtain sufficient quantities of materials in a timely manner or at reasonable prices from third-party manufacturing partners, the quality of the material deteriorates or we are not able to pass on higher manufacturing costs to our customers, our business, financial condition, and results of operations could be adversely impacted.

We rely on our relationships with leaders in the data center and AI infrastructure ecosystem to test and validate our products at a system level and our inability to continue to develop or maintain such relationships in the future would harm our ability to remain competitive.

We develop many of our products for systems that interoperate with other products sold by leaders in the data center and AI infrastructure ecosystem. We work closely with these industry and technology partners to test and validate our products at a system level. We believe these relationships enhance our ability to achieve market acceptance and widespread adoption of our products. If we are unable to continue to develop or maintain these relationships, or if our products test negatively with these leaders in the data center and AI infrastructure ecosystem, our products may become less desirable to our customers, which would cause our sales to suffer and our competitive position to be harmed.

The complexity of our products could result in unforeseen delays or expense or undetected defects, bugs, or security vulnerabilities, which could adversely affect the market acceptance of new products, damage our reputation with current or prospective customers, and materially and adversely affect our operating costs.

Our products may contain defects when they are first introduced or as new versions or enhancements are released, or their release may be delayed due to unforeseen difficulties during product development. If any of our products or third-party components used in our products, contain defects, bugs, vulnerabilities, or have reliability, quality, or compatibility problems, we may not be able to successfully design workarounds or resolve the issues in a timely manner. Furthermore, if any of these problems are not discovered until after we have commenced commercial production or deployment of a new product, we may be required to incur additional development costs, as well as costs to repair or replace our products, and expense previously capitalized production mask costs, all of which could materially adversely affect our reputation, business, results of operations, and/or financial condition.

Our customers integrate our products with their products and/or systems, which may also be further integrated with a number of other third-party applications. As a result, if there is an actual or perceived breach of information integrity, security, or availability in one of our customers' systems, it can be difficult to determine which product is at fault and we could ultimately be harmed by the failure of a third-party supplier's product. Consequently, our reputation may be damaged, and customers may be reluctant to buy our products, which could materially and adversely affect our ability to retain existing customers and attract new customers. To resolve these problems, we may have to invest significant capital and other resources and we would likely lose, or experience a delay in, market acceptance of the affected product or products. These and similar problems may also result in claims against us by our customers or others, any of which could materially adversely affect our reputation, business, results of operations, and/or financial condition.

Adverse changes in the political, regulatory, and economic policies of governments in connection with trade with China and Chinese customers have reduced the demand for our products and damaged our business.

Regulatory activity, such as tariffs, export controls, economic sanctions, and restrictions on investment and data transfers as well as vigorous enforcement of U.S. export controls and economic sanctions laws have in the past and may continue to materially limit our ability to make sales to our customers in China, which has in the past and may continue to harm our results of operations, reputation, and financial condition. Due to the U.S. government restricting sales to certain customers in China, sales to some of our customers may require licenses in order for us to export our products; however, there can be no assurances that requests for licenses will be approved by the U.S. government. Moreover, concerns that U.S. companies may not be reliable suppliers as a result of these and other actions has caused, and may in the future cause, some of our customers in China to amass large inventories of our products well in advance of need or caused some of our customers to replace our products in favor of products from other suppliers. Additionally, the Chinese government adopted a law with respect to unreliable suppliers. Any designation as an unreliable supplier may have an adverse impact on our business and operations. In addition, there may be indirect impacts to our business that we cannot easily quantify such as the fact that some of our other customers' systems may also be impacted by export restrictions.

Significant uncertainty remains about the future relationship between the United States and China as tariffs and other trade and investment barriers remain historically high, other key areas of economic and foreign policy difference remain unresolved and tensions remain elevated. The current U.S. Administration has called for substantial changes to U.S. foreign trade policy with respect to China, and there is currently significant uncertainty about the future relationship between the United States and China with respect trade policies, treaties, tariffs and taxes.

Any customers in China that are subject to trade restrictions or tariffs, may develop their own products instead of purchasing from us or they may acquire products from our competitors or other third-party sources that are not subject to the U.S. tariffs and trade restrictions. Some customers in China may be able to cancel or defer purchase orders on short notice without incurring a penalty and, therefore, they may be more likely to do so while the tariffs and trade restrictions are in effect. If export restrictions related to Chinese customers are sustained for a long period of time, or increased, or if other export restrictions are imposed, including restrictions on trade with other countries, it will have an adverse impact on our revenue and results of operations.

If the third-party manufacturing partners, including manufacturers and assembly and test providers, with which we contract, or any additional third-party manufacturing partners with which we may contract in the future, do not achieve satisfactory yields or quality, our reputation and customer relationships could be harmed.

We depend on satisfactory manufacturing capacity, prices, and production yields, as well as timely delivery to meet customer demand and enable us to maintain gross margins. The fabrication of our products is a complex and technically demanding process. Minor deviations in the manufacturing process can cause substantial decreases in yields and, in some cases, cause production to be suspended. Manufacturers with which we contract now or in the future may experience manufacturing defects and reduced manufacturing yields from time to time. If these third-party manufacturing partners were to extend lead times, limit supplies or the types of capacity we require, or increase prices due to capacity constraints or other factors, our revenue and gross margin may materially decline. Any new third-party manufacturing partners we work with may present additional and unexpected manufacturing challenges that could require significant management time and focus.

Changes in manufacturing processes or the inadvertent use of defective or contaminated materials by the manufacturers that we work with could result in lower than anticipated production yields or unacceptable performance of our devices. Many of these problems are difficult to detect at an early stage of the manufacturing process and may be time-consuming and expensive to correct. Poor production yields or defects, integration issues or other performance problems in our products could significantly harm our customer relationships and financial results, and give rise to financial or other damages to our customers. Any product liability claim brought against us, even if unsuccessful, would likely be time-consuming and costly to defend.

Manufacturing yields for new products initially tend to be lower as we complete product development and commence volume manufacturing, and typically increase as we bring the product to full production. Our business model includes the assumption of improving manufacturing yields and, as a result, material variances between projected and actual manufacturing yields will have a direct effect on our gross margin and profitability. The difficulty of accurately forecasting manufacturing yields and maintaining cost competitiveness through improving manufacturing yields will continue to be magnified by the increasing process complexity of manufacturing semiconductor products.

Our operating results are impacted by wide fluctuations of supply and demand in the industry.

The semiconductor industry is highly cyclical and subject to wide fluctuations of supply and demand as a result of rapid technological change, rapid product obsolescence and price erosion, evolving standards, and frequent new product introductions. The industry has experienced significant downturns during recent global recessions, characterized by diminished product demand, production overcapacity, and high inventory levels. During these periods, our customers may overstock our products, which would lead to inflated demand for the given period.

Further, any upturn in the semiconductor industry could result in increased competition for access to third-party manufacturing partners. We are dependent on the availability of this capacity to manufacture and assemble our products, and our third-party manufacturing partners have not provided assurances that adequate capacity will be available to us in the future.

In periods when broad fluctuations or changes in business conditions occur, it is difficult to assess the impact on our business. We have sought to reduce our exposure to these fluctuations in our industry by ensuring we have adequate inventory during periods of high demand, including having sufficient supply of components needed to produce more of our products. However, we have experienced substantial period-to-period fluctuations in operating results and expect, in the future, to experience period-to-period fluctuations in operating results due to these changes in business conditions.

We have identified material weaknesses in our internal control over financial reporting and may identify additional material weaknesses in the future or fail to maintain an effective system of internal control over financial reporting. If our remediation of the material weaknesses is not effective, or we fail to develop and maintain effective internal control over financial reporting, our ability to produce timely and accurate financial statements or comply with applicable laws and regulations could be impaired, which could harm our business and negatively impact the value of our common stock.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of a company's annual or interim financial statements will not be prevented or detected on a timely basis. We have identified material weaknesses in our internal control over financial reporting.

We did not adequately design and maintain an effective risk assessment process at a sufficient precision level to identify risks of material misstatement in our consolidated financial statements. Specifically, the implementation of controls was not sufficient to respond to risks of material misstatement to financial reporting, including a lack of effectively designed controls over segregation of duties, particularly over the preparation and review of journal entries and account reconciliations.

This material weakness could result in a misstatement of substantially all of the financial statement accounts and disclosures that would result in a material misstatement to our annual or interim consolidated financial statements that would not be prevented or detected.

We did not design and maintain effective information technology ("IT") general controls for information systems that are relevant to the preparation of its financial statements. Specifically, we did not design and maintain: (i) program change management controls to ensure that program and data changes are identified, tested, authorized, and implemented appropriately; (ii) user access controls to ensure appropriate segregation of duties and to adequately restrict user and privileged access to appropriate personnel; (iii) computer operations controls to ensure that processing and transfer of data, and data backups and recovery are monitored; and (iv) program development controls to ensure that new software development is tested, authorized, and implemented appropriately.

These IT deficiencies did not result in a material misstatement to our consolidated financial statements, however, the deficiencies, when aggregated, could impact maintaining effective segregation of duties, as well as the effectiveness of IT-dependent controls (such as automated controls that address the risk of material misstatement to one or more assertions, along with the IT controls and underlying data that support the effectiveness of system-generated data and reports) that could result in misstatements potentially impacting all financial statement accounts and disclosures that would not be prevented or detected. Accordingly, we have determined these deficiencies in the aggregate constitute a material weakness.

We began taking steps to remediate these material weaknesses through the implementation of business process and IT general controls in 2024. We have reviewed and are continuing to review business processes and IT processes and design and implement internal controls consistent with the principles of the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") framework to address the risks of material misstatement. Such activities include designing and implementing new business processes, enhancing information and communication processes, assessing risk, improvements to control documentation, enhancements to segregation of duties and access rights, and deployment of new IT systems and system functionalities as necessary. We are in the process of establishing a risk assessment process, including a monitoring function over internal control over financial reporting, including internal audit, to evaluate and enhance internal controls consistent with the COSO framework and the requirements of a public company. We further plan to implement and operate an appropriate set of IT general controls covering all financially significant systems, which includes controls covering security administration, segregation of duties, computer operations, system implementations, change management, complementary user controls for hosted systems, oversight activities for significant third-party vendors and others. In order to maintain and improve the effectiveness of our internal control over financial reporting as a public company, and once our material weaknesses have been remediated, we anticipate that we will continue to expend significant resources, including accounting-related costs and significant management oversight. Our current controls and any new controls that we develop may become inadequate because of changes in conditions in our business.

In addition, we have limited experience with implementing the systems and controls that are necessary to operate as a public company. If these new systems or controls and the associated process changes do not give rise to the benefits that we expect or do not operate as intended, it could adversely affect our financial reporting systems and processes, our ability to produce timely and accurate financial reports or the effectiveness of internal control over financial reporting. Moreover, our business may be harmed if we experience problems with any new systems and controls that result in delays in their implementation or increased costs to correct any post-implementation issues that may arise.

While we are designing and implementing new controls and measures to remediate these material weaknesses, the measures we are taking may not be sufficient to remediate the material weaknesses or avoid the identification of additional material weaknesses in the future. Any failure to remediate our material weaknesses and to implement and maintain effective internal control over financial reporting also could adversely affect the results of periodic management evaluations and annual independent registered public accounting firm attestation reports regarding the effectiveness of our internal control over financial reporting that we will eventually be required to include in our periodic reports that will be filed with the SEC. Ineffective disclosure controls and procedures and internal control over financial reporting could also result in errors in our consolidated financial statements that could result in a restatement of our financial statements and could cause us to fail to meet our periodic reporting obligations, any of which could diminish investor confidence in us and cause a decline in the price of our common stock. In addition, if we are unable to continue to meet these requirements, we may not be able to remain listed on the Nasdaq Global Select Market (“Nasdaq”).

We are not currently required to comply with the SEC rules that implement Section 404 of the Sarbanes- Oxley Act and are therefore not required to make a formal assessment of the effectiveness of our internal control over financial reporting for that purpose. As a public company, we are required to provide an annual management report on the effectiveness of our internal control over financial reporting commencing with our second annual report on Form 10-K. Our independent registered public accounting firm is not required to formally attest to the effectiveness of our internal control over financial reporting until we are no longer considered an emerging growth company. At such time, our independent registered public accounting firm may issue a report that is adverse in the event it is not satisfied with the level at which our internal control over financial reporting is documented, designed or operating. Any failure to maintain effective disclosure controls and internal control over financial reporting could harm our business and could cause a decline in the trading price of our common stock.

We may experience difficulties in transitioning to smaller geometry process nodes, and tapeouts in smaller nodes are more expensive.

In order to remain competitive, we have transitioned, and expect to continue to transition, our semiconductor products to be manufactured in accordance with increasingly smaller line width geometries. We periodically evaluate the benefits, on a product-by-product basis, of migrating our product designs to smaller geometry process nodes. We also evaluate the costs of migrating to smaller geometry process nodes, including both actual costs and opportunity costs related to the technologies we choose to forego. These complex transitions are imperative for us to remain competitive with the rest of the industry.

We have been, and may continue to be, dependent on our relationships with our manufacturers to transition to smaller geometry processes successfully. We cannot ensure that the third parties we use will be able to effectively manage any future transitions. If we or any of our partners experience significant delays in a future transition or fail to efficiently implement a transition, we could experience reduced manufacturing yields, delays in product deliveries, and increased expenses, all of which could harm our relationships with our customers and our results of operations.

If we are unable to attract, train, and retain qualified personnel, particularly our design and technical personnel, we may not be able to execute our business strategy effectively.

Our future success depends on our ability to attract and retain qualified personnel, including our management, sales and marketing, and finance, and particularly our design and technical personnel. In addition, we permit certain of our employees work remotely, which adds to the complexity of our business operations. We do not know whether we will be able to retain all of these personnel as we continue to pursue our business strategy.

Historically, we have encountered difficulties in hiring qualified engineers because there is a limited pool of engineers with the expertise required in our field and competition for these personnel is intense in our industry. In addition, competition for these personnel in the San Francisco Bay Area, where our headquarters are located, and in other locations where we maintain offices, is intense. We have from time to time experienced, and we expect to continue to experience, difficulty in hiring and retaining employees with appropriate qualifications. As the source of our technological and product innovations, our design and technical personnel represent a significant asset. The loss of the services of one or more of our key employees, especially our key design and technical personnel, or our inability to attract and retain qualified design and technical personnel, could harm our business, financial condition, and results of operations.

Many of our key personnel are, or will soon be, vested in a substantial amount of shares of our common stock, RSUs, or stock options. Employees may be more likely to terminate their employment with us if the shares they own or the shares underlying their vested RSUs or options have significantly appreciated in value relative to the original purchase prices of the shares or the exercise price of the options or grant date values of the RSUs, or, conversely, if the exercise price of the options that they hold are significantly above the trading price of our common stock. In addition, job candidates and

existing employees often consider the value of the stock awards they receive in connection with their employment. If the perceived value of our stock awards declines, it may adversely affect our ability to recruit and retain highly skilled employees.

Our business would be adversely affected by the departure of existing members of our senior management team.

Our success depends, in large part, on the continued contributions of our senior management team, and in particular, the services of Jitendra Mohan, our Co-Founder and Chief Executive Officer, and Sanjay Gajendra, our Co-Founder, President, and Chief Operating Officer. Effective succession planning is also important for our long-term success. Failure to ensure effective transfers of knowledge and smooth transitions involving senior management could hinder our strategic planning and execution. We do not maintain key person life insurance policies, so the loss of one or more of our executive officers or key employees (including any limitation on the performance of their duties or short-term or long-term absences as a result of illness or disability) could adversely affect our business.

Cybersecurity risks, including cyber-attacks, data breaches, and system vulnerabilities could adversely affect our business and disrupt our operations.

We depend heavily on our technology infrastructure and cloud partners and maintain and rely upon certain critical information systems for the effective operation of our business. We routinely collect, receive, process, and store personal information (which may also be referred to as “personal data” or “personally identifiable data”) and sensitive data via our information systems, including intellectual property and other proprietary information about our business and that of our customers, employees, suppliers, business partners, and others. We and the third parties upon which we rely face a variety of evolving threats, which could cause cybersecurity incidents or data breaches, such as cyber-attacks. These information technology systems are subject to damage or interruption from a number of potential sources, including, but not limited to, natural disasters, destructive or inadequate code, computer malware, ransomware attacks, bugs, viruses, system vulnerabilities, social engineering, including phishing attacks, denial-of-service attacks, other malicious internet-based activity, online and offline fraud, wrongful conduct by insider employees or vendors, as well as data breaches, power failures, internal negligence, malfeasance, natural disasters or other events.

Cyber-attacks are increasing in number and sophistication, are well-financed, in some cases supported by state actors, and are designed to not only attack, but also to evade detection. Since the techniques used to obtain unauthorized access to systems and data, or to otherwise sabotage them, change frequently and are often not recognized until launched against a target, we may be unable to anticipate these techniques or to implement adequate preventative measures. Geopolitical instability may increase the likelihood that we will experience direct or collateral consequences from cyber conflicts between nation-states or other politically motivated actors targeting critical technology infrastructure. Accidental or willful security breaches, data breaches, or other unauthorized access to our information systems or the systems of our third-party service providers, or the existence of computer viruses, malware (such as ransomware), or vulnerabilities in our or their data or software could expose us to a risk of information loss, business disruption, or misappropriation of proprietary and confidential information, including information relating to our products or customers or the personal information of our employees or third parties. Despite our internal controls and investment in security measures, we have in the past, and may again in the future, be subject to cyber-attacks or unauthorized network intrusions. These events, should they occur, could disrupt our business and result in, among other things, unfavorable publicity, damage to our reputation, loss of our trade secrets and other competitive information, litigation by affected parties and possible financial obligations for liabilities and damages related to the theft or misuse of such information, significant remediation costs, disruption of key business operations, and significant diversion of our resources, legal notifications and disclosures, as well as fines and other sanctions resulting from any related breaches of data privacy laws and regulations (such as the CCPA), any of which could have a material adverse effect on our business, profitability, and financial condition. In addition, despite our internal controls and processes, malicious code, and cybersecurity vulnerabilities in our products and services may expose our customers to cyberattacks and other security risks, which may result in claims, regulatory action, or reputational damage. While we may be entitled to damages if an adverse event arises from our third-party service providers’ failure to perform under their agreements with us, any award may be insufficient to cover the actual costs incurred by us and, as a result of a service provider’s failure to perform, we may be unable to collect any damages.

Further, we continue to devote resources to protect our systems and data from unauthorized access or misuse, and we will likely be required to expend greater resources in the future. However, we cannot guarantee that our risk management processes will be effective at mitigating the risk to our information technology systems.

U.S. and foreign regulators have also increased their focus on cybersecurity vulnerabilities and risks. Compliance with laws and regulations concerning privacy, cybersecurity, data governance, and data protection could result in significant expense, and any failure to comply could result in proceedings against us by regulatory authorities or other third parties. Such proceedings could result in (among other things) unfavorable publicity, damage to our reputation, possible

financial obligations for liabilities, and government orders to implement additional protective measures or adopt new protocols, which could result in additional material expense. Further, customers and third-party manufacturing partners increasingly demand rigorous contractual, certification, and audit provisions regarding privacy, cybersecurity, data governance, data protection, confidentiality, and intellectual property, which may also increase our overall compliance burden.

We have incurred and may in the future incur significant costs in order to implement, maintain, and/or update security systems that are designed to protect our information systems and the design of our products and services, and we may miscalculate the level of investment necessary to protect our systems adequately. Since the techniques used to obtain unauthorized access to or sabotage and compromise systems and technology infrastructure change frequently and are often not recognized until launched against a target, we may be unable to anticipate these techniques or to implement adequate preventive measures.

To the extent that any system failure, known or unknown vulnerability, cybersecurity incident or data breach results in material disruptions or interruptions to our operations or the theft, loss, unauthorized access or disclosure of, or damage to our data (including personal information) or confidential information, including our intellectual property, or exposes our customers to cybersecurity threats and attacks, our reputation, business, results of operations, and/or financial condition could be materially adversely affected.

An impairment of the confidentiality, integrity, or availability of our IT systems, or those of one or more of our IT vendors could have a material adverse effect on our business.

Our business depends on various internally managed IT systems and outsourced IT services, including cloud-based infrastructure services, to support, among other things, the design and simulation of our products, financial reporting, product orders and shipping, human resources, benefit plan administration, IT network development, network monitoring, productivity tools, and electronic communication services. Our operations are dependent upon our and our IT vendors' ability to protect our respective IT infrastructure against damage from business continuity events that could have a significant disruptive effect. Although these systems and services are designed to protect and secure our customers', suppliers', and employees' confidential information, as well as our own proprietary information, we are dependent on our vendors and providers to adequately address cybersecurity threats to their systems and services. Any failure of these internal or third-party systems and services to operate effectively or any breach of such systems or services could disrupt our operations and could have a material adverse effect on our business, financial condition, and results of operations.

Our business is subject to complex and evolving laws and regulations regarding privacy, data protection, and cybersecurity, any actual or perceived failure to comply with such laws and regulations could have a material adverse effect on our business.

There are numerous U.S. federal, state, local, and international laws and regulations regarding privacy, data protection, and cybersecurity that govern the collection, receipt, processing, and storage of personal information and other information. The scope of these laws and regulations is expanding and evolving, subject to differing interpretations, may be inconsistent among jurisdictions, or conflict with other rules. We are also subject to the terms of our privacy policies and obligations to third parties, including our customers, related to privacy, data protection, and cybersecurity.

For example, the California Consumer Privacy Act of 2018 (the "CCPA") as amended by the California Privacy Rights Act, affords California residents broad privacy rights and protections, and provides for civil penalties for certain violations. Numerous additional states have passed and others have proposed and may in the future pass comprehensive state privacy laws that may impose additional obligations on our business. Data privacy laws and regulations are constantly evolving and can be subject to significant change and/or interpretive application. Varying and evolving jurisdictional requirements could increase the costs and complexity of our compliance efforts and require changes to how we conduct our business. Violations of applicable data privacy laws can result in significant penalties. Any failure, or perceived failure, by us to comply with applicable data protection or other laws could result in proceedings, or actions against us by governmental entities or others, subject us to significant fines, penalties, judgments, and negative publicity, require us to change our business practices, increase the costs and complexity of compliance, and could have a material adverse effect on our business, financial condition, and results of operations.

We intend to transition to a new enterprise resource planning system ("ERP") and any delays or difficulties associated with the design, implementation, or post-implementation use of our new ERP system could adversely impact our business, financial condition, and results of operations.

We rely on information systems to manage our business, summarize our operating and financial results, and provide timely information to our management. We plan to engage in the design and implementation of a new ERP system

beginning in 2025. This process is a complex project with broad scope, in which we will invest significant financial and human capital. Despite our efforts, we may experience delays, unexpected costs, or other difficulties throughout the design and implementation process. Further, although we plan to conduct extensive testing in an effort to ensure that the new ERP system is operating as intended, post-implementation disruptions to or difficulties in use of the new ERP could require us to incur additional costs, or could impair, among other things, our ability to record sales, process transactions, collect receivables, and produce timely and accurate historical and forecasted financial information, which could adversely impact our business, financial condition, and results of operations. Additionally, if the new ERP system does not ultimately operate as intended, the effectiveness of our internal control over financial reporting could be harmed.

We may be subject to warranty claims and product liability.

From time to time, we may be subject to warranty or product liability claims arising from defects or perceived defects in our products or in third-party components that we integrate into our products, which may lead to significant expenses. Our customer contracts typically contain warranty provisions relating to product quality issues. While we generally seek to limit our liability to the replacement of the part or to the revenue received for the product in our agreements, we may not be successful in limiting our liability to these remedies, or these limitations on liability may not be effective or sufficient in scope in all cases. If a customer's equipment fails in use, the customer may incur significant monetary damages including an equipment recall or associated replacement expenses, as well as lost revenue. The customer may claim that a defect in our product caused the equipment failure and assert a claim against us to recover monetary damages. The process of identifying a defective or potentially defective product in systems that have been widely distributed may be lengthy and require significant resources, and we may incur significant replacement costs and contract damage claims from our customers. In certain situations, we may consider incurring the costs or expenses related to a recall of one of our products in order to avoid the potential claims that may be raised should customer suffer a failure due to a design or manufacturing process defect. Any such liabilities may greatly exceed any revenue we receive from the relevant products. Costs, payments, or damages incurred or paid by us in connection with warranty and product liability claims could materially adversely affect our financial condition and results of operations. We may also be exposed to such claims as a result of any acquisition we may undertake in the future.

Litigation and other legal proceedings may adversely affect our business.

From time to time we may become involved in legal proceedings relating to patent and other intellectual property matters, product liability claims, employee claims, including wrongful termination, tort, or contract claims, federal regulatory investigations, securities class action, and other legal proceedings or investigations, which could have an adverse impact on our business, financial condition, and results of operations and divert the attention of our management from the operation of our business. Litigation is inherently unpredictable and can result in excessive or unanticipated verdicts and/or injunctive relief that affect how we operate our business. We could incur judgments or enter into settlements of claims for monetary damages or for agreements to change the way we operate our business, or both. There may be an increase in the scope of these matters or there may be additional lawsuits, claims, proceedings, or investigations in the future, which could have a material adverse effect on our business, financial condition, and results of operations. Adverse publicity about regulatory or legal action against us could damage our reputation and brand image, undermine our customers' confidence, and reduce long-term demand for our products, even if the regulatory or legal action is unfounded or not material to our operations.

The occurrence of events for which we are self-insured, or which exceed our insurance limits, may adversely affect our profitability and liquidity.

We have insurance coverage related to many different types of risk; however, we self-insure for some potentially significant risks and obligations, including those that may exceed policy limits. The risks and exposures that we self-insure include, but are not limited to, employee health matters, business interruption, natural disasters, war and terrorism, certain property matters, product defects, cybersecurity matters, employment risks, environmental matters, political risks, and intellectual property matters. Although we believe we have sufficient capital to satisfy a potential loss, should there be a loss or adverse judgment in an area for which we are self-insured, our financial condition, results of operations, and liquidity may be materially adversely affected.

Our business, financial condition, and results of operations could be adversely affected by worldwide economic conditions, as well as political and economic conditions in the countries in which we conduct business.

Our business, financial condition, and results of operations have in the past and may in the future vary based on changes in our industry, as well as the impact of the global economy on our third-party manufacturing partners and customers. Our results of operations currently depend, in part, on the demand for our products, which in turn are influenced

by the amount of business that our customers conduct. To the extent that weak or volatile economic conditions, including due to a pandemic or health epidemic, labor shortages, supply chain disruptions, inflation, geopolitical developments (such as the implementation of, or changes to or further expansions of, trade sanctions, export restrictions, tariffs, and embargoes), deterioration of the financial services industry, and other events outside of our control, result in a reduced volume of business for our customers and prospective customers, demand for, and use of, our products has in the past and may in the future decline.

Furthermore, weak economic conditions have in the past and may in the future make it more difficult to collect on outstanding accounts receivable and increase our expenses. Specifically, our distributors or customers may fail to make payments when due, default under their agreements with us, or become insolvent or declare bankruptcy, or a supplier may determine that it will no longer do business with us as a customer. Additionally, a distributor, customer or supplier could be adversely affected by any of the liquidity or other risks that are described above as factors that could result in material adverse impacts on us, including but not limited to delayed access or loss of access to uninsured deposits or loss of the ability to draw on existing credit facilities involving a troubled or failed financial institution. Further, in the last year as a result of inflation, we have seen labor costs, product supply costs, and other operating expenses rise due to high rates of inflation, but have not been able to offset these costs with higher prices of our products. If customers or prospective customers elect not to purchase our products, as a result of a weak economy or rising inflation and increased costs or otherwise, or our distributors are unable to continue to distribute our products, our business, results of operations, and financial condition could be adversely affected.

Our products are manufactured, assembled, and tested outside the United States. Any conflict or uncertainty in these countries, including due to political unrest or safety concerns, could harm our business, financial condition, and results of operations. In addition, if the government of any country in which our products are manufactured or sold sets technical standards for products manufactured in or imported into their country that are not widely shared, it may lead some of our customers to suspend imports of their products into that country, require manufacturers in that country to manufacture products with different technical standards and disrupt cross-border manufacturing relationships which, in each case, could harm our business.

We may pursue acquisitions, joint ventures, and dispositions, which could adversely affect our results of operations, and any acquisitions we do make could disrupt our business and harm our financial condition.

Our growth strategy includes acquiring businesses that offer complementary products, services, and technologies, enhance our market coverage or technological capabilities or enables us to increase the number of engineering employees.

We have in the past, and may in the future choose to acquire companies that are complementary to our business, including for the purpose of expanding our new product design capacity, introducing new design, market, or application skills, enhancing, and expanding our existing product lines or grow the number of engineers. We cannot forecast the number, timing or size of future acquisitions, or the effect that any such acquisitions might have on our operating or financial results.

Any acquisitions we may undertake and their integration involve risks and uncertainties, such as:

- unexpected delays, challenges and related expenses, and disruption of our business;
- diversion of management's attention from daily operations and the pursuit of other opportunities;
- incurring significant restructuring charges and amortization expense, assuming liabilities (some of which may be unexpected) and ongoing or new lawsuits, potential impairment of acquired goodwill, acquired in-process research and development charges and other intangible assets, amortization expense, and increasing our expenses and working capital requirements;
- the potential for deficiencies in internal controls at the acquired business, or other security vulnerabilities or issues, as well as implementing our own management information systems, operating systems, and internal controls for the acquired operations;
- our due diligence process may fail to identify significant issues with the acquired business' products, financial disclosures, accounting practices, legal, tax, and other contingencies, intellectual property rights, compliance with local laws and regulations (and interpretations thereof) in the United States, and multiple international jurisdictions;
- additional acquisition-related debt and contingent liabilities, which could increase our leverage and potentially negatively affect our credit ratings resulting in more restrictive borrowing terms or increased borrowing costs thereby limiting our ability to borrow;

- the use of a significant portion of our available cash;
- dilution of stock ownership of existing stockholders;
- difficulties integrating the acquired business or company and in managing and retaining acquired employees, third-party manufacturing partners, and customers; and
- inaccuracies in our original estimates and assumptions used to assess a transaction, which may result in us not realizing the expected financial or strategic benefits of any such transaction.

In addition, current and future changes to the U.S. and foreign regulatory approval process and requirements related to acquisitions may cause approvals to take longer than anticipated, not be forthcoming or contain burdensome conditions, which may prevent the transaction or jeopardize, delay or reduce the anticipated benefits of the transaction, and impede the execution of our business strategy.

From time to time, we may also seek to divest or wind down portions of our business, either acquired or otherwise, any of which could materially affect our cash flows and results of operations. Such dispositions involve risks and uncertainties, including our ability to sell such businesses on terms acceptable to us, or at all, disruption to other parts of our business, potential loss of employees or customers, or exposure to unanticipated liabilities or ongoing obligations to us following any such dispositions. In addition, dispositions may include the transfer of technology and/or the licensing of certain intellectual property rights to third parties, which could limit our ability to utilize such intellectual property rights or assert these rights against such third parties.

We may not be able to accurately predict our future capital needs, and we may not be able to obtain additional financing to fund our operations.

We may need to raise additional funds in the future. Any required additional financing may not be available on terms acceptable to us, or at all. If we raise additional funds by issuing equity securities or convertible debt, investors may experience significant dilution of their ownership interest, and the newly-issued securities may have rights senior to those of the holders of our common stock. If we raise additional funds by obtaining loans from third parties, the terms of those financing arrangements may include negative covenants or other restrictions on our business that could impair our operational flexibility and would also require us to incur additional interest expense. If additional financing is not available when required or is not available on acceptable terms, we may have to scale back our operations or limit our production activities, and we may not be able to expand our business, develop or enhance our products, take advantage of business opportunities or respond to competitive pressures, which could negatively impact our business, financial condition, and results of operations.

If our estimates or judgments relating to our critical accounting policies are based on assumptions that change or prove to be incorrect, our results of operations could fall below expectations of securities analysts and investors, resulting in a decline in the market price of our common stock.

The preparation of financial statements in conformity with generally accepted accounting principles in the United States (“GAAP”) requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, as described in the section entitled “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” the results of which form the basis for making judgments about the carrying values of assets, liabilities, equity, revenue, and expenses that are not readily apparent from other sources. Significant assumptions and estimates used in preparing our consolidated financial statements include those listed in our consolidated financial statements. If our assumptions change or if actual circumstances differ from those in our assumptions, our results of operations may be adversely affected and may fall below the expectations of securities analysts and investors, resulting in a decline in the market price of our common stock.

Our reported financial results may be adversely affected by new accounting pronouncements or changes in existing accounting standards and practices.

We prepare our financial statements in conformity with GAAP. These accounting principles are subject to interpretation or changes by the Financial Accounting Standards Board and the SEC. New accounting pronouncements and interpretations of accounting standards and practices have occurred in the past and are expected to occur in the future. New accounting pronouncements or a change in the interpretation of accounting standards or practices may have a significant effect on our reported financial results and may affect our reporting of transactions completed before the change is effective.

A pandemic, epidemic, or outbreak of an infectious disease may materially and adversely affect our business and our financial results.

Our business could be adversely affected by health crises in regions where we operate or otherwise do business. For example, the policies and regulations implemented in response to the outbreak of COVID-19 had a significant impact, both directly and indirectly, on businesses and commerce and the global supply chain for semiconductors. Although restrictions have generally been lifted, additional indirect effects such as supply shortages continue to impact segments of the global economy. Other global health concerns could also result in social, economic, and labor instability in the countries in which we or the third parties with whom we engage operate. The conditions caused by the COVID-19 pandemic and its aftermath as well as macroeconomic conditions have caused diminished liquidity and credit availability, declines in customer confidence, declines in economic growth, increases in unemployment rates and uncertainty about economic stability, and any future health crisis may have a similar impact.

Our operations have in the past been negatively affected by a range of external factors related to the effects of the COVID-19 pandemic that are not within our control. We may also be negatively affected by a future pandemic, epidemic, outbreak of an infectious disease or public health crisis. In the past many cities, counties, states, and even countries have previously imposed or may impose a wide range of restrictions on the physical movement of our employees, partners, and customers to limit the spread of COVID-19, including physical distancing, travel bans and restrictions, closure of non-essential business, quarantines, work-from-home directives, and shelter-in-place orders. These measures have previously caused, and may cause in the future, business slowdowns or shutdowns in affected areas, both regionally and worldwide. If future pandemics, epidemics or other global health crises have a substantial impact on the productivity of our employees and partners, or a continued substantial impact on the ability of our employees to execute responsibilities, or a continued and substantial impact on the ability of our customers to purchase our products, our results of operations, and overall financial performance may be harmed.

To the extent future pandemics, epidemics, outbreaks of infectious diseases, or public health crisis adversely affect our business and financial results, it may also have the effect of heightening many of the other risks described herein.

Changes in current or future laws or regulations or the imposition of new laws or regulations by federal or state agencies or foreign governments could impair our ability to compete in international markets, or subject us to criminal penalties or significant fines which may adversely affect our business and reputation.

Changes in current laws or regulations applicable to us or the imposition of new laws and regulations in the United States or other jurisdictions in which we do business, such as Canada, China, India, Israel, and Taiwan, could materially and adversely affect our business, financial condition, and results of operations. See “Item 2. Properties included in Part I, Item 1 of this Annual Report” for a description of how our facilities are used in these various jurisdictions. For example, we are subject to export control laws, regulations, and requirements that limit which products we sell and where and to whom we sell our products. In some cases, it is possible that export licenses would be required from U.S. government agencies for some of our products in accordance with the Export Administration Regulations and the International Traffic in Arms Regulations. We may not be successful in obtaining the necessary export licenses in all instances. Any limitation on our ability to export or sell our products imposed by these laws would adversely affect our business, financial condition, and results of operations. In addition, changes in our products or changes in export and import laws and implementing regulations may create delays in the introduction of new products in international markets, prevent our customers from deploying our products internationally or, in some cases, prevent the export or import of our products to certain countries altogether.

We are also subject to anti-corruption and anti-bribery and similar laws, such as the Foreign Corrupt Practices Act (the “FCPA”), the U.S. domestic bribery statute contained in 18 U.S.C. § 201, the U.S. Travel Act, the USA PATRIOT Act, the U.K. Bribery Act, and other anti-corruption, anti-bribery, and anti-money laundering laws in countries where we conduct activities. Anti-corruption and anti-bribery laws have been interpreted broadly and enforced aggressively in recent years, and prohibit companies and their employees and agents from promising, authorizing, making, or offering improper payments or other benefits to government officials and others in the private sector to influence official action, direct business to any person, gain any improper advantage, or obtain or retain business. As we increase our international sales and business, our risks under these laws may increase.

In addition, in the future we may use third parties to conduct business on our behalf abroad. We or such future third-party intermediaries may have direct or indirect interactions with officials and employees of government agencies or state-owned or affiliated entities, and we can be held liable for the corrupt or other illegal activities of such future third-party intermediaries and our employees, representatives, contractors, partners, and agents, even if we do not explicitly authorize such activities. We have implemented an anti-corruption compliance program, but cannot guarantee that all our employees and agents, as well as those companies we outsource certain of our business operations to, will not take actions in violation

of our policies and applicable law, for which we may be ultimately held responsible. Any violation of the FCPA, other applicable anti-corruption laws, or anti-money laundering laws could result in whistleblower complaints, adverse media coverage, investigations, prosecutions, loss of export privileges, suspension or debarment from U.S. government contracts, substantial diversion of management's attention, significant legal fees and fines, settlements, damages, severe criminal or civil sanctions, penalties or injunctions against us, our officers, or our employees, disgorgement of profits, and other sanctions, enforcement actions, and remedial measures, and prohibitions on the conduct of our business, any of which could have a materially adverse effect on our reputation, business, trading price, results of operations, financial condition, and prospects.

Our global operations expose us to numerous legal and regulatory requirements and failure to comply with such requirements, including unexpected changes to such requirements, could adversely affect our results of operations.

We service our customers around the world. We are subject to numerous, and sometimes conflicting, legal regimes of the United States and foreign national, state, and provincial authorities on matters as diverse as anti- corruption, trade or investment restrictions, tariffs, taxation, sanctions, anti-competition, data security or transfer, and privacy. U.S. laws may be different in significant respects from the laws of the PRC or Taiwan, where we utilize a significant portion of our third-party manufacturing partners, and jurisdictions where we seek to expand. U.S. laws could also directly conflict with PRC laws, forcing businesses to choose between compliance with conflicting legal regimes. We also may seek to expand operations in emerging market jurisdictions where legal systems are less developed or familiar to us.

In addition, there can be no assurance that the laws or administrative practices relating to taxation (including the current position as to income and withholding taxes), foreign exchange, export controls, economic sanctions, or otherwise in the jurisdictions where we have operations will not change. Changes in tax laws in some jurisdictions may also have a retroactive effect and we may be found to have paid less tax than required in such jurisdictions. Compliance with diverse legal requirements is costly, time consuming and requires significant resources. Violations of one or more of these regulations in the conduct of our business could result in significant fines, criminal sanctions against us or our officers, prohibitions on doing business and damage to our reputation. Violations of these regulations in connection with the performance of our obligations to our customers also could result in liability for significant monetary damages, fines or criminal prosecution, unfavorable publicity and other reputational damage, and allegations by our customers that we have not performed our contractual obligations. Due to the varying degrees of development of the legal systems of the countries in which we operate, local laws might be insufficient to protect our rights.

Regulatory authorities in jurisdictions into or from which we ship our products or import supplies could levy fines, restrict or delay our ability to export products or import supplies, or increase costs associated with the manufacture or transfer of products.

A significant portion of our sales require export and import activities. Our products are subject to laws and regulations that govern international trade, including but not limited to the FCPA, Export Administration Regulations, International Traffic in Arms Regulations and trade sanctions against embargoed countries and restricted parties, including those administered by the U.S. Departments of State, Commerce, and Treasury. Licenses or license exceptions may be required for the shipment of certain products to certain countries. Regulations and laws regarding licensing may also change in the future, requiring us to obtain licenses for products that we have not previously been required to license. Any changes in laws or regulations around license requirements may delay scheduled shipments, which could have a material adverse impact on our revenue.

Further, determination by a government that we have failed to comply with trade sanctions, investment, anti-bribery, or other regulations can result in penalties which may include denial of export privileges, fines, penalties, and seizure of products, or loss of reputation, any of which could have a material adverse effect on our business, sales, and earnings. A change in laws and regulations could restrict our ability to transfer product to previously permitted countries, customers, distributors or others. For example, the U.S. Commerce Department imposes and periodically revises restrictions on advanced computing ICs, computer commodities that contain such ICs, as well as on certain semiconductor manufacturing items, and expands controls on transactions involving items for supercomputer and semiconductors and manufacturing end-uses. In October 2023, the U.S. Commerce Department issued proposed rules updating the October 2022 rule to seek additional export restrictions for certain semiconductors and related manufacturing equipment, and it is expected the U.S. Commerce Department will continue to revise such regulations in the future. The Export Administration Regulations also effectively prohibits sales of items for a "military end use," to a "military end-user," or for a "military intelligence end-user," or end-use to certain countries, such as Belarus, Burma, Cambodia, Cuba, China, Iran, North Korea, Russia, Syria, and Venezuela. Any of the foregoing changes could adversely impact our operational costs due to the administrative impacts of complying with these regulations and may limit those with whom we conduct business. Any one or more of

these sanctions, future sanctions, a change in laws or regulations, or a prohibition on shipment of our products to significant customers could have a material adverse effect on our business, financial condition, and results of operations.

The United States and other countries have levied tariffs and taxes on certain goods, implemented trade restrictions, and introduced national security protection policies. Trade tensions between the United States and China, which escalated in 2018, have continued and include the United States increasing tariffs on Chinese origin goods and China increasing tariffs on U.S. origin goods. Increases on tariffs on Chinese-origin goods may intensify pricing pressure on our products and negatively impact our operating results. Increased tariffs on our customers' systems could adversely impact their sales, and increased tariffs on our products in comparison to those of our competitors could each result in lower demand for our products.

Further changes in trade or national security protection policy, tariffs, additional taxes, restrictions on exports or other trade or investment barriers, including those taken against the United States in retaliation for U.S. policies, may limit our ability to obtain equipment, components or raw materials (including rare earth minerals), limit our ability to produce products, increase our selling and/or manufacturing costs, decrease margins, reduce the competitiveness of our products, reduce our ability to sell products, or reduce our ability to have mergers and acquisitions approved by governmental agencies, any of which could have a material adverse effect on our business, results of operations, or financial conditions.

Customer demands for us to implement business practices that are more stringent than legal requirements may reduce our revenue opportunities or cause us to incur higher costs.

Some of our customers may require that we implement practices that are more stringent than those required by applicable laws with respect to labor requirements, the materials contained in our products, energy efficiency, environmental matters, or other items. To comply with such requirements, we may also require our third-party manufacturing partners to adopt such practices, as needed. Our third-party manufacturing partners may in the future refuse to implement these practices or may charge us more for complying with them. If certain of our third-party manufacturing partners refuse to implement the practices, we may be forced to source from alternate third-party manufacturing partners. The cost to implement such practices may cause us to incur higher costs and reduce our profitability, and if we do not implement such practices, such customers may disqualify us as a supplier, resulting in decreased revenue opportunities. Developing, enforcing, and auditing customer-requested practices at our own sites and in our supply chain will increase our costs and may require more personnel.

Changes in existing tax laws, tax rules, or tax practices may adversely affect our financial results.

The rules governing U.S. federal, state, and local and non-U.S. taxation are constantly under review by persons involved in the legislative process, the Internal Revenue Service, the U.S. Treasury Department, and other taxing authorities. Changes to tax laws or tax rulings, or changes in interpretations of existing laws (which changes may have retroactive application), could adversely affect us or holders of our common stock. These changes could subject us to additional income-based taxes and non-income taxes (such as payroll, sales, use, value-added, digital tax, net worth, property, and goods and services taxes), which in turn could materially affect our financial position and results of operations. Additionally, new, changed, modified, or newly interpreted or applied tax laws could increase our customers' and our compliance, operating, and other costs, as well as the costs of our products. In recent years, many such changes have been made, and changes are likely to continue to occur in the future. As we expand the scale of our business activities, any changes in the U.S. and non-U.S. taxation of such activities may increase our effective tax rate and harm our business, financial condition, and results of operations.

Risks Related to Our Industry

We operate in intensely competitive markets. Our failure to compete effectively, including as a result of industry consolidation, would harm our results of operations.

The semiconductor industry is extremely competitive. We currently compete with a number of large domestic and international companies, some of which have greater financial, technical, and management resources than us. For example, we are facing, and expect we will continue to face, significant competition in the cloud data center infrastructure market. Our competitors typically compete with us with respect to some, but not all, of our solutions. Our principal competitors include Broadcom, Inc., Credo Technology Group Holding Ltd., Marvell Technology, Inc., Microchip Technology Inc., Montage Technology, Parade Technologies, Ltd., and Rambus Inc.. Our efforts to introduce new products into markets with entrenched competitors will expose us to additional competitive pressures. In addition, many of our competitors have longer operating histories, greater name recognition, larger customer bases, and greater sales, marketing, and distribution resources than we do and some operate and maintain their own fabrication facilities.

Additionally, customer expectations and requirements have been evolving rapidly. As a result, some of our competitors may be better situated to meet changing customer needs and secure design wins. Increasing competition in the markets in which we operate may negatively impact our revenue and gross margins. For example, competitors with greater financial resources may be able to offer lower prices than us, or they may offer additional products, services or other incentives that we may be unable to match.

We also may experience discriminatory or anti-competitive practices by our competitors that could impede our growth, cause us to incur additional expense or otherwise negatively affect our business. In addition, some of these competitors may use their market power to dissuade our customers from purchasing from us. The semiconductor industry has experienced significant consolidation in recent years which has resulted in several of our competitors becoming much larger in terms of revenue, product offerings, and scale. Our competitors may also establish cooperative relationships among themselves or with third parties or may acquire companies that provide similar products to ours. We expect this trend to continue as companies attempt to improve the leverage of growing research and development costs, strengthen or hold their market positions in an evolving industry, or are unable to continue operations. Companies that are strategic partners in some areas of our business may acquire or form alliances with our competitors, thereby reducing their business with us. We believe that industry consolidation may result in stronger competitors that are better able to compete as sole-source vendors for customers. This could lead to more variability in our operating results. Any of these factors, alone or in combination with others, could harm our business, financial condition, and results of operations and result in a loss of market share and an increase in pricing pressure.

Unfavorable or uncertain conditions in the cloud market, as well as for AI infrastructures, may cause fluctuations in our rate of revenue growth or financial results.

Our solutions are intended to address infrastructure needs for our hyperscaler customers, specifically to support their cloud and AI infrastructure needs. If domestic and global economic conditions worsen, or adoption, use, and commercialization of AI technology does not progress as expected or if the demand for cloud and AI compute infrastructure does not develop in the manner or in the time periods we anticipate, overall spending may be reduced, which would adversely impact demand for our solutions in these cloud and AI infrastructure market. In addition, unfavorable developments with evolving laws and regulations worldwide related to AI, such as those laws that may pause or inhibit continued adoption of AI, including GenAI, may limit global adoption, impede our strategy, and negatively impact our long-term expectations in this area. Even if the demand for cloud and AI compute infrastructure develop in the manner or in the time periods we anticipate, if we do not have timely, competitively priced, market-accepted solutions available to meet our customers' planned roll-out of their systems, particularly as they offer new AI infrastructure offerings, we may miss a significant opportunity and our business, financial condition, results of operations, and cash flows could be materially and adversely affected.

Raw material price fluctuations or decreased availability of certain raw materials can increase the cost of our products, impact our ability to meet customer commitments, and may adversely affect our business, financial condition, and results of operations.

The cost of raw materials is a key element in the cost of our products. Our inability to offset material price inflation could adversely affect our business, financial condition, and results of operations. Many major components, product equipment items, and raw materials are procured or subcontracted on a single or sole-source basis. Although we maintain a qualification and performance surveillance process and we believe that sources of supply for raw materials and components are generally adequate, it is difficult to predict what effects shortages or price increases may have in the future. Our inability to meet our supply needs would jeopardize our ability to fulfill obligations under our contracts, which could, in turn, result in reduced sales and profits, contract penalties or terminations, and damage to our customer relationships.

Furthermore, increases in the price of certain raw materials may result in increased production costs and may result in a decrease in our gross margins. For example, in the past the industry has seen shortages of packaging materials, including substrates, and also experienced silicon wafer capacity constraints. If these shortages or other shortages of raw materials are to occur in the future, it may cause delays in our ability to produce our products if we are unable to secure adequate supply. Moreover, our third-party manufacturing partners have in the past and may in the future pass the increase in raw materials and commodity costs onto us, which would further reduce the gross margin of our products. To the extent that we are able to pass along raw material price increases to some of our customers, there is often a delay between the time we are required to pay the increased price and the time we are able to pass these increases along. In addition, because we are a fabless company, global market trends such as shortage of capacity to fulfill our fabrication needs also may increase our raw material costs and thus decrease our gross margins.

Our customers rely on many different service providers and component suppliers to build their systems, and the frequency at which our products are purchased by our customers and incorporated into their systems may vary.

The success of our products is heavily dependent on the timely introduction, quality, and evolving technical requirements for our customers' systems incorporating our products, which are impacted by factors beyond our control. Our customers' systems are often very complex and require very specific components, and as a result our customers' systems could be delayed due to incompatible deliverables from other service providers. Our customers may experience other difficulties with the supply of the various components of their products or testing and manufacturing of their products that are outside of our control. We incur significant design and development costs in connection with designing our products for customers' systems that may not ultimately achieve market acceptance. If our customers experience changing market requirements, failed evaluations or field trials or incompatible deliverables from other service providers, they may delay, change or cancel a project, and we may have incurred significant additional development costs and may not be able to recoup our costs, which in turn would adversely affect our business, financial condition, and results of operations.

Risks Related to our Intellectual Property

Our failure to protect our intellectual property rights adequately could impair our ability to compete effectively or to defend ourselves from litigation, which could harm our business, financial condition, and results of operations.

Our success depends in part upon protecting our intellectual property. We rely primarily on patent, copyright, trademark, and trade secret laws, as well as intellectual property assignment and confidentiality and non-disclosure agreements and other methods, to protect and establish our rights in our proprietary technologies and know-how. As of December 31, 2024 we have been issued 18 patents in the United States and have an additional 28 patent applications pending in the United States, and four patent applications pending in foreign jurisdictions. We cannot guarantee that any pending or future patent applications will be issued to have the coverage originally sought, and even if the pending patent applications are granted, the rights granted to us may not be meaningful or provide us with any commercial advantage. Additionally, our patents could be opposed, contested, narrowed, circumvented, challenged, abandoned, or designed around by our competitors or be declared invalid or unenforceable in judicial or administrative proceedings. The patent prosecution process is expensive, time-consuming, and complex, and we may not be able to file, prosecute, maintain, enforce, or license all necessary or desirable patent applications at a reasonable cost or in a timely manner. It is also possible that we will fail to identify patentable aspects of our research and development output in time to obtain patent protection. Failure to timely seek patent protection on products or technologies generally precludes us from seeking future patent protection on these products or technologies. Even if we do timely seek patent protection, the coverage claimed in a patent application can be significantly reduced before a patent is issued, and its scope can be reinterpreted after issuance, and as a result we can give no assurance that any patents that have issued to may issue in the future will protect our current and future products, will provide us with any competitive advantage, or will not be challenged, invalidated or circumvented in the future.

The failure of our patents to adequately protect our products might make it easier for our competitors to offer similar products or technologies. To the extent we pursue any foreign patent protection, it is unlikely that such protection would be as comprehensive as our U.S. patent protection and may not protect our intellectual property in some countries where our products are sold or may be sold in the future. Many U.S.-based companies have encountered substantial intellectual property infringement in foreign countries, including countries where we sell products. Even if foreign patents are granted, effective protection and enforcement in foreign countries may not be available.

Monitoring unauthorized use of our intellectual property is difficult and costly. Although we are not aware of any material instances of unauthorized use of our intellectual property in the past, it is possible that unauthorized use of our intellectual property may have occurred or may occur in the future without our knowledge. Despite our efforts, our failure to effectively protect our intellectual property could reduce the value of our solutions, and could harm our business, results of operations, and financial condition. Further, we may in the future need to initiate infringement claims or litigation against third parties. Litigation, whether we are a plaintiff or a defendant, can be expensive, time-consuming, and may divert the efforts of our executives, technical staff, and managerial personnel, which could harm our business, whether or not such litigation results in a determination favorable to us.

Some of the software used within our products, as well as that of some of our customers, may be derived from and/or incorporate so-called "open source" software that is generally made available to the public by its authors and/or other third parties under open source licenses, which in some instances may subject us to certain unfavorable conditions, including requirements that we offer our proprietary software, which incorporates or links to such open source software, for no cost or that we make such proprietary software publicly available for free.

On occasion, companies that use open source software have faced claims challenging their use of open source software or compliance with open source license terms. There is evolving legal precedent for interpreting the terms of certain open source licenses, including the determination of which works are subject to the terms of such licenses. While we believe we have complied with our obligations under the various applicable licenses for open source software, in the event the copyright holder of any open source software were to successfully establish in court that we had or have not complied with the terms of a license for a particular work, we could be required to release the source code of that work to the public for free and/or stop distribution of that work. Any requirement to disclose our proprietary source code could have a material adverse effect on our business, financial condition, and results of operations, could result in negative publicity and could help our competitors develop products that are similar to or better than ours.

We utilize a significant amount of intellectual property in our business. If we are unable or fail to protect our intellectual property, our business could be adversely affected.

We rely on a combination of intellectual property rights, including patents, copyrights, trademarks, and trade secrets, as well as customary contractual protections with our customers, third-party manufacturing partners, employees, and consultants to protect our intellectual property rights. We spend significant resources to monitor and protect our intellectual property rights, including the unauthorized use of our products, usage rates of the software seat licenses and subscriptions that we sell, but even with significant expenditures, we may not be able to protect the intellectual property rights that are valuable to our business. In particular, we are unable to predict or assure that:

- our intellectual property rights will not lapse or be invalidated, circumvented, challenged, or, in the case of third-party intellectual property rights licensed to us, be licensed to others;
- our intellectual property rights will provide competitive advantages to us;
- rights previously granted by third parties to intellectual property licensed or assigned to us, including portfolio cross-licenses, will not hamper our ability to assert our intellectual property rights or hinder the settlement of currently pending or future disputes;
- any of our pending or future patent, copyright, or trademark applications will be issued or have the coverage originally sought;
- we will be able to enforce our intellectual property rights in certain jurisdictions where competition is intense or where legal protection may be weak; or
- we have sufficient intellectual property rights to protect our products or our business.

Effective intellectual property protection may not be available in every country in which we offer our products. The laws of certain jurisdictions where we do business or may do business in the future may not recognize intellectual property rights or protect them to the same extent as do the laws of the United States. Any changes in, or unexpected interpretations of, intellectual property laws may compromise our ability to enforce our trade secret and intellectual property rights. In addition, when patents expire, we lose the protection and competitive advantages they originally provided to us. Failure to obtain or maintain protection of our trade secrets or other intellectual property could harm our competitive position and could have a material adverse effect on our business, financial condition, and results of operations.

Further, we may acquire companies with intellectual property that is subject to licensing obligations to other third parties. These licensing obligations may extend to our own intellectual property following any such potential acquisition and may limit our ability to assert our intellectual property rights. From time to time, we may pursue litigation to assert our intellectual property rights, including, in some cases, against our customers and third-party manufacturing partners where we believe they have infringed, violated, or misappropriated our intellectual property. Claims of this sort could also harm our relationships with our customers and might deter future customers from doing business with us. Conversely, third parties have and may in the future pursue intellectual property litigation against us. An adverse decision in such types of legal action could result in material expense and limit our ability to assert our intellectual property rights and limit the value of our platform, which could otherwise negatively impact our business, financial condition, and results of operations.

We rely on third-party technologies for the development of our products and our inability to use such technologies in the future would harm our ability to remain competitive.

We rely on third parties for technologies that are integrated into our products. If we are unable to continue to use or license these technologies on reasonable terms, or if these technologies become unreliable, unavailable or fail to operate properly, we may not be able to secure adequate alternatives in a timely manner or at all, and our ability to offer our products and remain competitive in our market would be harmed. In addition, even if we are unable to successfully license

technology from third-parties to develop future products, we may not be able to develop such products in a timely manner or at all. The operation or security of our products could be impaired if errors or other defects occur in the third-party technologies we use, and it may be more difficult for us to correct any such errors and defects in a timely manner, if at all, because the development and maintenance of these technologies is not within our control. Any impairment of the technologies or of our relationship with these third parties could harm our business.

We may face claims of intellectual property infringement, misappropriation or other violations, which could be time-consuming or costly to defend or settle, result in the loss of significant rights or harm our relationships with our customers or reputation in the industry.

From time to time, third parties may assert against us and our customers their patent and other intellectual property rights to technologies that are used in or are important to our business, which may be time consuming and costly to defend or settle. We may in the future, particularly as a public company with an increased profile and visibility, receive communications from others alleging our infringement, misappropriation or other violation of patents, trade secrets or other intellectual property rights. In addition, in the event that we recruit employees or contractors from other companies, including certain potential competitors, and these employees or contractors are involved in the development of products that are similar to the products they assisted in developing for their former employers, we may become subject to claims that such employees or contractors have improperly used or disclosed trade secrets or other proprietary information. We may also in the future be subject to claims by our third-party manufacturing partners, employees, or contractors asserting an ownership right in our patents, patent applications or other intellectual property, as a result of the work they performed on our behalf.

Claims that our products or processes infringe, misappropriate, or otherwise violate third-party intellectual property rights, regardless of their merit or resolution, could be time-consuming or costly to defend or settle and could divert the efforts and attention of our management and technical personnel. Infringement claims also could harm our relationships with our customers and might deter future customers from doing business with us. We do not know whether we will prevail in these proceedings given the complex technical issues and inherent uncertainties in intellectual property litigation. If any pending or future proceedings result in an adverse outcome, we could be required to:

- cease the manufacture, use or sale of the infringing products or processes;
- pay substantial damages for infringement, misappropriation or other violation;
- expend significant resources to develop non-infringing products or processes, which may not be successful;
- license certain components from the third-party claiming infringement, which license may not be available on commercially reasonable terms, or at all;
- cross-license our products to a competitor to resolve an infringement claim, which could weaken our ability to compete with that competitor; or
- pay substantial damages to our customers or end-users to discontinue their use of or to replace infringing product or process sold to them with non-infringing products or processes, if available.

Additionally, even if successful in such proceedings, our rights in our products or processes may be invalidated, or narrowed. Moreover, there could be public announcements of the results of hearings, motions or other interim proceedings or developments, and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock. Any of the foregoing results could have a material adverse effect on our business, financial condition, and results of operations.

Any potential dispute involving patents or other intellectual property could affect our customers, which could trigger our indemnification obligations to them and result in substantial expense to us.

In any potential dispute involving patents or other intellectual property, our customers could also become the target of litigation. Our agreements with customers generally include indemnification or other provisions under which we agree to indemnify or otherwise be liable to them for losses suffered or incurred as a result of third-party claims of intellectual property infringement. Large indemnity payments could harm our business, financial condition, and results of operations. From time to time, customers require us to indemnify or otherwise be liable to them for breach of confidentiality or failure to implement adequate security measures with respect to their intellectual property and trade secrets. Although we normally contractually limit our liability with respect to such obligations, certain of our customer agreements may not include maximum loss clauses, which may result in substantial liability. Any litigation against our customers could trigger

indemnification obligations under some of our agreements, which could result in substantial expense to us, and which could materially and adversely affect our financial results.

Risks Related to the Ownership of Our Common Stock

Our IPO occurred in March 2024. As such, there has only been a public market for our common stock for a short period of time. The market price of our common stock may continue to be volatile, which could cause the value of your investment to decline, and we may not be able to meet investor or analyst expectations.

The market prices of the securities of other newly public companies have historically been highly volatile and markets in general have been highly volatile. The trading price of our common stock is likely to continue to be volatile and could be subject to wide fluctuations in price in response to various factors, some of which are beyond our control. These factors include:

- actual or anticipated changes in our results of operations, and variations between our actual results of operations and the expectations of securities analysts, investors, and the financial community;
- any forward-looking financial or operating information we may provide to the public or securities analysts, any changes in this information, or our failure to meet expectations based on this information;
- actions of securities analysts who initiate or maintain coverage of us, changes in financial estimates by any securities analysts who follow our company or our failure to meet these estimates, or the expectations of investors;
- changes in operating the performance and stock market valuations of companies in our industry, including our competitors;
- general economic conditions and slow or negative growth of related markets;
- announcements by us or our competitors of design wins, acquisitions, new products, significant contracts, commercial relationships, or capital commitments;
- our ability to develop and market new and enhanced products on a timely basis;
- expectations of securities analysts, investors, and the financial community about the size or rate of growth of the cloud and AI infrastructure markets;
- commencement of, or our involvement in, litigation;
- disruption to our operations;
- the emergence of new sales channels in which we are unable to compete effectively;
- any major change in our board of directors or management;
- changes in governmental regulations; and
- other events or factors, including those resulting from political conditions, election cycles, war or incidents of terrorism, increased tariffs, or responses to these events.

In addition, the stock market in general has experienced extreme price and volume fluctuations. These broad market and industry factors may seriously harm the market price of our common stock, regardless of our actual operating performance. This variability and unpredictability could also result in our failure to meet the expectations of industry or financial analysts or investors for any period. If our revenue or results of operations fall below the expectations of analysts or investors or below any forecasts we may provide to the market, or if the forecasts we provide to the market are below the expectations of analysts or investors, the price of our common stock could decline substantially. Such a stock price decline could occur even when we have met any previously publicly stated revenue or earnings forecasts that we may provide.

Trading price fluctuations may also make it more difficult for us to use our common stock as a means to make acquisitions or to use options to purchase our common stock to attract and retain employees. In addition, in the past, following periods of volatility in the overall market and the market price of a company's securities, securities class action litigation has often been instituted against these companies. This litigation, if instituted against us, could result in substantial costs and a diversion of our management's attention and resources.

Our revenue and operating results can fluctuate from period to period, which could cause our share price to fluctuate.

Our revenue and operating results have fluctuated in the past and may fluctuate from period to period in the future due to a variety of factors, many of which are beyond our control. Factors relating to our business that may contribute to these fluctuations include the following factors, as well as other factors described elsewhere in this Annual Report on Form 10-K:

- the receipt, reduction or cancellation of orders by customers;
- the gain or loss of significant customers;
- market acceptance of our products and our customers' systems;
- our ability to develop, introduce and market new products and technologies on a timely basis;
- the timing and extent of product development costs;
- new product announcements and introductions by us or our competitors;
- incurrence of research and development and related new product expenditures;
- cyclical fluctuations in our markets;
- significant warranty claims, including those not covered by our third-party manufacturing partners;
- changes in our product mix or customer mix;
- intellectual property disputes; and
- loss of key personnel or the inability to attract qualified personnel.

As a result of these and other factors, the results of any prior quarterly or annual periods should not be relied upon as indications of our future revenue or operating performance. Fluctuations in our revenue and operating results could cause our share price to decline. You should not rely on our past results as an indication of our future performance.

Sales of substantial amounts of our common stock in the public markets or the perception that sales might occur, could cause the trading price of our common stock to decline.

Sales of a substantial number of shares of our common stock into the public market, particularly sales by our directors, executive officers, and stockholders, or the perception that these sales might occur, could cause the trading price of our common stock to decline.

While shares held by directors, executive officers, and other affiliates are subject to volume limitations under Rule 144 under the Securities Act, and various vesting agreements, we are unable to predict the timing of the effect that such sales may have on the prevailing market price of our common stock.

In addition, as of December 31, 2024, we had (i) 5,285,404 options outstanding that, if fully exercised, would result in the issuance of 5,285,404 shares of common stock, (ii) 13,775,704 RSU and PSU awards outstanding that would result in the issuance of 13,775,704 shares of common stock upon settlement, and (iii) 2,442,360 warrants outstanding that, if fully exercised, would result in the issuance of 2,442,360 shares of common stock. All of the shares of common stock issuable upon the exercise of stock options, subject to RSU awards and the shares reserved for future issuance under our equity incentive plans have been registered on a registration statement on Form S-8 under the Securities Act. Accordingly, these shares can be freely sold in the public market upon issuance, subject to volume limitations under Rule 144 for our executive officers and directors and applicable vesting requirements.

Certain holders of our common stock have rights, subject to some conditions, to require us to file registration statements for the public resale of the common stock issuable upon conversion of such shares or to include such shares in registration statements that we may file for us or other stockholders. Any registration statement we file to register additional shares, whether as a result of registration rights or otherwise, could cause the trading price of our common stock to decline or be volatile.

Our issuance of additional capital stock in connection with financings, acquisitions, investments, our stock incentive plans, or otherwise will dilute all other stockholders and could negatively affect our results of operations.

We expect to issue additional capital stock in the future that will result in dilution to all other stockholders. We expect to grant equity awards to employees, directors, consultants, and advisors under our stock incentive plans. We may also raise capital through equity financings in the future. As part of our business strategy, we may acquire or make investments in

complementary companies, products, or technologies and issue equity securities to pay for any such acquisition or investment. Any such issuances of additional capital stock may cause stockholders to experience significant dilution of their ownership interests and the per share value of our common stock to decline.

Any additional grants of equity awards under our stock incentive plans will also increase stock-based compensation expense and negatively affect our results of operations. For example, during the year ended December 31, 2024, stock-based compensation expense was \$234.6 million. Commencing in June 2022, we began granting RSUs to employees. These RSUs vest upon the satisfaction of both a time condition and a liquidity event condition. In March 2024, we completed our IPO, as a result of which the liquidity event condition was satisfied. Subsequent to the IPO, any unvested RSUs subject to both the time vesting condition and liquidity event vesting condition will vest as the time vesting condition is met over the remaining period. As a public company, our RSUs are only subject to time-based vesting, and accordingly we expect to continue to incur stock-based compensation expense as these RSUs vest.

Our executive officers, directors, and stockholders, if they choose to act together, have the ability to control or significantly influence all matters submitted to shareholders for approval.

As of December 31, 2024, our executive officers, directors, and greater than 5% stockholders, in the aggregate, beneficially owned approximately 55.8% of our outstanding common stock (assuming no exercise of outstanding options warrants or settlement of RSUs in shares upon vesting). As a result, such persons, acting together, have the ability to control or significantly influence all matters submitted to our board of directors or shareholders for approval, including the appointment of our management, the election and removal of directors and approval of any significant transaction, as well as our management and business affairs. In addition, this concentration of ownership may have the effect of delaying, deferring, or preventing a change in control, impeding a merger, consolidation, takeover or other business combination involving us, or discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control of our business, even if such a transaction would benefit other shareholders.

We are an emerging growth company, and any decision on our part to comply only with certain reduced reporting and disclosure requirements applicable to emerging growth companies could make our common stock less attractive to investors.

We are an “emerging growth company” within the meaning of the Securities Act, as modified by the JOBS Act, and we may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. As a result, our stockholders may not have access to certain information they may deem important. We could be an emerging growth company for up to five years or the earlier of, (i) the last day of the fiscal year in which we have total annual gross revenue of \$1.235 billion or more, (ii) the date on which we have issued more than \$1.0 billion in non-convertible debt during the previous three years, or (iii) the date on which we are deemed to be a large accelerated filer under the rules of the SEC. Investors may find our securities less attractive because we rely on these exemptions. If some investors find our securities less attractive as a result of our reliance on these exemptions, the trading prices of our securities may be lower than they otherwise would be, there may be a less active trading market for our securities, and the trading prices of our securities may be more volatile.

Further, Section 102(b)(1) of the JOBS Act exempts emerging growth companies from being required to comply with new or revised financial accounting standards until private companies (that is, those that have not had a Securities Act registration statement declared effective or do not have a class or series of securities registered under the Exchange Act) are required to comply with the new or revised financial accounting standards. The JOBS Act provides that a company can elect to opt out of the extended transition period and comply with the requirements that apply to non-emerging growth companies but any such election to opt out is irrevocable. We have elected not to opt out of such extended transition period, which means that when a standard is issued or revised and it has different application dates for public or private companies, we, as an emerging growth company, can adopt the new or revised standard at the time private companies adopt the new or revised standard. This may make it difficult or impossible to compare our financial results with the financial results of another public company that is either not an emerging growth company or is an emerging growth company that has chosen not to take advantage of the extended transition period exemptions because of the potential differences in accounting standards used.

Provisions in our charter documents and under Delaware law could make an acquisition of our company more difficult, limit attempts by our stockholders to replace or remove our current board of directors, and limit the trading price of our common stock.

Provisions in our amended and restated certificate of incorporation and second amended and restated bylaws may have the effect of delaying or preventing a change of control or changes in our management. Our amended and restated certificate of incorporation and our second amended and restated bylaws include provisions that:

- provide that our board of directors is classified into three classes of directors with staggered three-year terms;
- permit our board of directors to establish the number of directors and fill any vacancies and newly-created directorships;
- require super-majority voting to amend our amended and restated bylaws; provided, however, that majority voting shall be required to amend our amended and restated bylaws if our board of directors recommends that the stockholders approve such amendment;
- authorize the issuance of “blank check” preferred stock that our board of directors could use to implement a stockholder rights plan;
- prohibit stockholder action by written consent;
- provide that only our board of directors is authorized to call a special meeting of stockholders;
- provide that the board of directors is expressly authorized to alter or repeal our amended and restated bylaws; and
- contain advance notice requirements for nominations for election to our board of directors or for proposing matters that can be acted upon by stockholders at annual stockholder meetings.

Moreover, Section 203 of the Delaware General Corporation Law (“DGCL”) may discourage, delay, or prevent a change in control of our company. Section 203 imposes certain restrictions on mergers, business combinations, and other transactions between us and holders of 15% or more of our common stock.

If securities or industry analysts do not publish research, or publish inaccurate or unfavorable research, about our business, the trading price of our common stock and trading volume could be adversely affected.

The trading market for our common stock depends in part on the research and reports that securities or industry analysts publish about us or our business. If few securities analysts cover us, or if industry analysts cease coverage of us, the trading price for our common stock would be negatively affected. If one or more of the analysts who cover us downgrade our common stock or publish inaccurate or unfavorable research about our business, our common stock trading price would likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us on a regular basis, demand for our common stock could decrease, potentially causing our common stock trading price and trading volume to decline.

We do not expect to declare or pay any dividends on our common stock for the foreseeable future.

We do not intend to pay cash dividends on our common stock for the foreseeable future. Consequently, investors must rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investment. Investors seeking dividends should not purchase our common stock. Any future determination to pay dividends will be at the discretion of our board of directors and subject to, among other things, our compliance with applicable law, and depending on, among other things, our business prospects, financial condition, results of operations, cash requirements and availability, capital expenditure needs, the terms of any preferred equity securities we may issue in the future, covenants in the agreements governing any future indebtedness, other contractual restrictions, industry trends, and any other factors or considerations our board of directors may regard as relevant.

Our second amended and restated bylaws designate specific courts as the sole and exclusive forum for certain disputes that may be initiated by our stockholders, which could limit our stockholders’ ability to obtain a favorable judicial forum for disputes with us or our directors, officers, or employees.

Pursuant to our second amended and restated bylaws, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware is the sole and exclusive forum for state law claims for (i) any derivative action or proceeding brought on our behalf; (ii) any action asserting a claim of, or a claim based on, a breach of a fiduciary duty owed by any current or former director, officer or other employee of ours to us or our stockholders; (iii) any action asserting a claim pursuant to any provision of the DGCL, our amended and restated certificate of incorporation or our second amended and restated bylaws or as to which the DGCL confers jurisdiction on the Court of Chancery of the

State of Delaware; or (iv) any action asserting a claim governed by the internal affairs doctrine (collectively, the “Delaware Forum Provision”). The Delaware Forum Provision does not apply to any causes of action arising under the Securities Act or the Exchange Act, or to any claim for which the federal courts have exclusive jurisdiction. Our second amended and restated bylaws further provide that unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States shall be the sole and exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act or the Exchange Act and the respective rules and regulations promulgated thereunder (the “Federal Forum Provision”). In addition, our second amended and restated bylaws provide that any person or entity purchasing or otherwise acquiring any interest in shares of our common stock is deemed to have notice of and consented to the Delaware Forum Provision and the Federal Forum Provision; provided, however, that stockholders cannot and will not be deemed to have waived our compliance with the federal securities laws and the rules and regulations thereunder.

We recognize that the Delaware Forum Provision and the Federal Forum Provision in our second amended and restated bylaws may impose additional litigation costs on stockholders in pursuing any such claims. Additionally, the forum selection clauses in our second amended and restated bylaws may limit our stockholders’ ability to bring a claim in a judicial forum that they find favorable for disputes with us or our directors, officers or employees, which may discourage the filing of lawsuits against us and our directors, officers, and employees, even though an action, if successful, might benefit our stockholders. In addition, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all suits brought to enforce any duty or liability created by the Securities Act or the rules and regulations thereunder. While the Delaware Supreme Court and other state courts have upheld the validity of the federal forum selection provisions purporting to require claims under the Securities Act be brought in federal court, there is uncertainty as to whether courts in other states will enforce our Federal Forum Provision. If the Federal Forum Provision is found to be unenforceable in an action, we may incur additional costs associated with resolving such an action. The Federal Forum Provision may also impose additional litigation costs on stockholders who assert that the provision is not enforceable or invalid. The Court of Chancery of the State of Delaware and the federal district courts of the United States may also reach different judgments or results than would other courts, including courts where a stockholder considering an action may be located or would otherwise choose to bring the action, and such judgments may be more or less favorable to us than our stockholders.

General Risk Factors

We have incurred, and will continue to incur, increased costs as a result of operating as a public company, and our management is required to devote substantial time to support compliance with our public company responsibilities and corporate governance practices.

As a public company, we have incurred, and will continue to incur, significant finance, legal, accounting, and other expenses, including director and officer liability insurance, that we did not incur as a private company, and which we expect to further increase after we are no longer an “emerging growth company.” The Sarbanes-Oxley Act, the Dodd-Frank Act, stock exchange listing requirements, the reporting requirements of the Exchange Act and other applicable securities rules and regulations impose various requirements on public companies in the United States. Our management and other personnel devote a substantial amount of time to support compliance with these requirements. Moreover, these rules and regulations have increased, and will continue to increase, our legal and financial compliance costs and make some activities more time-consuming and costly. We cannot predict or estimate the amount of additional costs we will continue to incur as a public company or the specific timing of such costs.

Item 1B. Unresolved Staff Comments

Not applicable.

Item 1C. Cybersecurity

Risk Management and Strategy

We have established policies and processes designed to identify, assess, and mitigate cybersecurity risks. These policies and processes are intended to protect the confidentiality, integrity, and availability of our critical information systems and our critical data, including intellectual property and confidential information that is proprietary, strategic, or competitive in nature. They include the deployment of third-party security solutions and tools designed to monitor, identify, and address cybersecurity risks, as well as the development of an incident response plan informed by the National Institute of Standards and Technology (“NIST”) framework that is designed to identify and manage significant events that may impact our information technology infrastructure, including those arising from or related to cybersecurity threats. As part of our cybersecurity risk management, we conduct periodic risk assessments designed to identify reasonably foreseeable potential internal and external risks, the likelihood of occurrence and any potential damage that could result from such risks, and the sufficiency of existing policies, procedures, systems, controls, and other safeguards in place to manage such risks. We also maintain risk-based processes to assess and review the cybersecurity practices of certain of our third-party vendors and services providers prior to onboarding, including through review of System and Organization (SOC) reports provided by potential vendors and the inclusion of security requirements in contracts, as appropriate. Employees are required to complete annual cybersecurity awareness training designed to raise awareness of cybersecurity threats. While we have not, as of the date of this Form 10-K, experienced a cybersecurity threat or incident that resulted in a material adverse impact to our business or operations, there can be no guarantee that we will not experience such an incident in the future.

For more information about the risks from cybersecurity threats, see the risk factors entitled “*Cybersecurity risks, including cyber-attacks, data breaches, and system vulnerabilities could adversely affect our business and disrupt our operations*” and “*An impairment of the confidentiality, integrity, or availability of our IT systems, or those of one or more of our IT vendors could have a material adverse effect on our business.*”

Governance

Our board of directors (“Board”) considers cybersecurity risk as part of its overall risk oversight function and has delegated to the Audit Committee of the Board (the “Audit Committee”) oversight of cybersecurity matters, cybersecurity risk management, disclosure obligations with respect to cybersecurity incidents, and compliance with SEC rules applicable to cybersecurity risk management.

The Audit Committee receives quarterly reports from management on our cybersecurity risks. In addition, management will update the Audit Committee, as necessary, regarding any significant cybersecurity incidents. The Audit Committee regularly reports to the full Board regarding its activities, including those related to cybersecurity risk.

Our Chief Information Security Officer (“CISO”), in connection with our IT personnel, is responsible for day-to-day implementation, management and evaluation of our cybersecurity risk assessment and management processes. This team has primary responsibility for our overall cybersecurity risk management program, including monitoring the detection, prevention, mitigation, and remediation of cybersecurity incidents, and works in partnership with our other business leaders, including our Chief Financial Officer and General Counsel. Our CISO supervises both our internal cybersecurity personnel and any retained external cybersecurity consultants. Our CISO has served in various roles in information technology and information security for over 30 years.

Our cybersecurity incident response process is designed to escalate significant cybersecurity incidents to a team of business leaders, including, but not limited to, our Chief Financial Officer and General Counsel. In the case of a cybersecurity incident, this team of business leaders will work with our incident response team to help determine the severity of the impact of a cybersecurity incident, as well as to help mitigate and remediate cybersecurity incidents of which they are notified. The incident response team will also work under the oversight of legal counsel and the Audit Committee to determine whether an incident is material for disclosure purposes under applicable law.

Item 2. Properties

Our corporate headquarters is located in Santa Clara, California, where we currently lease approximately 51,320 square feet for office space, research and development, and testing, pursuant to a lease agreement that expires in May 2025. We will relocate our corporate office from Santa Clara to San Jose upon termination of the current lease. We also lease

additional facilities in Texas in United States for research and development, Canada and India for research and development, in China for local customer support and sales, in Israel for research and development and local customer support, and in Taiwan for customer support and sales.

We believe that our facilities are suitable to meet our current needs.

Item 3. Legal Proceedings

We are not currently a party to any material pending legal proceedings. From time to time, we may be subject to legal proceedings and claims arising in the ordinary course of business. The results of any current or future litigation cannot be predicted with certainty, and regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources, and other factors.

Item 4. Mine Safety Disclosures

Not applicable.

Part II

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

Market Information

Our common stock has been listed on the Nasdaq Global Select Market under the symbol “ALAB” since March 20, 2024, the first trading day following our IPO. Prior to that date, there was no public trading market for our common stock.

Holders

On January 31, 2025, there were 562 holders of record of our common stock. Because many of our shares of common stock are held by brokers and other institutions on behalf of stockholders, we are unable to estimate the total number of beneficial owners of our common stock repressed by these record holders.

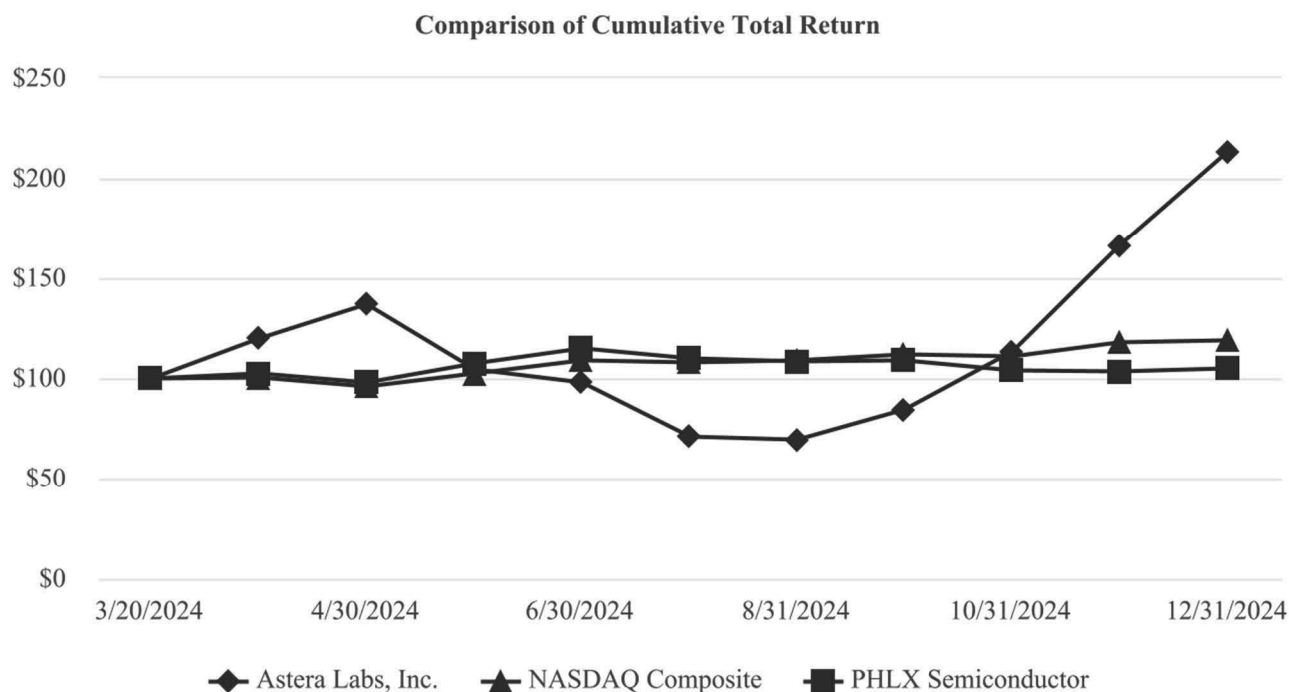
Dividend Policy

We have never declared or paid any cash dividends on our common stock. We currently intend to retain all available funds and any future earnings for use in the operation of our business and do not expect to pay any dividends on our capital stock in the foreseeable future. Any future determination relating to our dividend policy will be at the discretion of our board of directors, subject to applicable laws, and will depend on our financial condition, results of operations, capital requirements, general business conditions, and other factors that our board of directors considers relevant.

Share Price Performance Graph

This performance graph shall not be deemed “soliciting material” or to be “filed” for purposes of Section 18 of the Exchange Act or incorporated by reference into any filings under the Securities Act or the Exchange Act, except as shall be expressly set forth by specific reference in such filing.

The graph below compares the cumulative total return on our common stock with the cumulative total return of the NASDAQ Composite Index and the Philadelphia Semiconductor Index (PHLX) during the period from March 20, 2024 to December 31, 2024. The graph compares a \$100 investment on March 20, 2024 in our common stock with a \$100 investment on March 20, 2024 in each index and assumes that any dividends were reinvested. Shareholder returns over the indicated periods should not be considered indicative of future share prices or shareholder returns.



Recent Sales of Unregistered Securities

None.

Use of Proceeds from Our IPO

On March 19, 2024, our registration statement on Form S-1, as amended (File No. 333-277205), was declared effective by the SEC for our initial public offering. There has been no material change in the expected use of the net proceeds from our IPO as described in the final prospectus, dated March 19, 2024 and filed with the SEC on March 21, 2024 pursuant to Rule 424(b) of the Securities Act.

Issuer Purchases of Equity Securities

None.

Item 6. [Reserved]

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

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with the consolidated financial statements and related notes included in Part II, Item 8 in this Annual Report on Form 10-K. This discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those discussed in these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those identified below and those discussed in the section titled "Risk Factors" included in Part I, Item 1A in this Annual Report on Form 10-K.

A discussion regarding our financial condition and results of operations for the year ended December 31, 2024 compared to the year ended December 31, 2023 is presented below. A discussion regarding our financial condition and results of operations for the year ended December 31, 2023 compared to the year ended December 31, 2022 can be found in the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our final prospectus, dated March 19, 2024 and filed with the SEC on March 21, 2024 pursuant to Rule 424(b) of the Securities Act. Our historical results are not necessarily indicative of the results that may be expected for any period in the future.

Overview

Our mission is to innovate, design, and deliver semiconductor-based connectivity solutions that are purpose-built to unleash the full potential of cloud and AI infrastructure.

Building on years of experience with a singular focus on addressing connectivity challenges in data-centric systems, we have developed and deployed our Intelligent Connectivity Platform built from the ground up for cloud and AI infrastructure. Our Intelligent Connectivity Platform is comprised of semiconductor-based, high-speed, mixed-signal connectivity products that integrate a matrix of microcontrollers and sensors, and COSMOS, our software suite, which is embedded in our connectivity products and integrated into our customers' systems.

Our Intelligent Connectivity Platform provides our customers with the ability to deploy and operate high-performance cloud and AI infrastructure at scale, addressing an increasingly diverse set of requirements. We provide our connectivity products in various form factors, including Integrated Circuits ("ICs"), boards, and modules.

Our patented software-defined platform approach delivers critical connectivity performance, enables flexibility and customization, and supports observability and predictive analytics. This approach aims to efficiently address the data, network, and memory bottlenecks, scalability, and other unique infrastructure requirements of our hyperscaler and system OEM customers.

Based on trusted relationships with the leading hyperscalers and collaboration with data center infrastructure suppliers, our platform is designed to meet our customers' unique cloud scale requirements. Our COSMOS software suite is foundational to our Intelligent Connectivity Platform and is designed to enable our customers to seamlessly configure, manage, monitor, optimize, troubleshoot, and customize functions in our IC, board, and module products.

Today, our connectivity solutions are at the heart of major AI platforms deployed worldwide featuring both commercially available Graphic Processing Units ("GPUs") and proprietary AI accelerators. We offer our customers four product families across multiple form factors including ICs, boards, and modules, shipping millions of devices across all of the major hyperscalers. Our products, which include Aries PCIe®/CXL® Smart DSP Retimers, Aries PCIe®/CXL® Smart Cable Modules™, Taurus Ethernet Smart Cable Modules™, Leo CXL Memory Connectivity Controllers, and Scorpio Smart Fabric Switches, are built upon industry standard connectivity protocols such as Peripherals Component Interconnect Express ("PCIe"), Ethernet, and Computer Express Link ("CXL"), to address the growing demand for purpose-built connectivity solutions that solve critical data, network, and memory bottlenecks inherent in cloud and AI infrastructure.

Since our inception, we have created and commercialized first-to-market PCIe, Ethernet, and CXL products. We have become a trusted partner and a proven supplier to our hyperscaler and system OEM customers. We have experienced strong growth since the commercial launch of Aries in 2020. Our revenue grew from \$34.8 million in 2021, \$79.9 million in 2022, \$115.8 million in 2023, and to \$396.3 million in 2024, driven by a sizable increase in demand for our products. We have made significant investments in the design and development of new products and platform enhancements, and, as a result, we have not yet achieved profitability on an annual basis.

Summary of Financial Highlights

Our revenue for the year ended December 31, 2024, increased by 242% compared to the year ended December 31, 2023, primarily due to an increase in overall unit shipments driven by higher demand for our Aries products and higher overall average selling prices resulting from a more favorable product mix. Gross margin increased 750 bps to 76.4% for the year ended December 31, 2024 from 68.9% for the year ended December 31, 2023, primarily driven by a net decrease of \$10.2 million in inventory write-downs, partially offset by higher average unit cost as a result of product mix. The inventory write-downs during the year ended December 31, 2023 were due primarily to inventory in excess of our sales forecast for a legacy customer product.

Operating expenses increased by \$309.4 million or 283%, for the year ended December 31, 2024 compared to the year ended December 31, 2023, primarily driven by an increase of \$223.1 million in non-cash stock-based compensation expense primarily due to both RSUs that had previously met the time-based and liquidity event vesting conditions in connection with our IPO as well as RSUs with time-based vesting after the liquidity event, and a \$52.0 million increase in personnel-related expenses as a result of a 57% increase in average headcount.

Initial Public Offering

On March 22, 2024, we completed our initial public offering (the “IPO”) of 22,770,000 shares of our common stock, par value \$0.0001 per share (our “Common Stock”), at a price to the public of \$36.00 per share, which included 19,758,903 shares of Common Stock sold by us, inclusive of 2,970,000 shares sold by us pursuant to the full exercise of the underwriters’ over-allotment option, as well as 3,011,097 shares of Common Stock sold by certain of our existing stockholders. We received net proceeds of \$672.2 million, after deducting underwriting discounts and commissions of \$39.1 million, and we did not receive any proceeds from the sale of our common stock by our existing shareholders in the IPO. In connection with the IPO, we recognized and paid deferred offering costs of \$6.2 million.

We recognized \$88.9 million of cumulative stock-based compensation expense associated with the time-based vesting and settlement of RSUs that had previously met the time-based vesting condition and for which the liquidity event vesting condition was satisfied in connection with our IPO. Based on our IPO price of \$36.00 per share, our tax withholding obligation in connection with the vesting of these RSUs was \$20.1 million, which we paid in the first quarter of 2024.

Key Components of Results of Operations

Revenue

The vast majority of our revenue consists of product sales and a small portion is derived from engineering services. Product sales consists primarily of shipments of our Intelligent Connectivity Platform solutions. Engineering services revenue consists of engineering fees associated with customer-defined engineering services. Engineering services revenue accounted for an immaterial percentage of total revenue for each of the years ended December 31, 2024 and 2023.

For product sales, we transact with customers primarily pursuant to standard purchase orders for delivery of products and generally do not allow customers to cancel or change purchase orders within limited notice periods. We recognize product sales when control transfers to the customer, generally at the time of product shipment from our facilities, in an amount that reflects the consideration we expect to receive in exchange for those goods, net of estimated sales returns, distributor price adjustments, rebates, and other customer incentives. Revenue is also recognized net of any taxes collected, which are subsequently remitted to governmental authorities.

Cost of Revenue

Cost of revenue includes cost of product sales and cost of engineering services. Cost of product sales includes the cost of materials, such as wafers processed by third-party foundries, costs associated with packaging, assembly, shipping, depreciation of equipment associated with manufacturing, cost of logistics and quality assurance, warranty costs, amortization of capitalized production masks, cost of personnel including salaries, stock-based compensation, employee benefits, write-down of inventories, and allocation of general corporate expenses.

While amortization of capitalized production masks has historically not been material, we expect to incur significant amortization costs in the future as we continue to increase the number of additional products.

Gross Profit and Gross Margin

Gross profit represents revenue less cost of revenue. Gross margin is gross profit expressed as a percentage of revenue. Our gross profit has been, and may in the future be, primarily influenced by several factors, including sales

volumes, pricing of our products and services, changes in product costs, contract manufacturing supplier pricing, personnel costs, shipping and logistics costs, and inventory write-downs.

Operating Expenses

Our operating expenses consist of research and development, sales and marketing, and general and administrative expenses. Personnel costs are the most significant component of operating expenses and consist of salaries, stock-based compensation expense, employee benefits, and bonuses. Operating expenses also include software license and cloud hosting services costs, pre-production engineering mask costs, professional and consulting services fees, insurances costs, and overhead costs for facilities and other shared expenses, including depreciation expense.

Research and Development

Research and development expenses consist of costs incurred in performing research and development activities and include salaries, stock-based compensation expense, employee benefits, bonuses, pre-production engineering mask costs, software license and cloud hosting services costs, prototype wafer, packaging and test costs, and allocated shared expenses. Research and development costs are expensed as incurred.

Pre-production engineering mask costs are expensed. We capitalize the costs of production masks with alternative future use and amortize these costs on a straight-line basis over the useful lives of the production masks. To determine if a production mask has alternative future use or benefits, we evaluate risks associated with developing new technologies and capabilities, and the related risks associated with entering new markets. Production masks that do not meet the criteria for capitalization are expensed as research and development costs.

We believe that continued investments in our products are important to our future growth and, as a result, we expect our research and development expenses to continue to increase in absolute dollars and moderately decline as a percentage of revenue over time as our revenue increases.

Sales and Marketing

Sales and marketing expenses consist of personnel costs including salaries, stock-based compensation expense, employee benefits, bonuses, samples to potential customers, product marketing and conferences, travel and entertainment costs, and allocated shared expenses.

We expect that our sales and marketing expenses will increase in absolute dollars as we increase our sales and marketing personnel and continue to expand our customer engagement with more design activities and increased product offerings and moderately decline as a percentage of revenue over time as our revenue increases.

General and Administrative

General and administrative expenses consist primarily of personnel costs including salaries, stock-based compensation expense, employee benefits and bonuses related to corporate, finance, information technology, legal, and human resource functions, professional services fees, audit and compliance expenses, insurance costs, and general corporate expenses including allocated shared expenses.

We expect general and administrative expenses to increase in absolute dollars as we grow our operations and continue to incur additional expenses associated with operating as a public company and moderately decline as a percentage of revenue over time as our revenue increases.

Interest Income

Interest income consists of income earned on our short-term investments included in cash and cash equivalents and marketable securities.

Income Tax Provision

Income tax provision consists primarily of U.S. federal, state, and foreign income taxes. We maintain a full valuation allowance on our federal and state deferred tax assets as we have concluded that it is more likely than not that the deferred tax assets will not be realized.

Results of Operations

Comparison of Years Ended December 31, 2024 and 2023

Revenue

	Years Ended December 31,			
	2024	2023	Change	% Change
	(in thousands, except percentages)			
Revenue	\$ 396,290	\$ 115,794	\$ 280,496	242 %

Total revenue increased \$280.5 million, or 242%, for the year ended December 31, 2024 compared to the year ended December 31, 2023, primarily due to a 217% increase in overall unit shipments driven by higher demand for our Aries products. The increase in revenue was also attributable to higher overall average selling prices resulting from an increased mix of hardware modules.

Cost of Revenue, Gross Profit, and Gross Margin

	Years Ended December 31,			
	2024	2023	Change	% Change
	(in thousands, except percentages and bps)			
Cost of revenue	\$ 93,591	\$ 35,967	\$ 57,624	160 %
Gross profit	\$ 302,699	\$ 79,827	\$ 222,872	279 %
Gross margin	76.4%	68.9%	750 bps	

Total cost of revenue increased \$57.6 million, or 160%, for the year ended December 31, 2024 compared to the year ended December 31, 2023, primarily due to a 217% increase in overall unit shipments partially offset by a \$10.2 million decrease in inventory write-downs. The inventory write-downs during the year ended December 31, 2023 were primarily due to inventory in excess of our sales forecast for a legacy customer product.

Gross margin increased 750 bps to 76.4% for the year ended December 31, 2024 compared to 68.9% for the year ended December 31, 2023. The increase was primarily driven by a net decrease of \$10.2 million in inventory write-downs, partially offset by higher average unit cost as a result of product mix.

Research and Development

	Years Ended December 31,			
	2024	2023	Change	% Change
	(in thousands, except percentages)			
Research and development	\$ 200,830	\$ 73,407	\$ 127,423	174 %
Percentage of revenue	51%	63 %		

Research and development expense increased \$127.4 million, or 174%, for the year ended December 31, 2024 compared to the year ended December 31, 2023. The increase was attributable to a \$69.1 million increase in non-cash stock-based compensation expense primarily due to both RSUs that had previously met the time-based and liquidity event vesting conditions in connection with our IPO as well as RSUs with time-based vesting after the liquidity event. Additionally, there were \$33.9 million higher personnel-related expenses as a result of a 63% increase in average headcount and a \$21.2 million increase in software licenses and cloud hosting services related to our development projects.

Sales and Marketing

	Years Ended December 31,			
	2024	2023	Change	% Change
	(in thousands, except percentages)			
Sales and marketing	\$ 123,652	\$ 19,992	\$ 103,660	519 %
Percentage of revenue	31%	17 %		

Sales and marketing expense increased \$103.7 million, or 519%, for the year ended December 31, 2024 compared to the year ended December 31, 2023. The increase was attributable to a \$93.8 million increase in non-cash stock-based compensation expense primarily due to both RSUs that had previously met the time-based and liquidity event vesting conditions in connection with our IPO as well as RSUs with time-based vesting after the liquidity event, and a \$8.2 million increase in personnel-related expenses as a result of a 29 % increase in average headcount.

General and Administrative

	Years Ended December 31,			
	2024	2023	Change	% Change
	(in thousands, except percentages)			
General and administrative	\$ 94,283	\$ 15,925	\$ 78,358	492 %
Percentage of revenue	24%	14 %		

General and administrative expense increased \$78.4 million, or 492%, for the year ended December 31, 2024 compared to the year ended December 31, 2023. The increase was attributable to a \$60.2 million increase in non-cash stock-based compensation expense primarily due to both RSUs that had previously met the time-based and liquidity event vesting conditions in connection with our IPO as well as RSUs with time-based vesting after the IPO, a \$9.9 million higher in personnel-related expenses as a result of a 81% increase in average headcount, and a \$3.4 million increase in professional services fees as we continue to build out our public company infrastructure.

Interest Income

	Years Ended December 31,			
	2024	2023	Change	% Change
	(in thousands, except percentages)			
Interest income	\$ 34,288	\$ 6,549	\$ 27,739	424 %

For the year ended December 31, 2024, interest income increased \$27.7 million, or 424%, compared to the year ended December 31, 2023, respectively. The increase was primarily due to higher average short-term investments and cash equivalents balances primarily as a result of our IPO.

Income Tax Provision

	Years Ended December 31,			
	2024	2023	Change	% Change
	(in thousands, except percentages)			
Income tax provision	\$ 1,643	\$ 3,309	\$ (1,666)	(50)%

Income tax provision decreased \$1.7 million, or 50%, for the year ended December 31, 2024 compared to the year ended December 31, 2023. The effective tax rate decreased from 14.5% for the year ended December 31, 2023 to 2.0% for the year ended December 31, 2024. The change was primarily due to a significant increase in stock-based compensation tax deductions post our IPO, and U.S. research and development credits, partially offset by an increase in taxable income, and the foreign-derived intangible income deduction.

Non-GAAP Financial Measures

This Annual Report on Form 10-K contains certain financial measures that are not presented in accordance with generally accepted accounting principles in the United States (“GAAP”), which we use to supplement the performance measures in our consolidated financial statements, which are presented in accordance with GAAP. We refer to these measures as “non-GAAP financial measures.” These non-GAAP financial measures include non-GAAP gross profit, non-GAAP gross margin, non-GAAP operating income (loss), and non-GAAP net income (loss). We use these non-GAAP financial measures for financial and operational decision-making and as a means to assist us in evaluating period-to-period comparisons. By excluding certain items that may not be indicative of our recurring core operating results, we believe that non-GAAP gross profit, non-GAAP gross margin, non-GAAP operating income (loss), and non-GAAP net income (loss) provide meaningful supplemental information regarding our performance. Accordingly, we believe these non-GAAP financial measures are useful to investors and others because they allow for additional information with respect to financial measures used by management in its financial and operational decision-making and they may be used by our institutional investors and the analyst community to help them analyze the health of our business. However, there are a number of limitations related to the use of non-GAAP financial measures, and these non-GAAP measures should be considered in addition to, not as a substitute for or in isolation from, our financial results prepared in accordance with GAAP. Other companies, including companies in our industry, may calculate these non-GAAP financial measures differently or not at all, which reduces their usefulness as comparative measures.

Non-GAAP Gross Profit and Non-GAAP Gross Margin

We define non-GAAP gross profit as gross profit presented in accordance with GAAP, adjusted to exclude stock-based compensation expenses. The non-GAAP gross margin is non-GAAP gross profit divided by revenue. We have presented non-GAAP gross profit because we consider non-GAAP gross profit to be a useful metric for investors and other users of our financial information in evaluating our operating performance as it excludes the impact of non-cash stock-based compensation, a charge that can vary from period to period for reasons that are unrelated to our core operating performance. This metric also provides investors and other users of our financial information with an additional tool to eliminate the effects of items that may vary for different companies for reasons unrelated to core operating performance.

A reconciliation of our GAAP gross profit and gross margin, the most directly comparable GAAP financial measure, to non-GAAP gross profit and non-GAAP gross margin is presented below:

	Years Ended December 31,	
	2024	2023
	(in thousands, except percentages)	
GAAP gross profit	\$ 302,699	\$ 79,827
Stock-based compensation expense upon IPO ⁽¹⁾	516	—
Stock-based compensation expense	329	24
Non-GAAP gross profit	<u>\$ 303,544</u>	<u>\$ 79,851</u>
GAAP gross margin	76.4 %	68.9 %
Stock-based compensation expense upon IPO ⁽¹⁾	0.1	—
Stock-based compensation expense	0.1	0.1
Non-GAAP gross margin	<u>76.6 %</u>	<u>69.0 %</u>

(1) Stock-based compensation expense recognized in connection with the time-based vesting and settlement of RSUs that had previously met the time-based vesting condition and for which the liquidity event vesting condition was satisfied in connection with our IPO.

Non-GAAP Operating Income (Loss)

We define non-GAAP operating income (loss) as operating loss presented in accordance with GAAP, adjusted to exclude stock-based compensation expenses and employer payroll taxes related to the time-based vesting and net settlement of RSUs with a liquidity event-based vesting condition that was satisfied in connection with the IPO. We have presented non-GAAP operating income (loss) because we consider non-GAAP operating income (loss) to be a useful metric for investors and other users of our financial information in evaluating our operating performance as it excludes the impact of non-cash stock-based compensation expense and employer payroll taxes related to the time-based vesting and net settlement of RSUs in connection with our IPO, charges that can vary from period to period or are one time charges for reasons that are unrelated to our core operating performance. This metric also provides investors and other users of our financial information with an additional tool to eliminate the effects of items that may vary for different companies for reasons unrelated to core operating performance.

A reconciliation of our GAAP operating loss, the most directly comparable GAAP financial measure, to non-GAAP operating income (loss) is presented below:

	Years Ended December 31,	
	2024	2023
	(in thousands, except percentages)	
GAAP operating loss	\$ (116,066)	\$ (29,497)
Stock-based compensation expense upon IPO ⁽¹⁾	88,873	—
Stock-based compensation expense	145,715	10,679
Employer payroll tax related to stock-based compensation from IPO ⁽²⁾	1,072	—
Non-GAAP operating income (loss)	<u>\$ 119,594</u>	<u>\$ (18,818)</u>
GAAP operating margin	(29.3)%	(25.5)%
Stock-based compensation expense upon IPO ⁽¹⁾	22.4	—
Stock-based compensation expense	36.8	9.2
Employer payroll tax related to stock-based compensation from IPO ⁽²⁾	0.3	—
Non-GAAP operating margin	<u>30.2 %</u>	<u>(16.3)%</u>

(1) Stock-based compensation expense recognized in connection with the time-based vesting and settlement of RSUs that had previously met the time-based vesting condition and for which the liquidity event vesting condition was satisfied in connection with our IPO.

(2) Employer payroll taxes related to the time-based vesting and settlement of RSUs that had previously met the time-based vesting condition and for which the liquidity event vesting condition was satisfied in connection with our IPO.

Non-GAAP Net Income (Loss)

We monitor non-GAAP net income (loss) for planning and performance measurement purposes. We define non-GAAP net income (loss) as net loss reported on our consolidated statements of operations, excluding the impact of stock-based compensation expenses, employer payroll taxes related to the time-based vesting and net settlement of RSUs with a liquidity event-based vesting condition that was satisfied in connection with our IPO, and the related tax impact on the adjustments. We have presented non-GAAP net income (loss) because we believe that the exclusion of these charges allows for a more relevant comparison of our results of operations to other companies in our industry and facilitates period-to-period comparisons as it eliminates the effect of certain factors unrelated to our overall operating performance.

A reconciliation of our GAAP net loss, the most directly comparable GAAP financial measure, to our non-GAAP net income (loss) is presented below:

	Years Ended December 31,	
	2024	2023
	(in thousands)	
GAAP net loss	\$ (83,421)	\$ (26,257)
Stock-based compensation expense upon IPO ⁽¹⁾	88,873	—
Stock-based compensation expense	145,715	10,679
Employer payroll tax related to stock-based compensation from IPO ⁽²⁾	1,072	—
Income tax effect ⁽³⁾	(8,910)	—
Non-GAAP net income (loss)	\$ 143,329	\$ (15,578)

(1) Stock-based compensation expense recognized in connection with the time-based vesting and settlement of RSUs that had previously met the time-based vesting condition and for which the liquidity event vesting condition was satisfied in connection with our IPO.

(2) Employer payroll taxes related to the time-based vesting and settlement of RSUs that had previously met the time-based vesting condition and for which the liquidity event vesting condition was satisfied in connection with our IPO.

(3) Income tax effect is calculated based on the tax laws in the jurisdictions in which we operate and is calculated to exclude the impact of stock-based compensation expense and one-off discrete tax adjustments that are unrelated to our core operating performance. For the year ended December 31, 2024, the non-GAAP tax expense rate was 6.9%, compared to a tax benefit rate of 27.0% for the year ended December 31, 2023. The reduction of the rate was due to the realization in deferred tax asset related to the release of valuation allowance, on a non-GAAP basis.

Liquidity and Capital Resources

Since our inception, we have financed our operations primarily through proceeds from the issuance of our redeemable convertible preferred stock, net proceeds from IPO, and cash generated from the sale of our products. As of December 31, 2024, our principal sources of liquidity were cash, cash equivalents, and marketable securities of \$914.3 million. Our principal use of cash is to fund our operations, invest in research and development, fund production mask capital expenditures, and to support our overall growth.

While we have generated \$136.7 million in cash flow from operating activities for the year ended December 31, 2024, in prior years significant losses from operations and negative cash flows from operating activities have resulted in our accumulated deficit of \$208.8 million as of December 31, 2024. We believe that our current cash, cash equivalents, and marketable securities will be sufficient to fund our operations for at least the next 12 months and beyond. Our future capital requirements, however, will depend on many factors, including our growth rate, the timing and extent of our sales and marketing and research and development expenditures, capital expenditures for production masks, the continuing market acceptance of our products, and the use of cash to fund potential mergers or acquisitions. In the event that additional financing is required from outside sources, we may seek to raise additional funds through equity, equity-linked arrangements, and debt. If we are unable to raise additional capital when desired and at reasonable rates, our business, results of operations, and financial condition could be adversely affected.

Cash Flows

The following table summarizes our cash flows for the periods presented:

	Years Ended December 31,	
	2024	2023
	(in thousands)	
Net cash provided by (used in) operating activities	\$ 136,676	\$ (12,716)
Net cash used in investing activities	\$ (757,568)	\$ (17,772)
Net cash provided by (used in) financing activities	\$ 655,838	\$ (502)

Operating Activities

Net cash provided by operating activities for the year ended December 31, 2024 of \$136.7 million resulted primarily from non-cash charges of \$233.4 million primarily related to \$234.6 million in stock-based compensation expense partially offset by a net loss of \$83.4 million and cash used by operating assets and liabilities of \$13.3 million. Cash used in operating assets and liabilities during the period was primarily from an increase of \$30.5 million in accounts receivable due to higher product sales and timing of customer payments, \$19.3 million increase in inventory for anticipated future demand, a \$13.0 million increase in prepaid expenses and other assets primarily related to accrued interest receivable on our short-term investments, and \$2.4 million decrease in operating lease liability. The net cash flow used in operating assets and liabilities were partially offset by \$31.0 million increase in accrued expenses and other liabilities primarily due to accrued customer deposits and timing of payments, a \$20.9 million increase in accounts payable primarily due to timing of payments, as well as increase in purchases.

Net cash used in operating activities for the year ended December 31, 2023 of \$12.7 million resulted primarily from a net loss of \$26.3 million and cash used in operating assets and liabilities of \$9.7 million offset by non-cash charges of \$23.2 million primarily consisting of stock-based compensation of \$10.7 million, an inventory write down of \$10.3 million and depreciation of \$1.8 million. Cash used in operating assets and liabilities during the period was primarily from a \$5.6 million increase in inventory primarily due to build up for anticipated demand, a \$4.3 million decrease in accounts payable primarily due to timing of payments, and a \$1.3 million decrease in operating lease liability due to the maturing of the lease, and \$0.7 million decrease in prepaid expenses and other assets due to timing. These cash flow uses were partially offset by a \$2.4 million decrease in accounts receivable due to timing of customer payments.

Investing Activities

Net cash used in investing activities for the year ended December 31, 2024 of \$757.6 million resulted primarily from \$930.6 million in purchases of marketable securities, and \$34.2 million in purchases of property and equipment, partially offset by \$208.7 million in proceeds from sales and maturities of marketable securities.

Net cash used in investing activities for the year ended December 31, 2023 of \$17.8 million resulted primarily from \$126.2 million in purchases of marketable securities and \$2.8 million in purchases of property and equipment, offset by \$111.2 million in proceeds from sales and maturities of marketable securities.

Financing Activities

Net cash provided by financing activities for the year ended December 31, 2024 of \$655.8 million resulted primarily from \$672.2 million in proceeds from our IPO, net of underwriting discounts and commissions, \$5.5 million in proceeds from exercises of stock options, and \$4.2 million in proceeds from the employee stock purchase plan. This was partially offset by \$20.1 million in tax withholding related to net share settlement of RSUs that had previously met the time-based vesting condition and for which the liquidity event vesting condition was satisfied in connection with our IPO, \$4.8 million in payments of deferred offering costs and \$1.1 million from our repurchase of our common stock.

Net cash used in financing activities for the year ended December 31, 2023 of \$0.5 million resulted primarily from \$1.4 million of payments for deferred offering costs and \$0.2 million from the repurchase of common stock, partially offset by \$1.1 million in proceeds from stock option exercises.

Material Cash Requirements

Operating lease commitments. Our operating lease commitments primarily include corporate offices. As of December 31, 2024, we had fixed lease payment obligations of \$39.9 million including our commitment for our future corporate headquarters office, with approximately \$5.0 million to be paid within 12 months and the remainder thereafter. For an additional discussion on our operating leases, see Note 5 - Leases in the Notes to the Consolidated Financial Statements set forth in Part II, Item 8 of this annual report on Form 10-K.

Purchase commitments. Our purchase commitments are primarily related to software licenses and cloud hosting services. As of December 31, 2024, we had purchase commitments of \$27.5 million, with \$12.0 million to be paid within 12 months and the remainder thereafter. In January 2025, the Company entered into an agreement for a non-cancellable purchase commitment of \$14.9 million with a three year term. For an additional discussion on our purchase commitments, see Note 6 - Commitments and Contingencies in the Notes to the Consolidated Financial Statements set forth in Part II, Item 8 of this Annual Report on Form 10-K.

Indemnification Agreements

See Note 6 - Commitments and Contingencies in the Notes to the Consolidated Financial Statements set forth in Part II, Item 8 of this Annual Report on Form 10-K.

Critical Accounting Estimates

We prepare our financial statements in conformity with GAAP. The preparation of financial statements in conformity with GAAP required certain estimates and assumptions to be made that may affect our consolidated financial statements. Accounting policies that have a significant impact on our results are described in Note 1 to our consolidated financial statements included in Part II, Item 8 of this annual report. The accounting policies discussed in this section are those that we consider to be the most critical. We consider an accounting policy to be critical if the policy is subject to a material level of judgment and if changes in those judgments are reasonably likely to materially impact our results.

We base our estimates and judgments on reasonably available information. Our estimates and assumptions may affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results may differ from those estimates and such differences may be material to the financial statements.

We continue to monitor and assess our critical estimates in light of developments, and as new events occur and additional information is obtained, our estimates may change materially in future periods.

Revenue Recognition

We recognize revenue upon transfer of control of promised goods and services in an amount that reflects the consideration we expect to receive in exchange for those goods and services. Under Accounting Standards Codification 606, *Revenue from Contracts with Customers* ("ASC 606"), we apply the following five step approach: (1) identify the contract with a customer, (2) identify the performance obligations in the contract, (3) determine the transaction price, (4) allocate the transaction price to the performance obligations in the contract, and (5) recognize revenue when, or as, a performance obligation is satisfied.

Where an arrangement includes multiple performance obligations, the transaction price is allocated to each performance obligation on a relative standalone selling price ("SSP") basis. We determine the SSP based on an observable standalone selling price when it is available, as well as other factors, including the price charged to customers and our overall pricing objectives, while maximizing observable inputs.

Accounts receivable are recorded when the customer has been billed or the right to consideration is unconditional. We record deferred revenue when we have received consideration, or an amount of consideration is due from the customer, and we have a future obligation to transfer products or services. From time to time, we have contracts with initial terms that include performance obligations that extend beyond one year.

We transact with customers primarily pursuant to standard purchase orders for delivery of products and do not allow customers to cancel or change purchase orders within limited notice periods. We recognize product sales when control transfers to the customer, generally at the time of product shipment from its facilities or at the time when products are received by customers depending on the shipping terms with our customers, in an amount that reflects the consideration we

expect to receive in exchange for those goods, net of estimated sales returns, distributor price adjustments (“DPA”), rebates, and other customer incentives.

We sell the majority of our products to distributors at a fixed list price. Distributors are authorized to resell our products to customers at a range of individually negotiated price points based on a variety of factors, including customer, product, quantity, geography, and competitive differentiation. The majority of our distributors’ resales are priced at a discount from list price (the original purchase price). After the resale transaction is completed, we issue credit memos to the distributor for the price adjustments.

Sales to most distributors are made under programs common in the semiconductor industry whereby distributors receive DPAs to meet individual competitive opportunities. These programs may include credits granted to distributors or price protection credits when our standard published prices are lowered from the price the distributor paid for product still in its inventory.

In determining the transaction price, DPAs are considered variable consideration that reduce the amount of revenue recognized. Our policy is to estimate such price adjustments based on our historical prices and contractual terms using the expected value method. To date, actual DPAs have been materially consistent with the provisions we have made, based on our historical estimates. However, because of the inherent nature of estimates, there is always a risk that there could be significant differences between actual amounts and our estimates. We also consider the constraint on estimates of variable consideration when estimating the total transaction price.

Our customer programs involve rebates, which are designed to serve as sales incentives to resellers of our products in various target markets. We account for rebates as a reduction to revenue and accrue for potential rebates based on the amount we expect to be claimed by customers.

Revenue is recognized net of taxes collected, which are subsequently remitted to governmental authorities. Consideration payable includes cash amounts that we pay, or expect to pay, to a customer, and is included in accrued expenses and other current liabilities. Consideration payable also includes credits or other items. We account for consideration payable to a customer as a reduction of the transaction price, and therefore, of revenue, unless the payment to the customer is in exchange for a distinct good or service that the customer transfers to us.

Stock-Based Compensation

We measure and recognize our stock-based compensation expense for stock options based on the estimated fair value. We use the Black-Scholes-Merton pricing model to determine the grant date fair value of stock options. Stock-based compensation expense is recognized on a straight-line basis over the requisite service period of the awards, which is generally the vesting period.

We measure and recognize our stock-based compensation expense for RSUs granted prior to IPO based on the estimated fair value of the underlying common stock on the date of grant. RSUs granted prior to the IPO vest upon the satisfaction of both service and liquidity event conditions and compensation expense were recognized on a straight-line basis over the four-year requisite service period for each separately vesting portion of the award. The liquidity event vesting condition for the RSUs was satisfied in connection with the IPO. On that date, we recorded cumulative stock-based compensation expense of \$88.9 million using the accelerated attribution method.

We measure and recognize our stock-based compensation expense for RSUs granted post IPO based on the fair value of the underlying common stock on the date of grant. RSUs granted post IPO includes only service-based vesting conditions and stock-based compensation expense will be recognized equal to the grant date fair value on a straight-line basis over the four-year requisite service period of the awards.

We measure and recognize our stock-based compensation expense for performance stock units (“PSUs”) based on the fair value of the underlying common stock on the date of grant for PSUs granted post IPO. Stock-based compensation expense will be recognized equal to the grant date fair value in the period in which vesting becomes probable using the accelerated attribution method over the requisite service period for each separately vesting portion of the award.

We measure and recognize our stock-based compensation expense for our Employee Stock Purchase Plan (“ESPP”) based on the estimated fair value. We use the Black-Scholes-Merton pricing model to determine the grant date fair value of purchase rights granted under the ESPP. Stock-based compensation expense is recognized on a straight-line basis over the term of each ESPP offering period, which was seven months for the first ESPP offering and six months for the second offering and prospectively.

We account for forfeitures as they occur.

The Black-Scholes-Merton assumptions are based on the following for each of the years presented:

- *Expected volatility* – since we do not have sufficient trading history of our common stock, we estimate a blended expected volatility by taking the average historical volatility of a group of comparable publicly traded companies and our common stock price over a period equal to the expected term of the awards.
- *Expected term* – expected term represents the period that our stock-based awards are expected to be outstanding. The expected term assumptions for options are determined based on the vesting terms, exercise terms, and contractual lives. The expected term of the ESPP represents the period of time that purchase rights are expected to be outstanding which is generally six months.
- *Risk-free interest rate* – We use the U.S. Treasury yield for our risk-free interest rate that corresponds with the expected term.
- *Dividend yield* – We utilize a dividend yield of zero, as we do not currently issue dividends, nor do we expect to do so in the future.
- *Fair value of common stock* – Prior to our IPO, we estimated the fair value of common stock, see *Common Stock Valuations* below. Post to our IPO, the fair value of common stock for purposes of options is the fair value of the underlying common stock on the date of grant and for ESPP purchases is based on the stock price on the first date of the respective offering period.

Common Stock Valuations

Prior to our IPO, the fair value of the common stock underlying our stock-based awards has historically been determined by our board of directors, with input from management and contemporaneous third-party valuations. We believe that our board of directors has the relevant experience and expertise to determine the fair value of our common stock. Given the absence of a public trading market of our common stock, and in accordance with the American Institute of Certified Public Accountants Practice Aid, *Valuation of Privately-Held Company Equity Securities Issued as Compensation*, our board of directors exercised reasonable judgment and considered numerous objective and subjective factors to determine the best estimate of the fair value of our common stock at each grant date. These factors include:

- the results of contemporaneous valuations performed at periodic intervals by a third-party valuation firm;
- the prices, rights, preferences, and privileges of our redeemable convertible preferred stock relative to those of our common stock;
- the prices of our redeemable convertible preferred stock and common stock sold to investors in arms-length transactions;
- our actual operating and financial performance and estimated trends and prospects for our future performance;
- our stage of development;
- the likelihood of achieving a liquidity event, such as an initial public offering, direct listing, or sale of our company, given prevailing market conditions;
- the lack of marketability involving securities in a private company;
- the market performance of comparable publicly traded companies; and
- U.S. and global capital market conditions.

In valuing our common stock, the fair value of our business was determined using various valuation methods, including combinations of the income approach and the market approach with input from management. The income approach involves applying an appropriate risk-adjusted discount rate to projected cash flows based on forecasted revenue and costs. The market approach estimates value based on a comparison of the subject company to comparable public companies in a similar line of business. From the comparable companies, a representative market value multiple was determined, which was applied to our operating results to estimate the enterprise value of our company.

Once the enterprise value was determined under the market approach, we derived the equity value of our company and used a hybrid method that considered both an option pricing model (“OPM”) and the probability weighted expected return method (“PWERM”) to allocate that value among the various classes of securities to arrive at the fair value of the common stock. The OPM is based on the Black-Scholes-Merton option pricing model, which allows for the identification for a range of possible future outcomes, each with an associated probability. The OPM is appropriate to use when the range of possible future outcomes is difficult to predict and thus creates highly speculative forecasts. PWERM involves a forward-looking analysis of the possible future outcomes of the enterprise including an IPO as well as non-IPO market-

based outcomes. After the equity value is determined and allocated to the various classes of shares, a discount for lack of marketability (“DLOM”) is applied to arrive at the fair value of ordinary shares. A DLOM is applied based on the theory that as an owner of a private company stock, the stockholder has limited opportunities to sell this stock and any such sale would involve significant transaction costs, thereby reducing overall fair market value.

Application of these approaches involves the use of estimates, judgment, and assumptions that are highly complex and subjective, such as those regarding our expected future revenue, expenses, and future cash flows, discount rates, market multiples, the selection of comparable companies, and the probability of possible future events. Changes in any or all of these estimates and assumptions or the relationships between those assumptions impact our valuations as of each valuation date and may have a material impact on the valuation of our common stock.

For valuations after the completion of our IPO, our board of directors determine the fair value of each share of underlying common stock based on the closing price of our common stock as reported on the date of grant. Increases and decreases in the market price of our common stocks increase and decrease the fair value of our stock-based awards granted in future periods.

Capitalized Production Masks

We incur costs for the fabrication of masks used by our contract manufacturers to manufacture wafers that incorporate our products. We capitalize the costs of fabrication masks that are reasonably expected to be used during production manufacturing. These amounts are included within property and equipment and are depreciated over a period of five years to cost of revenue. If we do not reasonably expect to use the fabrication mask during production manufacturing, we expense the related mask costs to research and development in the period in which such determination is made.

Recent Accounting Pronouncements

For more information, see Note 1 to our consolidated financial statements included in Part II, Item 8 of this Annual Report.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to market risks in the ordinary course of our business. Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and rates. Our market risk exposure is primarily the result of fluctuations in interest rates and foreign currency exchange rates.

Interest Rate Risk

As of December 31, 2024, we had cash and cash equivalents of \$79.6 million and marketable securities of \$834.8 million, which consisted of cash held in sweep accounts, checking accounts, money market funds, U.S. treasury and agency securities, commercial paper, corporate debt securities, foreign government bonds, and asset-backed securities. The cash and cash equivalents are held primarily for working capital purposes.

Such interest earning instruments carry a degree of interest rate risk. To date, fluctuations in interest income are primarily driven by increases in investment balances. The primary objective of our investment activities is to preserve principal while maximizing income without significantly increasing risk. We do not enter into investments for trading or speculative purposes and have not used any derivative financial instruments to manage our interest rate risk exposure. Due to the short-term nature of our investments, we have not been exposed to, nor do we anticipate being exposed to, material risks due to changes in interest rates. A hypothetical 100 basis point change in interest rates would change the fair value of our investments in marketable securities by \$8.7 million and \$0.9 million as of December 31, 2024 and 2023, respectively.

Foreign Currency Exchange Risk

Our reporting currency and the functional currency of our wholly owned foreign subsidiaries in Taiwan, Canada, China, India, and Israel is the U.S. dollar. All of our sales and operating expenses are transacted in U.S. dollars, and therefore our revenue and expenses are not currently subject to significant foreign currency risk. Foreign exchange gains and losses were not material for the years ended December 31, 2024, 2023, and 2022. To date, we have not entered into any hedging arrangements with respect to foreign currency risk or other derivative financial instruments, although we may choose to do so in the future. We do not believe that a hypothetical 100 basis point increase or decrease in the relative value of the U.S. dollar to other currencies would have a material effect on our operating results.

Item 8. Financial Statements and Supplementary Data

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Astera Labs, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Astera Labs, Inc. and its subsidiaries (the "Company") as of December 31, 2024 and 2023, and the related consolidated statements of operations and comprehensive loss, of changes in redeemable convertible preferred stock and stockholders' equity (deficit) and of cash flows for each of the three years in the period ended December 31, 2024, including the related notes (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 as of December 31, 2024 and 2023, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2024 in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

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

We conducted our audits of these consolidated financial statements in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud.

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

/s/ PricewaterhouseCoopers LLP
Seattle, Washington
February 13, 2025

We have served as the Company's auditor since 2021.

ASTERA LABS, INC.,
CONSOLIDATED BALANCE SHEETS
(In thousands, except par values)

	As of December 31,	
	2024	2023
Assets		
Current assets		
Cash and cash equivalents	\$ 79,551	\$ 45,098
Marketable securities	834,750	104,215
Accounts receivable, net	38,811	8,335
Inventory	43,215	24,095
Prepaid expenses and other current assets	16,652	4,064
Total current assets	1,012,979	185,807
Property and equipment, net	35,651	4,712
Other assets	5,878	5,773
Total assets	\$ 1,054,508	\$ 196,292
Liabilities, Redeemable Convertible Preferred Stock and Stockholders' Equity (Deficit)		
Current liabilities		
Accounts payable	\$ 26,918	\$ 6,337
Accrued expenses and other current liabilities	59,624	28,742
Total current liabilities	86,542	35,079
Other liabilities	3,167	3,787
Total liabilities	89,709	38,866
Commitments and contingencies (Note 6)		
Redeemable convertible preferred stock, \$0.0001 par value; 0 and 91,131 shares authorized as of December 31, 2024 and 2023, respectively; 0 and 90,891 shares issued and outstanding as of December 31, 2024 and 2023, respectively; liquidation preference of \$0 and \$265,699 as of December 31, 2024 and 2023, respectively	—	255,127
Stockholders' equity (deficit)		
Common stock, \$0.0001 par value; 1,000,000 and 162,641 shares authorized as of December 31, 2024 and 2023, respectively; 162,018 and 42,046 shares issued and outstanding as of December 31, 2024 and 2023, respectively	16	4
Additional paid-in capital	1,173,153	27,411
Accumulated other comprehensive income	426	259
Accumulated deficit	(208,796)	(125,375)
Total stockholders' equity (deficit)	964,799	(97,701)
Total liabilities, redeemable convertible preferred stock and stockholders' equity (deficit)	\$ 1,054,508	\$ 196,292

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

ASTERA LABS, INC.,

CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

(In thousands, except per share amounts)

	Years Ended December 31,		
	2024	2023	2022
Revenue	\$ 396,290	\$ 115,794	\$ 79,872
Cost of revenue	93,591	35,967	21,191
Gross profit	302,699	79,827	58,681
Operating expenses			
Research and development	200,830	73,407	73,711
Sales and marketing	123,652	19,992	24,407
General and administrative	94,283	15,925	20,757
Total operating expenses	418,765	109,324	118,875
Operating loss	(116,066)	(29,497)	(60,194)
Interest income	34,288	6,549	2,613
Loss before income taxes	(81,778)	(22,948)	(57,581)
Income tax provision	1,643	3,309	764
Net loss	\$ (83,421)	\$ (26,257)	\$ (58,345)
Net loss per share attributable to common stockholders:			
Basic and diluted	\$ (0.64)	\$ (0.71)	\$ (1.71)
Weighted-average shares used in calculating net loss per share attributable to common stockholders:			
Basic and diluted	131,262	37,131	34,171
Other comprehensive income (loss)			
Unrealized gain (loss) on marketable securities, net of taxes	167	488	(229)
Total other comprehensive income (loss)	167	488	(229)
Total comprehensive loss	\$ (83,254)	\$ (25,769)	\$ (58,574)

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

ASTERA LABS, INC.,

**CONSOLIDATED STATEMENTS OF CHANGES IN REDEEMABLE CONVERTIBLE PREFERRED STOCK AND
STOCKHOLDERS' EQUITY (DEFICIT)**
(In thousands)

	Redeemable Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive (Loss) Income	Accumulated Deficit	Total Stockholders' Equity (Deficit)
	Shares	Amount	Shares	Amount				
Balances as of December 31, 2021	82,603	\$ 86,689	39,572	\$ 4	\$ 1,006	\$ —	\$ (40,773)	\$ (39,763)
Issuance of common stock upon exercise of stock options and vesting of early exercised stock options	—	—	2,041	—	1,341	—	—	1,341
Repurchase of common stock upon termination	—	—	(71)	—	(303)	—	—	(303)
Issuance of Series D preferred stock, net of issuance costs	7,375	149,866	—	—	—	—	—	—
Exchange of common stock to Series D preferred stock	913	18,572	(913)	—	(18,572)	—	—	(18,572)
Stock-based compensation	—	—	—	—	30,235	—	—	30,235
Warrants contra revenue	—	—	—	—	344	—	—	344
Unrealized losses on marketable securities	—	—	—	—	—	(229)	—	(229)
Net loss	—	—	—	—	—	—	(58,345)	(58,345)
Balances as of December 31, 2022	90,891	\$ 255,127	40,629	\$ 4	\$ 14,051	\$ (229)	\$ (99,118)	\$ (85,292)
Issuance of common stock upon exercise of stock options and vesting of early exercised stock options	—	—	1,624	—	2,050	—	—	2,050
Repurchase of common stock upon termination	—	—	(207)	—	(174)	—	—	(174)
Stock-based compensation	—	—	—	—	10,679	—	—	10,679
Warrants contra revenue	—	—	—	—	805	—	—	805
Unrealized gains on marketable securities	—	—	—	—	—	488	—	488
Net loss	—	—	—	—	—	—	(26,257)	(26,257)
Balances as of December 31, 2023	90,891	\$ 255,127	42,046	\$ 4	\$ 27,411	\$ 259	\$ (125,375)	\$ (97,701)
Conversion of redeemable convertible preferred stock into common stock in connection with initial public offering	(90,891)	(255,127)	90,891	9	255,118	—	—	255,127
Issuance of common stock in connection with initial public offering, net of offering costs, underwriting discounts and commissions	—	—	19,759	2	665,988	—	—	665,990
Issuance of common stock upon exercise of stock options and vesting of early exercised stock options	—	—	4,682	—	5,670	—	—	5,670
Issuance of common stock upon vesting of restricted stock units	—	—	5,103	1	—	—	—	1
Shares issued under employee stock purchase plan	—	—	136	—	4,160	—	—	4,160
Shares of common stock withheld related to net settlement of restricted stock units	—	—	(559)	—	(20,111)	—	—	(20,111)
Repurchase of common stock upon termination	—	—	(40)	—	(1,066)	—	—	(1,066)
Stock-based compensation	—	—	—	—	234,588	—	—	234,588
Warrants contra revenue	—	—	—	—	1,395	—	—	1,395
Unrealized gains on marketable securities	—	—	—	—	—	167	—	167
Net loss	—	—	—	—	—	—	(83,421)	(83,421)
Balances as of December 31, 2024	—	\$ —	162,018	\$ 16	\$ 1,173,153	\$ 426	\$ (208,796)	\$ 964,799

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

ASTERA LABS, INC.,

CONSOLIDATED STATEMENTS OF CASH FLOWS

(In thousands)

	Years Ended December 31,		
	2024	2023	2022
Cash flows from operating activities			
Net loss	\$ (83,421)	\$ (26,257)	\$ (58,345)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities			
Stock-based compensation	234,588	10,679	30,235
Depreciation	3,154	1,781	807
Non-cash operating lease expense	2,428	1,232	1,448
Warrants contra revenue	1,395	805	343
Inventory write-downs	168	10,343	110
Accretion of discounts on marketable securities and other	(8,341)	(1,624)	(525)
Changes in operating assets and liabilities			
Accounts receivable, net	(30,480)	2,386	(6,037)
Inventory	(19,287)	(5,564)	(19,358)
Prepaid expenses and other assets	(13,031)	(720)	(1,332)
Accounts payable	20,887	(4,264)	2,126
Accrued expenses and other liabilities	31,018	(167)	15,950
Operating lease liability	(2,402)	(1,346)	(1,320)
Net cash provided by (used in) operating activities	136,676	(12,716)	(35,898)
Cash flows from investing activities			
Purchases of property and equipment	(34,245)	(2,761)	(3,873)
Purchases of marketable securities	(930,575)	(126,225)	(88,713)
Sales and maturities of marketable securities	208,665	111,214	1,996
Other investing activities	(1,413)	—	—
Net cash used in investing activities	(757,568)	(17,772)	(90,590)
Cash flows from financing activities			
Proceeds from issuance of common stock in connection with initial public offering, net of underwriting discounts and commissions	672,198	—	—
Payment of deferred offering costs	(4,801)	(1,407)	—
Proceeds from issuance of redeemable convertible preferred stock, net of issuance costs	—	—	149,866
Proceeds from exercises of stock options	5,458	1,115	2,115
Proceeds from employee stock purchase plan	4,160	—	—
Tax withholding related to net share settlements of restricted stock units	(20,111)	—	—
Repurchase of common stock upon termination	(1,066)	(210)	(313)
Net cash provided by (used in) financing activities	655,838	(502)	151,668
Net increase (decrease) in cash, cash equivalents, and restricted cash ⁽¹⁾	34,946	(30,990)	25,180
Cash, cash equivalents, and restricted cash ⁽¹⁾			
Beginning of the year	45,098	76,088	50,908
End of the year	\$ 80,044	\$ 45,098	\$ 76,088
Supplemental cash flow information:			
Conversion of redeemable convertible preferred stock into common stock in connection with initial public offering	\$ 255,127	\$ —	\$ —
Exchange of common stock to Series D redeemable convertible preferred stock	\$ —	\$ —	\$ 18,572
Income taxes paid	\$ 7,793	\$ 2,477	\$ —

(1) Restricted cash was not material and is included in Prepaid expenses and other current assets.

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

ASTERA LABS, INC.,

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Nature of Business and Summary of Significant Accounting Policies

Description of Business

Astera Labs, Inc. (the “Company”) offers an Intelligent Connectivity Platform, comprised of semiconductor-based, high-speed, mixed-signal connectivity products that integrate a matrix of microcontrollers and sensors, and COSMOS, the Company’s software suite, which is embedded in its connectivity products and integrated into its customers’ systems.

The Company’s patented software-defined platform approach delivers critical connectivity performance, enables flexibility and customization, and supports observability and predictive analytics. This approach aims to efficiently address the data, network, and memory bottlenecks, scalability, and other unique infrastructure requirements of its hyperscaler and system original equipment manufacturers (“OEMs”).

Basis of Presentation

The consolidated financial statements and accompanying notes were prepared in accordance with accounting principles generally accepted in the United States of America (“GAAP”).

Principles of Consolidation

The consolidated financial statements include the accounts of Astera Labs, Inc. and its wholly owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting periods. The Company’s significant estimates include, but are not limited to, revenue recognition, the valuation of deferred tax assets, reserves for uncertain tax positions, the grant date fair value of common stock awards, and the valuation and assumptions underlying stock-based compensation. By their nature, estimates are subject to an inherent degree of uncertainty and actual results could differ from those estimates.

The Company assessed certain accounting matters and estimates that generally require consideration of forecasted information using the information reasonably available to the Company. Management is not aware of any specific event or circumstance that would require an update to estimates or judgments or a revision to the carrying value of assets or liabilities. These estimates and judgments may change as new events occur and additional information is obtained, which may result in changes being recognized in the Company’s consolidated financial statements in future periods, and actual results could differ from these estimates.

Reclassifications

Certain prior period balances were reclassified to conform to the current period’s presentation. None of these reclassifications had an impact on reported net loss, balance sheets, or cash flows for any of the periods presented.

Initial Public Offering

On March 22, 2024, the Company completed its initial public offering (the “IPO”) of 22,770,000 shares of its common stock, par value \$0.0001 per share (the “Common Stock”), at a price to the public of \$36.00 per share, which included 19,758,903 shares of Common Stock sold by the Company, inclusive of 2,970,000 shares sold by the Company pursuant to the full exercise of the underwriters’ over-allotment option, as well as 3,011,097 shares of Common Stock sold by certain of the Company’s existing stockholders. The Company received net proceeds of \$672.2 million after deducting underwriting discounts and commissions of \$39.1 million.

Immediately prior to the closing of the IPO, the Company issued 90,890,650 shares of its Common Stock upon conversion on a one-for-one basis of all outstanding shares of its Series A Preferred Stock, par value \$0.0001 per share, Series A-1 Preferred Stock, par value \$0.0001 per share, Series B Preferred Stock, par value \$0.0001 per share, Series B-1

Preferred Stock, par value \$0.0001 per share, Series C Preferred Stock, par value \$0.0001 per share, and Series D Preferred Stock, par value \$0.0001 per share (collectively, the “Preferred Stock”), and such shares of Preferred Stock were cancelled, retired, and eliminated from the shares that the Company is authorized to issue and may not be reissued by the Company.

Deferred Offering Costs

The Company capitalized certain legal, accounting, and other fees and costs that were directly associated with in-process equity financings as deferred offering costs until such financings were consummated. Upon the consummation of the IPO, \$6.2 million of such costs were recorded as a reduction of the proceeds generated from the offering, which was recognized in additional paid-in capital.

Revenue Recognition

The Company recognizes revenue upon transfer of control of promised goods and services in an amount that reflects the consideration it expects to receive in exchange for those goods and services. Under Accounting Standards Codification (“ASC”) 606, *Revenue from Contracts with Customers* (“ASC 606”), the Company applies the following five step approach: (1) identify the contract with a customer, (2) identify the performance obligations in the contract, (3) determine the transaction price, (4) allocate the transaction price to the performance obligations in the contract, and (5) recognize revenue when, or as, a performance obligation is satisfied.

The following table presents revenue disaggregated by type (in thousands):

	Years Ended December 31,		
	2024	2023	2022
Product sales	\$ 393,115	\$ 111,889	\$ 78,234
Engineering services	3,175	3,905	1,638
Total revenue	\$ 396,290	\$ 115,794	\$ 79,872

Where an arrangement includes multiple performance obligations, the transaction price is allocated to each performance obligation on a relative standalone selling price (“SSP”) basis. The Company determines the SSP based on an observable standalone selling price when it is available, as well as other factors, including the price charged to customers and the Company’s overall pricing objectives, while maximizing observable inputs.

Accounts receivable are recorded when the customer has been billed or the right to consideration is unconditional. The Company records deferred revenue when it has received consideration, or an amount of consideration is due from the customer, and the Company has a future obligation to transfer products or services. As of December 31, 2024 and 2023, the Company had no deferred revenue. From time to time, the Company has contracts with initial terms that include performance obligations that extend beyond one year. As of December 31, 2024, there were no unsatisfied performance obligations for contracts with an original expected term greater than one year.

Product Sales

The Company transacts with customers primarily pursuant to standard purchase orders for delivery of products and does not allow customers to cancel or change purchase orders within limited notice periods. The Company recognizes product sales when control transfers to the customer, generally at the time of product shipment from its facilities or at the time when products are received by customers depending on the shipping terms with the customers, in an amount that reflects the consideration the Company expects to receive in exchange for those goods, net of estimated sales returns, distributor price adjustments (“DPA”), rebates, and other customer incentives.

The Company sells the majority of its products to distributors at a fixed list price. Distributors are authorized to resell its products to their customers at a range of individually negotiated price points based on a variety of factors, including customer, product, quantity, geography, and competitive differentiation. The majority of the distributors’ resales are priced at a discount from list price (the original purchase price). After the resale transaction is completed, the Company issues credit memos to the distributor for the price adjustments.

Sales to most distributors are made under programs common in the semiconductor industry whereby distributors receive certain price adjustments, or DPA, to meet individual competitive opportunities. These programs may include

credits granted to distributors or price protection credits when the Company's standard published prices are lowered from the price the distributor paid for product still in its inventory.

In determining the transaction price, DPAs are considered variable consideration that reduce the amount of revenue recognized. The Company's policy is to estimate such price adjustments based on the Company's historical prices and contractual terms using the expected value method. To date, actual DPAs have been materially consistent with the provisions the Company has made, based on its historical estimates. However, because of the inherent nature of estimates, there is always a risk that there could be significant differences between actual amounts and the Company's estimates. The Company also considers the constraint on estimates of variable consideration when estimating the total transaction price.

The Company's customer programs involve rebates, which are designed to serve as sales incentives to resellers of the Company's products in various target markets. The Company accounts for rebates as a reduction to revenue and accrues for estimated rebates based on the amount the Company expects to be claimed by customers.

Revenue is recognized net of taxes collected, which are subsequently remitted to governmental authorities. Shipping and handling fees are included in cost of revenue and are recognized as activities to fulfill the promise to transfer the good.

Consideration payable includes cash amounts that the Company pays, or expects to pay, to a customer, and is included in accrued expenses and other current liabilities. Consideration payable also includes credits or other items. The Company accounts for consideration payable as a reduction of the transaction price, and therefore, of revenue, unless the payment to the customer is in exchange for a distinct good or service that the customer transfers to the Company.

During 2023 and 2022, the Company issued to a customer warrants to purchase shares of the Company's common stock. The Company accounts for the warrants as consideration payable to a customer as the Company did not receive a distinct good or service in exchange for the warrants. The shares underlying the warrants vest upon the achievement of specified tranches of global payments by the customer and its affiliates. As it becomes probable that the performance-based vesting conditions underlying the warrants will be achieved and the related revenue is recognized, the Company recognizes the related grant date fair value of the warrants as a reduction of revenue for each sales transaction in proportion to total expected cumulative sales volume resulting in achievement of the vesting conditions. See Note 8 Common Stock Warrants.

The Company applies the practical expedient to not disclose the value of unsatisfied performance obligations for contracts with an original expected length of one year or less. The Company applies the practical expedient to expense sales commissions when incurred because the amortization period would have been one year or less.

Product Warranties

The Company's products are generally subject to a product warranty, which provides for the estimated future costs of replacement upon shipment of the products. The products carry a standard one-year warranty. The warranty accrual is estimated primarily based on historical claims compared to historical revenue and assumes that the Company will have to replace products subject to a claim. Warranty expenses were not material for the years ended December 31, 2024, 2023 and 2022. Accrued warranty was not material as of December 31, 2024, and 2023.

The Company does not allow its distributors to return overstocked, obsolete, and discontinued products.

Engineering Services

Certain revenue contracts may include performance obligations related to engineering services. The Company recognizes revenue allocated to these performance obligations as certain milestones are completed and upon acceptance by the customer of contract deliverables.

Cost of Revenue

Cost of revenue, including both cost of product sales revenue and cost of engineering services revenue, includes the purchase price of materials, such as wafers processed by third-party foundries, packaging for finished goods, assembly, shipping, amortization of capitalized production masks, logistics and quality assurance, write-downs for excess and obsolete inventory, royalties on our production products, and personnel costs including salaries, stock-based compensation expense, employee bonus and benefits, and allocation of general corporate expenses including allocated facilities expenses.

Research and Development Expenses

Research and development expenses consist of costs incurred in performing research and development activities and include salaries, stock-based compensation expense, employee bonus and benefits, pre-production engineering mask costs, overhead costs and prototype wafer, packaging and test costs, and allocated facilities expenses. Research and development costs are expensed as incurred.

Sales and Marketing Expenses

Sales and marketing expenses consist of personnel costs including salaries, stock-based compensation expense, employee bonus and benefits, samples to potential customers, product marketing and conferences, travel and entertainment costs, and allocation of general corporate expenses including allocated facilities expenses. Advertising costs are expensed as incurred and were not material for the years ended December 31, 2024, 2023 and 2022.

General and Administrative Expenses

General and administrative expenses consist primarily of personnel costs including salaries, stock-based compensation, and employee benefits related to corporate, finance, legal and human resource functions, contractor and professional services fees, audit and compliance expenses, insurance costs, and general corporate expenses including allocated facilities expenses.

Stock-Based Compensation

The Company records stock-based compensation expense for all stock-based awards, including stock options, restricted stock units (“RSUs”), performance stock units (“PSUs”), and purchase rights issued under the Employee Stock Purchase Plan (“ESPP”), made to employees, non-employees, and directors based on the fair value at the date of grant. The fair value of RSUs and PSUs is based on the underlying common stock at the date of grant. The fair value of stock options granted and purchase rights issued under the ESPP for purposes of calculating stock-based compensation expense is estimated on the grant date using the Black-Scholes-Merton pricing model.

The Black-Scholes-Merton pricing model requires the Company to make assumptions and judgments about the inputs used in the calculation, including the expected term, the volatility of the Company’s common stock, risk-free interest rate, and expected dividend yield. The expected term represents the period that the Company’s stock options and purchase rights under the ESPP are expected to be outstanding. The expected term assumptions are determined based on the vesting terms, exercise terms, and contractual lives of the options. The expected volatility is based on a blended simple average between historical volatility of a group of comparable publicly traded companies and our common stock price over a period equal to the expected term of the awards. The risk-free rate is based on the U.S. Treasury yield curve in effect at the time of grant for periods corresponding with the expected life of the option. The Company’s expected dividend yield input is zero as it has not historically paid, nor does it expect in the future to pay, cash dividends on its common stock.

Stock-based compensation expense for options, service-based RSUs, and purchase rights issued under the ESPP Plan are recognized as expense on a straight-line basis over the requisite service or offering period. Stock-based compensation expense with performance condition are recognized in the period in which vesting becomes probable using the accelerated attribution method over the requisite service period for each separately vesting portion of the award. The Company accounts for forfeitures as they occur.

Cash and Cash Equivalents

As of December 31, 2024 and 2023, cash and cash equivalents consist of cash held in sweep accounts, checking accounts, money market funds, U.S. treasury and agency securities, and commercial paper.

The Company considers all highly liquid instruments purchased with an original maturity of three months or less at the date of purchase, to be cash equivalents. Cash equivalents are recorded at fair value.

Marketable Securities

Marketable securities consist primarily of commercial paper, U.S. treasury and agency securities, corporate debt securities, foreign government bonds, and asset-backed securities. The Company’s investments are all highly liquid and available for use in current operations, including those with maturity dates beyond one year, and therefore the Company classifies these securities within current assets on its consolidated balance sheet. The Company considers its investments

with original maturities of three months or less at the date of purchase to be cash equivalents. Investments not considered cash equivalents are classified as marketable securities on the Company's consolidated balance sheets.

The Company classifies and accounts for its marketable securities as available-for-sale, and it carries such securities at fair value with unrealized gains and losses excluded from earnings and reported net of tax as a separate component of stockholders' deficit in accumulated other comprehensive income until the security is sold or matures. During the years ended December 31, 2024, 2023, and 2022, in connection with its available-for-sale securities, the Company recorded pretax unrealized gain of \$0.2 million, gain of \$0.5 million, and loss of \$0.2 million, respectively, with no associated tax benefit in other comprehensive income or loss.

If an available-for-sale debt security's fair value declines below its amortized cost basis, the Company evaluates whether it intends to sell the security, or whether it more-likely-than-not will be required to sell the security before the recovery of its amortized cost basis. If either condition is met, the Company records an impairment loss on the security. If neither condition is met, the Company evaluates whether the decline is the result of credit-related factors, in which case the Company records the credit-related portion of the impairment loss. There were no impairment charges for the years ended December 31, 2024, 2023, and 2022.

Accounts Receivable, Net

Accounts receivable are recorded at the invoiced amount, net of DPAs, and allowance for credit losses. The Company performs periodic credit evaluations of its customers' financial condition and does not require collateral from them. Amounts considered uncollectible are charged against the allowance account in the period they are deemed uncollectible. As of December 31, 2024 and 2023, the allowance for credit losses was not material to the consolidated financial statements. There was no impairment charges for the years ended December 31, 2024, 2023, and 2022.

The Company regularly monitors collections and payments from customers and maintains an allowance for credit losses for estimated losses resulting from the inability of customers to make required payments. Management estimates its allowance for credit losses by considering factors including historical credit loss experience and current conditions, such as the length of time accounts receivable are past due, customer payment histories, any specific customer collection issues identified, current market conditions which may affect customer financial condition, and reasonable and supportable forecasts of future credit losses. The Company writes off accounts receivable that have become uncollectible.

Inventory

The Company's inventory, which includes raw materials, work-in-progress, and finished goods, is stated at the lower of cost or net realizable value. Inventory cost, which includes materials purchase cost, inbound freight and capitalized overhead, is computed using standard cost, which approximates actual cost, on a first-in, first-out basis. Net realizable value is the estimated selling price of the Company's products in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation. The carrying value of inventory is reduced for estimated excess and obsolete inventory. Excess and obsolete inventory reductions are determined based on assumptions about product expiration, future demand, and market conditions, and are included in cost of revenue in the consolidated statements of operations and comprehensive loss.

Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets included prepayments for technology subscription service, cloud computing arrangements, insurance premiums, restricted cash, and accrued interest income. As of December 31, 2024 and 2023, the Company's restricted cash balance was not material and is primarily associated with collateral for the Company's credit card.

Property and Equipment, Net

Property and equipment is stated at cost, net of accumulated depreciation. Depreciation expense is recorded on a straight-line basis over the estimated useful lives of the assets. The estimated useful lives of the Company's property and equipment are as follows:

<u>Asset Category</u>	<u>Estimated Useful Life</u>
Production mask costs	5 years
Office furniture	5 years
Laboratory equipment	3 years
Servers and workstations	3 years
Leasehold improvements	Lesser of asset useful life or remaining lease term

Impairment of Long-Lived Assets

The Company assesses the impairment of long-lived assets, which consist primarily of property and equipment, whenever events or changes in circumstances indicate that such assets might be impaired and the carrying value may not be recoverable. Events or changes in circumstances that may indicate that an asset is impaired include significant decreases in the market value of an asset, significant underperformance relative to expected historical or projected future results of operations, a change in the extent or manner in which an asset is utilized, significant declines in the estimated fair value of the overall Company for a sustained period, shifts in technology, loss of key management or personnel, changes in the Company's operating model, or strategy and competitive forces.

If events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable and the expected undiscounted future cash flows attributable to the asset are less than the carrying amount of the asset, an impairment loss equal to the excess of the asset's carrying value over its fair value is recorded. Fair value is generally determined based on the present value of estimated expected future cash flows using a discount rate commensurate with the risk involved, quoted market prices or appraised values, depending on the nature of the asset. There were no impairments charges of long-lived assets for the years ended December 31, 2024, 2023, and 2022.

Leases

The Company determines at contract inception whether an arrangement is a lease based on its ability to control a physically distinct asset and determines the classification of the lease as either operating or finance. For all leases, the Company combines all components of the lease including related non-lease components as a single component. The Company's operating lease right-of-use ("ROU") assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent the Company's obligation to make lease payments related to the lease. The Company has also elected to utilize the short-term lease recognition exemption and, for those leases that qualify, the Company has not recognized operating lease ROU assets or operating lease liabilities. The Company does not have any finance leases as of December 31, 2024 and 2023. Operating lease ROU assets and liabilities are recognized at the commencement date based on the present value of lease payments over the lease term. Operating lease ROU assets also include any initial direct costs and prepayments less lease incentives. As the Company's leases do not provide an implicit rate, the Company uses its collateralized incremental borrowing rate based on the information available at the lease commencement date, including lease term, in determining the present value of lease payments.

Lease terms may include options to extend or terminate the lease when the Company is reasonably certain that it will exercise the option. Lease expense is recognized on a straight-line basis over the lease term in the consolidated statements of operations and comprehensive loss. Certain lease agreements may contain variable costs such as utilities and common area maintenance. Variable lease costs are expensed when the cost is incurred.

Income Taxes

The Company is subject to income taxes in the United States and certain foreign jurisdictions. Significant judgment is required in determining the Company's provision for income taxes and income tax assets and liabilities, including evaluating uncertainties in the application of accounting principles and complex tax laws.

The Company uses the asset and liability method to account for income taxes. Current income tax expense or benefit represents the amount of income taxes expected to be payable or refundable for the current year. Under this method, deferred income tax assets and liabilities are determined based on differences between the financial statement reporting and tax bases of assets and liabilities and net operating loss and credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates applied to taxable income in the years in which those temporary differences are expected to be recovered or settled. A valuation allowance is established when necessary to reduce deferred tax assets to the amount expected to be realized.

The Company accounts for uncertain tax positions in accordance with ASC 740-10, *Accounting for Uncertainty in Income Taxes*. The Company recognizes the tax effects of an uncertain tax position only if such position is more-likely-

than-not to be sustained based solely on its technical merits as of the reporting date and only in an amount more-likely-than-not to be sustained upon review by the tax authorities.

Net Loss per Share

The Company follows the two-class method when computing net loss per common share when shares are issued that meet the definition of participating securities. The two-class method determines net income (loss) per share of common stock and participating securities according to dividends declared or accumulated and participation rights in undistributed earnings. The two-class method requires income (loss) available to common stockholders for the period to be allocated between common stock and participating securities based upon their respective rights to receive dividends as if all income (loss) for the period had been distributed. Prior to the automatic conversion into shares of common stock as a result of the Company's IPO, the Company's redeemable convertible preferred stock contractually entitled the holders of such shares to participate in dividends, but did not contractually require the holders of such shares to participate in the Company's losses. Subsequent to the IPO, the Company has no participating securities.

Basic net loss per share is computed by dividing the net loss attributable to common stockholders by the weighted-average number of shares of common stock outstanding during the period, less shares subject to repurchase. The diluted net loss per share is computed by giving effect to all potentially dilutive securities outstanding for the period using the treasury stock method or the if-converted method. For periods in which the Company reports net losses, diluted net loss per common share is the same as basic net loss per common share, because all potentially dilutive securities are anti-dilutive.

Commitments and Contingencies

Liabilities for loss contingencies arising from claims, assessments, litigation, fines, and penalties and other sources are recorded when it is probable that a liability has been incurred and the amount of loss can be reasonably estimated. The Company does not accrue for contingent losses that, in its judgment, are considered to be reasonably possible. However, if the Company determines that a contingent loss is reasonably possible and the loss or range of loss can be estimated, the Company discloses the possible loss in the consolidated financial statements. Legal costs incurred in connection with loss contingencies are expensed as incurred.

Redeemable Convertible Preferred Stock

The Company records all shares of redeemable convertible preferred shares at their respective fair values less issuance costs on the dates of issuance. The redeemable convertible preferred shares were recorded outside of stockholders' deficit because, in the event of certain liquidation events, considered not solely within the Company's control, such as a change in control event and sale of all or substantially all of the Company's assets, the redeemable convertible preferred shares would become redeemable at the option of the holders.

Foreign Currency Transactions

The functional currency of the Company's foreign subsidiaries is the U.S. dollar. All foreign currency transactions are initially measured and recorded in U.S. dollars using the exchange rate on the date of the transaction. Foreign currency denominated monetary assets and liabilities are remeasured and recorded at the end of each reporting period using the exchange rate at that date. Foreign exchange gains and losses were not material for the years ended December 31, 2024, 2023, and 2022.

Fair Value Measurements

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. To increase the comparability of fair value measures, the following hierarchy prioritizes the inputs to valuation methodologies used to measure fair value:

Level 1. Quoted prices for identical assets and liabilities in active markets.

Level 2. Assets and liabilities valued based on observable market data for similar instruments, such as quoted prices for similar assets or liabilities or other inputs that are observable or can be corroborated by observable market data.

Level 3. Unobservable inputs reflecting the Company's assumptions, consistent with reasonably available assumptions made by other market participants. These valuations require significant judgment.

The fair value hierarchy also requires an entity to maximize the use of observable inputs and minimizes the use of unobservable inputs when measuring fair value.

The carrying amount of the Company's financial instruments, including cash equivalents, accounts receivable, and accounts payable, approximates their respective fair values because of their short maturities.

Concentrations of Credit Risk and Major Customers

Revenue by location is determined by the billing address of the Company's customers, which include distributors who purchase the Company's products and resell them. The Company had the following customers that individually comprised 10% or more of its revenue:

	Years Ended December 31,		
	2024	2023	2022
Customer A	36 %	24 %	*
Customer B	24 %	37 %	82 %
Customer C	11 %	*	*
Customer D	*	18 %	*
Customer E	*	*	14 %

*Less than 10% of total revenue

The Company had the following customers that individually comprised 10% or more of its accounts receivable, net:

	As of	
	December 31, 2024	December 31, 2023
Customer A	24 %	39 %
Customer B	13 %	27 %
Customer C	22 %	*
Customer F	31 %	*

*Less than 10% of total accounts receivable, net

Concentration of Supply Risk

The Company relies on a single manufacturing partner for integrated circuits. The Company also relies on a limited number of other manufacturing partners for its modules, boards, and integrated circuit substrates. While alternative providers could be identified, the Company is subject to supply and pricing risks.

Accounting Pronouncements Recently Adopted

In November 2023, the FASB issued ASU 2023-07, *Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures* ("ASU 2023-07"). ASU 2023-07 enhances the disclosures required for operating segments in the Company's annual and interim consolidated financial statements. The disclosures required under ASU 2023-07 are also required for public entities with a single reportable segment. The amendments in ASU 2023-07 improve reportable segment disclosure requirements, primarily through enhanced disclosures about significant segment expenses. The Company adopted ASU 2023-07 in the fourth quarter of 2024 and applied the amendments retrospectively to all prior periods presented in the consolidated financial statements (see Note 2 Segment and Geographical Information). The adoption of ASU 2023-07 did not have a material impact on the Company's consolidated financial statements.

Recently Issued Accounting Pronouncements Not Yet Adopted

In December 2023, the FASB issued ASU 2023-09, *Income Taxes (Topic 740): Improvements to Income Tax Disclosures* ("ASU 2023-09"). ASU 2023-09 requires disaggregated information about a reporting entity's effective tax rate reconciliation as well as information on income taxes paid. The ASU is effective for public business entities for annual periods beginning after December 15, 2024. Early adoption is permitted. The Company does not expect a material impact from the adoption of this guidance on its consolidated financial statements and related disclosures.

In November 2024, the FASB issued ASU 2024-03, *Income Statement-Reporting Comprehensive Income-Expense Disaggregation Disclosure* ("ASU 2024-03"). ASU 2024-03 requires additional disclosures on specific expense categories included in the expense captions presented on the statements of operations. The new standard is effective for annual periods beginning after December 15, 2026 and interim reporting periods beginning after December 15, 2027. Early

adoption is permitted. The Company is currently evaluating the impact of this new guidance on its consolidated financial statements and related disclosures.

2. Segment and Geographical Information

The Company's chief operating decision maker ("CODM") is its Chief Executive Officer ("CEO"), who reviews financial information presented on a consolidated basis for purposes of making operating decisions, assessing financial performance, and allocating resources. The CODM uses net income or loss to evaluate the return on assets and to determine investment opportunities related to product development, platform enhancements, and new technologies. The CODM also uses net income or loss to monitor budget versus actual results. The Company manages its operations and allocates resources as a single operating segment.

The following table includes the significant expense categories and amounts that are regularly provided to the CODM (in thousands):

	Years Ended December 31,		
	2024	2023	2022
Revenue	\$ 396,290	\$ 115,794	\$ 79,872
Less:			
Cost of revenue	93,591	35,967	21,191
Stock-based compensation ⁽¹⁾	233,743	10,655	30,225
Personnel-related expenses ⁽¹⁾	117,366	65,327	44,168
Other segment items ⁽²⁾	35,011	30,102	42,633
Consolidated net loss	\$ (83,421)	\$ (26,257)	\$ (58,345)

(1) Stock-based compensation and personnel-related expenses presented in the above table are related to operating expenses and exclude amounts included in the cost of revenue.

(2) Other segment items included primarily related to interest income, income tax provision, software licenses and cloud hosting services, and professional and consulting services fees.

Revenue by location is determined by the billing address of the customers, who include distributors who purchase the Company's products and resell them. The following table sets forth revenue by geographic area (in thousands):

	Years Ended December 31,		
	2024	2023	2022
Taiwan	\$ 269,935	\$ 72,174	\$ 61,776
China	72,672	5,540	1,487
United States	11,296	30,664	4,779
Other	42,387	7,416	11,830
Total	\$ 396,290	\$ 115,794	\$ 79,872

Property and equipment by geographic location is based on the location of the asset. As of December 31, 2024, 17% and 82% of the Company's property and equipment was located in the United States and Taiwan, respectively. As of December 31, 2023 and 2022, substantially all of the Company's property and equipment was located in the United States.

3. Marketable Securities

The amortized cost, gross unrealized gains and losses, and fair value of available-for-sale debt securities by major security type are as follows (in thousands):

	As of December 31, 2024			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Cash equivalents				
Money market funds	\$ 59,595	\$ —	\$ —	\$ 59,595
Total cash equivalents	\$ 59,595	\$ —	\$ —	\$ 59,595
Marketable securities				
U.S. treasury and agency securities	\$ 202,506	\$ 338	\$ (375)	\$ 202,469
Commercial paper	103,219	51	(37)	103,233
Corporate debt securities	512,531	1,351	(957)	512,925
Asset-backed securities	16,068	63	(8)	16,123
Total marketable securities	\$ 834,324	\$ 1,803	\$ (1,377)	\$ 834,750

	As of December 31, 2023			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Cash equivalents				
Money market funds	\$ 757	\$ —	\$ —	\$ 757
U.S. treasury and agency securities	472	—	—	472
Commercial paper	250	—	—	250
Total cash equivalents	\$ 1,479	\$ —	\$ —	\$ 1,479
Marketable securities				
U.S. treasury and agency securities	\$ 59,856	\$ 211	\$ (64)	\$ 60,003
Commercial paper	8,513	—	(5)	8,508
Corporate debt securities	23,552	96	(9)	23,639
Asset-backed securities	12,059	14	(8)	12,065
Total marketable securities	\$ 103,980	\$ 321	\$ (86)	\$ 104,215

As of December 31, 2024 and 2023, the Company's marketable securities that were in a continuous loss position for 12 months or more, as well as the unrealized losses on those marketable securities, were not material.

The contractual maturities of cash equivalents and marketable securities classified as available-for-sale are as follows (in thousands):

	As of December 31, 2024		As of December 31, 2023	
	Amortized Cost	Fair Value	Amortized Cost	Fair Value
Due within one year	\$ 425,733	\$ 426,257	\$ 65,816	\$ 65,757
Due after one year through five years	468,186	468,088	39,643	39,937
Total available-for-sale securities	\$ 893,919	\$ 894,345	\$ 105,459	\$ 105,694

Actual maturities may differ from contractual maturities because borrowers may have the right to call or prepay obligations with or without call or prepayment penalties.

The Company did not recognize any allowance for credit losses as of December 31, 2024 and 2023 or impairment charges for the years ended December 31, 2024, 2023 and 2022.

There were no material realized gains or losses from available-for-sale securities that were reclassified out of accumulated other comprehensive income (loss) for the years ended December 31, 2024, 2023, and 2022.

Fair Value of Assets and Liabilities

The following table presents information about the Company's financial assets measured at fair value on a recurring basis based on the fair value hierarchy as follows (in thousands):

	As of December 31, 2024		
	Level 1	Level 2	Total Fair Value
Cash equivalents			
Money market funds	\$ 59,595	\$ —	\$ 59,595
Total cash equivalents	<u>\$ 59,595</u>	<u>\$ —</u>	<u>\$ 59,595</u>
Marketable securities			
U.S. treasury and agency securities	\$ —	\$ 202,469	\$ 202,469
Commercial paper	—	103,233	103,233
Corporate debt securities	—	512,925	512,925
Asset-backed securities	—	16,123	16,123
Total marketable securities	<u>\$ —</u>	<u>\$ 834,750</u>	<u>\$ 834,750</u>

	As of December 31, 2023		
	Level 1	Level 2	Total Fair Value
Cash equivalents			
Money market funds	\$ 757	\$ —	\$ 757
U.S. treasury and agency securities	—	472	472
Commercial paper	—	250	250
Total cash equivalents	<u>\$ 757</u>	<u>\$ 722</u>	<u>\$ 1,479</u>
Marketable securities			
U.S. treasury and agency securities	\$ —	\$ 60,003	\$ 60,003
Commercial paper	—	8,508	8,508
Corporate debt securities	—	23,639	23,639
Asset-backed securities	—	12,065	12,065
Total marketable securities	<u>\$ —</u>	<u>\$ 104,215</u>	<u>\$ 104,215</u>

As of December 31, 2024 and 2023, there was no marketable securities with level 3 fair value hierarchy measurement.

4. Consolidated Balance Sheet Components

Inventory

Inventory consists of the following (in thousands):

	As of December 31,	
	2024	2023
Raw materials	\$ 229	\$ 2,247
Work-in-progress	26,695	11,780
Finished goods	16,291	10,068
Total inventory	<u>\$ 43,215</u>	<u>\$ 24,095</u>

Property and Equipment, Net

Property and equipment, net consists of the following (in thousands):

	As of December 31,	
	2024	2023
Construction in progress	\$ 29,064	\$ —
Laboratory equipment	10,467	6,470
Office furniture	353	242
Leasehold improvements	1,159	437
Servers and workstations	441	242
Property and equipment, gross	<u>41,484</u>	<u>7,391</u>
Less: accumulated depreciation	<u>(5,833)</u>	<u>(2,679)</u>
Total property and equipment, net	<u>\$ 35,651</u>	<u>\$ 4,712</u>

Depreciation expense of \$3.2 million, \$1.8 million, and \$0.8 million was recognized during the years ended December 31, 2024, 2023 and 2022, respectively. Construction in progress primarily includes production mask costs capitalized relating to the Company's products and will be placed in service and begin to depreciate when related manufacturing commences.

Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consists of the following (in thousands):

	As of December 31,	
	2024	2023
Accrued compensation and benefits	\$ 29,516	\$ 14,923
Customer deposits	15,000	—
Accrued software license costs	5,418	3,224
Operating lease liabilities, current	1,286	2,156
Other current liabilities	8,404	8,439
Total accrued expenses and other current liabilities	<u>\$ 59,624</u>	<u>\$ 28,742</u>

5. Leases

The Company has operating leases for corporate offices in the U.S., Canada, China, India, Israel, and Taiwan. The Company's lease payments consist primarily of fixed rental payments for the right to use the underlying leased assets over the lease terms for all leases.

Supplemental balance sheet information related to the Company's operating leases is as follows (in thousands):

	As of December 31,	
	2024	2023
Assets		
Operating lease ROU assets, net	\$ 2,983	\$ 2,869
Liabilities		
Operating lease liabilities, current	\$ 1,286	\$ 2,156
Operating lease liabilities, noncurrent	1,788	778
Total lease liabilities	\$ 3,074	\$ 2,934

Operating lease ROU assets, net are included in other assets; operating lease liabilities, current are included in accrued expenses and other current liabilities; and operating lease liabilities, non-current are included in other liabilities, on the consolidated balance sheets.

The components of lease expense, included in operating expenses, were as follows (in thousands):

	Years Ended December 31,		
	2024	2023	2022
Operating lease expense	\$ 2,633	\$ 1,640	\$ 1,448
Short-term lease expense	229	200	602
Variable lease expense	284	310	89
Total lease expense	\$ 3,146	\$ 2,150	\$ 2,139

The weighted-average remaining lease term and discount rates were as follows:

	As of December 31,	
	2024	2023
Weighted average remaining lease term (in years)	3.2	1.4
Weighted average discount rate	11.1%	10.8%

Other information related to operating leases were as follows (in thousands):

	Years Ended December 31,		
	2024	2023	2022
Operating cash flows from operating leases	\$ 2,402	\$ 1,346	\$ 1,320
ROU assets obtained in exchange for lease obligations	\$ 2,542	\$ 2,336	\$ 2,018

The future minimum operating lease payments for each of the next five years and thereafter are as follows as of December 31, 2024 (in thousands):

Years ending December 31	Operating Leases
2025	\$ 1,527
2026	642
2027	567
2028	517
2029	431
Total future minimum lease payment	3,684
Less: Imputed interest	(610)
Total operating lease liabilities	\$ 3,074

As of December 31, 2024, the Company has entered into a non-cancelable operating lease with undiscounted future minimum payments of \$36.8 million, which are excluded from the above table. This operating lease will commence in April 2025 with a lease term of approximately 7.5 years.

6. Commitments and Contingencies

Purchase Commitments

The Company depends upon third-party subcontractors to manufacture wafers and other inventory parts. The Company's subcontractor relationships typically allow for the cancellation of outstanding purchase orders but require payment of all expenses incurred through the date of cancellation. As of December 31, 2024 and 2023, the Company did not have any material firm purchase commitments related to these relationships.

The Company's purchase commitments include payments for software licenses and cloud services when there is a fixed, non-cancellable payment schedule or when minimum payments are due according to a delivery schedule. The Company is committed to make the following minimum payments under its purchase commitments for software licenses and cloud services as of December 31, 2024 (in thousands):

<u>Years ending December 31</u>	<u>Purchase Commitments</u>
2025	\$ 11,957
2026	7,527
2027	8,000
Total purchase commitments	<u>\$ 27,484</u>

In January 2025, the Company entered into an agreement for a non-cancellable purchase commitment of \$14.9 million with a three years term, which are excluded from the above table.

Legal Proceedings

From time to time, the Company may become subject to legal proceedings, claims and litigation arising in the ordinary course of business. The Company is not currently a party to any material legal proceedings or claims, nor is the Company aware of any other pending or threatened legal proceedings or claims that could reasonably be expected to have a material adverse effect on the Company's business, operating results, cash flows or financial condition should such legal proceedings or claims be resolved unfavorably.

Indemnifications

In the ordinary course of business, the Company often includes standard indemnification provisions in its arrangements with its members, partners, suppliers and vendors. Pursuant to these provisions, the Company may be obligated to indemnify such parties for losses or claims suffered or incurred in connection with its service, breach of representations or covenants, intellectual property infringement or other claims made against such parties. These provisions may limit the time within which an indemnification claim can be made. It is not possible to determine the maximum potential amount under these indemnification obligations due to the limited history of prior indemnification claims and the unique facts and circumstances involved in each particular agreement. The Company has not in the past incurred significant expense defending its licensees against third party claims, nor has it incurred significant expense under its standard service warranties or arrangements with its members, partners, suppliers, and vendors. Accordingly, the Company had no liabilities recorded for these provisions as of December 31, 2024 and 2023.

7. Redeemable Convertible Preferred Stock, Undesignated Preferred Stock, and Common Stock

Redeemable Convertible Preferred Stock

The Company has previously issued shares of Preferred Stock. Immediately prior to the consummation of the IPO, all of the then outstanding 90.9 million shares of the Company's convertible Preferred Stock were automatically converted into an aggregate 90.9 million shares of Common Stock on a one-for-one basis, and such shares of Preferred Stock were cancelled, retired, and eliminated from the shares of stock that the Company is authorized to issue and shall not be reissued by the Company.

Undesignated Preferred Stock

On March 22, 2024, in connection with the consummation of the IPO, the Company filed an Amended and Restated Certificate of Incorporation with the Secretary of State of the State of Delaware, which authorized 100,000,000 shares of undesignated preferred stock with a par value of \$0.0001 per share, with rights and preferences, including voting rights, designated from time to time by the Company's Board of Directors. As of December 31, 2024, no undesignated preferred stock has been issued.

Common Stock

On January 22, 2024, the Company filed an Amended and Restated Certificate of Incorporation with the Secretary of State of the State of Delaware which resulted in an increase to the authorized shares of the Company's Common Stock from 162,641,331 shares to 163,375,000 shares. On March 22, 2024, in connection with the consummation of the IPO, the Company filed an Amended and Restated Certificate of Incorporation with the Secretary of State of the State of Delaware that resulted in an increase to the authorized shares of the Company's Common Stock from 163,375,000 shares to 1,000,000,000 shares. As of December 31, 2024 and 2023, the Company had authorized 1.0 billion and 162.6 million shares, respectively, of Common Stock with a \$0.0001 per share par value. Common stockholders are entitled to one vote for each share held.

8. Common Stock Warrants

In October 2022, the Company issued a warrant to a customer ("Holder") to purchase an aggregate of up to 1,484,230 shares of Common Stock at an exercise price of \$20.34 per share (the "Customer Warrant"). The exercise period of the Customer Warrant is through the seventh anniversary of the issue date. Upon issuance of the Customer Warrant, 14,844 shares issuable underlying the Customer Warrant were immediately vested and exercisable. The remainder of the shares underlying the Customer Warrant may vest and become exercisable over the contract term, contingent upon the achievement of performance conditions, comprised of specified tranches of global payments by the Holder and its affiliates to the Company.

In October 2023, the Company amended the warrant agreement and issued an additional warrant to the Holder to purchase an aggregate of up to 831,945 shares of Common Stock at an exercise price of \$20.34 per share (the "2023 Warrant", and together with the Customer Warrant, the "Warrants"), with the same exercise period as the Customer Warrant. The 2023 Warrant will vest and become exercisable over the contract term, contingent upon the achievement of performance conditions, comprised of specified tranches of payments by the Holder and its affiliates to the Company. As of December 31, 2024 and 2023, an aggregate of 474,029 shares and 198,518 shares, respectively, underlying the Warrants vested and are exercisable. Additionally, an aggregate of 50,439 and 34,090 shares were probable of vesting as of December 31, 2024 and 2023, respectively.

The grant date fair values of the Customer Warrant and the 2023 Warrant were determined to be \$4.78 and \$10.04 per share, respectively, using the Black-Scholes-Merton option pricing model, for maximum total Customer Warrant and 2023 Warrant fair values of \$7.1 million and \$8.4 million, respectively. The per share grant date fair values of the Customer Warrant and 2023 Warrant were estimated using the following assumptions:

	Customer Warrant	2023 Warrant
Expected dividend yield	0.0 %	0.0 %
Risk-free interest rate	4.2 %	4.9 %
Expected volatility	55.0 %	60.0 %
Expected term (in years)	7.0	6.0
Per share fair value of common stock	\$ 10.64	\$ 17.62

The Company recognized \$1.4 million, \$0.8 million and \$0.3 million for the years ended December 31, 2024, 2023 and 2022, respectively, as a reduction of revenue in the consolidated statements of operations and comprehensive loss related to the Warrants. The remaining grant date fair values of the Warrants that are probable of vesting will be recognized as a reduction of revenue in proportion to the amount of related product sales, which could occur until October 14, 2029.

9. Stock-Based Compensation

Amended and Restated 2018 Equity Incentive Plan

Prior to the IPO, the Company historically granted stock-based compensation awards under its Amended and Restated 2018 Equity Incentive Plan (as amended, “2018 Plan”). The 2018 Plan provided for the grant of incentive and nonqualified stock options and RSUs to qualified employees, nonemployee directors, and consultants. Options granted under the 2018 Plan generally expire within 10 years from the date of grant, vest over four years and are exercisable for shares of the Company’s Common Stock. The RSUs vest upon the satisfaction of both a service condition and a liquidity event condition. The service condition for the RSUs is generally satisfied over a four-year vesting period. The liquidity event vesting condition for the RSUs was satisfied in connection with the IPO.

The 2018 Plan was terminated in March 2024. Any shares of the Company’s Common Stock that would have otherwise returned to the 2018 Plan as a result of forfeiture, expiration, cancellation, termination or net issuances of awards thereunder, including, for the avoidance of doubt, any shares of Common Stock withheld by the Company to satisfy any tax withholding obligations that arose upon vesting or settlement of awards in connection with the IPO were returned to the share reserve under the 2024 Plan. All future equity grants will be made pursuant to the 2024 Plan.

2024 Stock Option and Incentive Plan

In March 2024, the Company’s board of directors adopted, and the Company’s stockholders approved, the 2024 Stock Option and Incentive Plan (“2024 Plan”), which became effective on March 19, 2024, immediately prior to the effectiveness of the registration statement on Form S-1 related to the IPO. Under the 2024 Plan, the Company initially reserved 12,362,662 shares of the Common Stock for issuance thereunder. The 2024 Plan provides for annual automatic increases in the number of shares of the Company’s Common Stock reserved thereunder on January 1, 2025 and each January 1 thereafter, by up to 5% of the issued and outstanding number of shares of Common Stock on the immediately preceding December 31, or such lesser number of shares as determined by the compensation committee of the Company’s board of directors. As of December 31, 2024, 5.4 million shares remained available to be issued under the Plan.

2024 Employee Stock Purchase Plan

In March 2024, the Company’s board of directors adopted, and the Company’s stockholders approved, the 2024 Employee Stock Purchase Plan, which became effective on March 19, 2024, immediately prior to the effectiveness of the registration statement on Form S-1 related to the IPO. The Company initially reserved 3,090,666 shares of the Common Stock for future issuance. The number of shares of the Common Stock reserved for issuance will automatically increase on January 1 of each calendar year, beginning on January 1, 2025 through January 1, 2034, by the lesser of (i) 3,090,666 shares of common stock, (ii) 1% of the number of shares of Common Stock issued and outstanding on the immediately preceding December 31st, or (iii) such number of shares of Common Stock as determined by the compensation committee of the Company’s board of directors.

Under the ESPP, participants can purchase the Company’s Common Stock using payroll deductions, which may not exceed 15% of their salary. Participants will be granted the right to purchase shares of Common Stock at a price per share that is equal to 85% of the lesser of (i) the closing price on the first day of the applicable offering under the ESPP or, for the first offering period, the “Price to Public” set forth on the cover page for the Prospectus or (ii) the closing price on the last day of the applicable offering period under the ESPP. No participant has the right to purchase shares of Common Stock in an amount, when aggregated with purchase rights under all of the Company’s employee stock purchase plans that are also in effect in the same calendar year(s), that has a fair market value of more than \$25,000, determined as of the first day of the applicable offering period, for each calendar year in which that right is outstanding. In addition, no participant is permitted to purchase more than 3,000 shares during any applicable offering period. As of December 31, 2024, there was 0.1 million shares issued under the ESPP.

Summary of Stock-Based Compensation Expense

A summary of stock-based compensation expense recognized in the consolidated statements of operations and comprehensive loss is as follows (in thousands):

	Years Ended December 31,		
	2024	2023	2022
Cost of revenue	\$ 845	\$ 24	\$ 10
Research and development	76,427	7,360	11,223
Sales and marketing	95,887	2,067	10,148
General and administrative	61,429	1,228	8,854
Total	\$ 234,588	\$ 10,679	\$ 30,235

Stock Option

The estimated grant date fair values of the employee stock options granted during the years ended December 31, 2024, 2023, and 2022 were calculated using the Black-Scholes-Merton Option-pricing model, based on the following minimum and maximum assumptions:

	Years Ended December 31,		
	2024	2023	2022
Expected dividend yield	0.0 %	0.0 %	0.0 %
Risk-free interest rate	4.2%	3.9% - 4.7%	1.7% - 2.5%
Expected volatility	52.3%	48.8% - 49.1%	47.5% - 47.8%
Expected term (in years)	6.1	6.1	6.1

A summary of stock option activity under the 2018 Plan and 2024 Plan is as follows (in thousands, except years and per share data):

	Number of Shares	Weighted-Average Exercise Price (per share)	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value
Outstanding at December 31, 2023	10,059	\$ 0.84	7.5	\$ 175,790
Granted	7	0.01		
Exercised	(4,682)	0.87		
Cancelled and forfeited	(99)	0.72		
Outstanding at December 31, 2024	5,285	\$ 0.83	6.5	\$ 695,689
Vested and expected to vest at December 31, 2024	5,285	\$ 0.83	6.5	\$ 695,689
Exercisable at December 31, 2024	3,868	\$ 0.65	6.3	\$ 509,743

The intrinsic value of a stock option is calculated as the difference between the per share exercise price of the underlying stock option award and the estimated per share fair value of the Company's common stock at the measurement date. The total intrinsic value of options exercised during the years ended December 31, 2024, 2023, and 2022 was \$379.3 million, \$25.8 million, and \$17.6 million, respectively.

The weighted-average grant date fair value of options granted during the years ended December 31, 2024, 2023, and 2022 was \$47.04, \$15.48, and \$8.82 per share, respectively.

As of December 31, 2024, there was approximately \$8.9 million of total unrecognized compensation cost, related to unvested options, which is expected to be recognized over a weighted-average remaining requisite service period of 0.8 years, using the straight-line method.

ESPP

The estimated grant date fair values of the ESPP granted during the year ended December 31, 2024 was calculated using the Black-Scholes-Merton Option-pricing model, based on the following minimum and maximum assumptions:

	Year Ended December 31, 2024
Expected dividend yield	0.0 %
Risk-free interest rate	4.4% - 5.2%
Expected volatility	46.6% - 70.8%
Expected term (in years)	0.5 - 0.7

During the year ended December 31, 2024, employees purchased 0.1 million shares of common stock through the ESPP at a purchase price of \$30.60 per share.

Restricted Stock Units

A summary of RSU activity under the 2018 Plan and 2024 Plan is as follows (in thousands, except per share data):

	Number of Restricted Stock Units	Weighted-Average Grant Date Fair Value (per share)
Outstanding at December 31, 2023	8,583	\$ 13.34
Granted	10,674	39.76
Vested	(5,102)	13.40
Cancelled and forfeited	(535)	26.57
Outstanding at December 31, 2024	13,620	\$ 33.49

The aggregate fair value of RSUs that vested and settled during the year ended December 31, 2024 was \$241.0 million.

As of December 31, 2024, there was \$304.4 million of unrecognized stock-based compensation expense related to all unvested awards, which is expected to be recognized over a weighted-average period of 1.8 years.

Performance Stock Units

During the year ended December 31, 2024, the Company granted 0.2 million shares of PSUs with a weighted-average grant-date fair value of \$125.28 per share with vesting based on the achievement of certain product development milestones that must be met over the next six years. The Company has determined that it is not probable that the performance condition will be achieved, and as such, no share-based compensation has been recognized during the year ended December 31, 2024. The Company had \$19.5 million of total unrecognized compensation cost related to these PSUs.

10. Net Loss per Share

The following table sets forth the computation of basic and diluted net loss per share attributable to the Company's common stockholders (in thousands, except per share data):

	Years Ended December 31,		
	2024	2023	2022
Numerator:			
Net loss attributable to common stockholders	\$ (83,421)	\$ (26,257)	\$ (58,345)
Denominator:			
Weighted-average shares used in computing net loss per share attributable to common stockholders, basic and diluted	131,262	37,131	34,171
Net loss per share attributable to common stockholders, basic and diluted	\$ (0.64)	\$ (0.71)	\$ (1.71)

As the Company was in a loss position for the years ended December 31, 2024, 2023, and 2022, basic net loss per share is the same as diluted net loss per share as the inclusion of all potential common shares outstanding would have been anti-dilutive. Potentially dilutive securities that were not included in the diluted per share calculations because they would have been anti-dilutive were as follows (in thousands):

	Years Ended December 31,		
	2024	2023	2022
Options to purchase common stock	5,233	10,050	12,337
Redeemable convertible preferred stock	—	90,891	90,891
Unvested RSUs	13,620	8,583	5,108
Unvested PSUs	155	—	—
Warrants for common stock	2,442	2,442	1,610
ESPP	60	—	—
Total	21,510	111,966	109,946

11. Income Taxes

The U.S. and non-U.S. components of loss before income taxes consist of the following (in thousands):

	Years Ended December 31,		
	2024	2023	2022
United States	\$ (83,550)	\$ (23,655)	\$ (58,059)
International	1,772	707	478
Loss before incomes taxes	\$ (81,778)	\$ (22,948)	\$ (57,581)

The provision for income taxes consists of the following (in thousands):

	Years Ended December 31,		
	2024	2023	2022
Current			
U.S. Federal	\$ 1,141	\$ 3,144	\$ 666
State	(8)	206	6
International	510	(41)	92
Total current tax expense	1,643	3,309	764
Deferred			
U.S. Federal	—	—	—
State	—	—	—
International	—	—	—
Total deferred tax expense	—	—	—
Total income tax expense	\$ 1,643	\$ 3,309	\$ 764

The effective tax rate differs from the U.S. federal statutory rate as follows:

	Years Ended December 31,		
	2024	2023	2022
Federal statutory tax	21.0 %	21.0 %	21.0 %
State taxes	19.3	7.7	2.3
Change in valuation allowance	(157.2)	(78.9)	(17.2)
General business credits	46.2	13.0	2.6
Stock-based compensation ⁽¹⁾	61.4	19.3	(10.0)
Foreign-derived intangible income	6.8	—	—
Foreign taxes	0.9	—	—
Other	(0.4)	3.4	—
Effective tax rate	(2.0)%	(14.5)%	(1.3)%

(1) Includes stock-based compensation and stock-based compensation related to secondary transactions and Section 83(b) elections

Deferred income taxes reflect the net effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. The tax effects of the temporary differences and carryforwards that give rise to deferred tax assets and liabilities consist of the following (in thousands):

	As of December 31,	
	2024	2023
Deferred tax assets		
Net operating losses	\$ 1,115	\$ 678
General business credits	48,512	4,291
Intangibles ⁽²⁾	98,754	30,806
Stock-based compensation	14,874	2,727
Other	7,040	3,297
Total deferred tax assets before valuation allowance	170,295	41,799
Deferred tax liabilities		
Stock-based compensation – Section 83(b) elections	(502)	(1,145)
ROU assets	(179)	(500)
Fixed assets	(1,206)	(831)

Others	(115)	—
Total deferred tax liabilities	(2,002)	(2,476)
Less: valuation allowance	(168,293)	(39,323)
Net deferred tax assets after valuation allowance	\$ —	\$ —

(2) Primarily relates to capitalized R&D. Beginning January 1, 2022, the Tax Cuts and Jobs Act, (the “Tax Act”), eliminated the option to deduct research and development expenditures in the current year and requires taxpayers to capitalize such expenses pursuant to Internal Revenue Code Section 174. The capitalized expenses are amortized over a 5-year period for domestic expenses and a 15-year period for foreign expenses.

In determining the need for a valuation allowance, the Company reviewed both positive and negative evidence pursuant to the requirements of ASC 740, *Income Taxes*, including current and historical results of operations, future income projections, and potential tax planning strategies. A significant piece of objective negative evidence evaluated was the cumulative loss incurred over the 3-year period ended December 31, 2024. Such objective evidence limits the ability to consider other subjective evidence such as its projections for future growth. On the basis of this evaluation, as of December 31, 2024, a valuation allowance of \$168.3 million has been recorded, which reflects an increase in the valuation allowance of \$129.0 million for the year ended December 31, 2024. As of December 31, 2023, a valuation allowance of \$39.3 million has been recorded, which reflects an increase in the valuation allowance of \$18.1 million for the year ended December 31, 2023. As of December 31, 2022, a valuation allowance of \$21.2 million has been recorded, which reflects an increase in the valuation allowance of \$9.9 million for the year ended December 31, 2022.

As of December 31, 2024 and 2023, the Company had gross federal net operating loss carryforwards of approximately \$1.8 million and \$2.0 million, respectively, which can be carried forward indefinitely, and state net operating loss carryforwards of \$10.4 million and \$3.7 million, respectively, which begin to expire in 2039. In addition, as of December 31, 2024 and 2023 the Company had federal research credit carryforwards of approximately \$43.6 million and \$5.6 million, respectively, which begin to expire in 2039, California research credit carryforwards of \$33.2 million and \$7.5 million, respectively, which can be carried forward indefinitely, and Canadian research credit carryforwards of \$2.0 million and \$0.9 million, respectively, which begin to expire in 2042. Net operating losses and tax credit carryforwards may become subject to an annual limitation in the event of certain cumulative changes in the ownership interest of significant shareholders over a three-year period in excess of 50%, as defined under Sections 382 and 383 of the Internal Revenue Code, respectively, as well as similar state provisions. This could limit the amount of tax attributes that can be utilized annually to offset future taxable income or tax liabilities. The amount of the annual limitation is determined based on the value of the Company immediately prior to the ownership change. Subsequent ownership changes may further affect the limitation in future years. The Company has performed a preliminary Section 382 analysis through December 31, 2022 and based on this analysis, approximately \$0.2 million of its federal R&D credits will expire unutilized and has therefore removed them from the deferred tax asset and related carryforward disclosures as of December 31, 2022. No further Section 382 analysis was performed for 2023 and 2024 as the Company does not expect any limitation relating to ownership change due to the increased valuation of the Company.

The Company evaluated the provisions of ASC 740 related to the accounting for uncertainty in income taxes recognized in an enterprise’s financial statements. ASC 740 prescribes a comprehensive model for how a company should recognize, present, and disclose uncertain positions that the Company has taken or expects to take in its tax return. For those benefits to be recognized, a tax position must be more-likely-than-not to be sustained upon examination by taxing authorities. Differences between tax positions taken or expected to be taken in a tax return and the net benefit recognized and measured pursuant to the interpretation are referred to as “unrecognized tax benefits.” A liability is recognized (or amount of the tax attribute carry forward reduced) for unrecognized tax benefit because it represents an enterprise’s potential future obligation to the taxing authority for a tax position that was not recognized as a result of applying the provisions of ASC 740.

The Company had approximately \$23.1 million and \$4.0 million unrecognized tax benefits as of December 31, 2024 and 2023, respectively. The unrecognized tax benefits, if recognized, would not have an impact on the Company’s effective tax rate due to the valuation allowance position.

A reconciliation of the beginning and ending amount of the Company's unrecognized tax benefits is as follows (in thousands):

	Years Ended December 31,		
	2024	2023	2022
Balance, beginning of period	\$ 3,993	\$ 3,162	\$ 2,005
Decreases related to prior year tax positions	—	(1,024)	(844)
Increases related to current year tax positions	18,608	1,855	2,001
Increases related to prior year tax positions	469	—	—
Balance, end of period	\$ 23,070	\$ 3,993	\$ 3,162

It is the Company's policy to include penalties and interest expense related to income taxes as a component of income tax expense. The Company determined that no interest and penalties related to unrecognized tax benefits was required as of December 31, 2024 and 2023, respectively.

The Company is not currently under examination by the United States Internal Revenue Service or any other state, city, local or foreign jurisdiction. The Company's tax years from inception are subject to examination by the Internal Revenue Service and state taxing authorities. The Company does not anticipate any significant changes to its unrecognized tax positions within the next twelve months.

Deferred income taxes have not been provided for undistributed earnings of the Company's consolidated foreign subsidiaries because of the Company's intent to reinvest such earnings indefinitely in active foreign operations. The Company believes that future domestic cash generation will be sufficient to meet future domestic cash needs. The Company has not recorded a deferred tax liability on the undistributed earnings of non-U.S. subsidiaries. The foreign withholding taxes would not have a material impact on the Company's financial position and results of operation. As of December 31, 2024 and 2023, the Company had \$4.1 million and \$1.3 million in unremitted earnings that were indefinitely reinvested related to its consolidated foreign subsidiaries.

Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosures

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act), as of December 31, 2024, which was the end of the period covered by this Annual Report on Form 10-K. Based on such evaluation, as a result of the material weaknesses in internal control over financial reporting described below, our Chief Executive Officer and Chief Financial Officer have concluded that, as of such date, our disclosure controls and procedures were not effective at a reasonable assurance level.

Previously Reported Material Weaknesses in Internal Control Over Financial Reporting

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of a company's annual or interim financial statements will not be prevented or detected on a timely basis. As previously disclosed, we have identified material weaknesses in our internal control over financial reporting as follows:

We did not adequately design and maintain an effective risk assessment process at a sufficient precision level to identify risks of material misstatement in our consolidated financial statements. Specifically, the implementation of controls was not sufficient to respond to risks of a material misstatement to financial reporting, including a lack of effectively designed controls over segregation of duties, particularly over the preparation and review of journal entries and account reconciliations.

This material weakness could result in a misstatement of substantially all of the financial statement accounts and disclosures that would result in a material misstatement to our annual or interim consolidated financial statements that would not be prevented or detected.

We did not design and maintain effective information technology ("IT") general controls for information systems that are relevant to the preparation of our financial statements. Specifically, we did not design and maintain: (i) program change management controls to ensure that program and data changes are identified, tested, authorized, and implemented appropriately; (ii) user access controls to ensure appropriate segregation of duties and to adequately restrict user and privileged access to appropriate personnel; (iii) computer operations controls to ensure that processing and transfer of data, and data backups and recovery are monitored; and (iv) program development controls to ensure that new software development is tested, authorized, and implemented appropriately.

These IT deficiencies have not resulted in a material misstatement to our consolidated financial statements, however, the deficiencies, when aggregated, could impact maintaining effective segregation of duties, as well as the effectiveness of IT-dependent controls (such as automated controls that address the risk of material misstatement to one or more assertions, along with the IT controls and underlying data that support the effectiveness of system-generated data and reports) that could result in misstatements potentially impacting all financial statement accounts and disclosures that would not be prevented or detected. Accordingly, we have determined these deficiencies in the aggregate constitute a material weakness.

Remediation Efforts to Address Previously Identified Material Weaknesses

We are taking steps to remediate these material weaknesses through the implementation of business processes and IT general controls. We are reviewing our business processes and IT processes to design and implement internal controls consistent with the principles of the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") framework to address the risks of material misstatement. Such activities include designing and implementing new business processes, enhancing information and communication processes, assessing risk, improvements to control documentation, enhancements to segregation of duties and access rights, and deployment of new IT systems and system functionalities as necessary. We are in the process of establishing a risk assessment process, including a monitoring function over internal control over financial reporting, including internal audit, to evaluate and enhance internal controls consistent with the

COSO framework and the requirements of a public company. We are in the process of implementing and operating an appropriate set of IT general controls covering all financially significant systems, which includes controls covering security administration, segregation of duties, computer operations, system implementations, change management, and complementary user controls for hosted systems.

As of December 31, 2024, the remediation efforts, which are in the process of being implemented, are intended to address the identified material weaknesses, and include:

- engagement with external consultants with extensive Sarbanes-Oxley Act experience;
- designing and implementing controls related to the formalization of our accounting policies and procedures and financial reporting;
- hiring additional staff and development of accounting processes to further segregate accounting responsibilities; and
- designing and implementing controls related to significant accounts and disclosures to achieve complete, accurate and timely financial accounting, reporting and disclosures, including controls over account reconciliations, segregation of duties and the preparation and review of journal entries.

We have formed a formal Disclosure Committee that has oversight responsibility for the accuracy and timeliness of quarterly disclosures made by us through controls and procedures and the monitoring of their integrity and effectiveness.

We have made progress towards designing and implementing the plan to remediate the material weaknesses and will continue to review, revise, and improve the design and implementation of our internal controls as appropriate. Although we have made enhancements to our control procedures, these material weaknesses will not be considered remediated until our controls are effectively designed, implemented, and operational for a sufficient period of time, and management concludes, through testing, that these controls are operating effectively. Accordingly, the material weaknesses were not remediated as of December 31, 2024.

Management's Annual Report on Internal Control Over Financial Reporting

This annual report does not include a report of management's assessment regarding internal control over financial reporting due to a transition period established by rules of the Securities and Exchange Commission for newly public companies.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting (as defined in Rules 13a-15(d) and 15d-15(f) under the Exchange Act) during the quarter ended December 31, 2024 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Limitations on Effectiveness of Controls and Procedures

A control system, no matter how well designed and operated, can provide only reasonable, not absolute assurance that the objectives of the control system are met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of a simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by management override of the controls.

Item 9B. Other Information

Insider Adoption or Termination of Trading Arrangements

Our directors or officers (as defined in Rule 16a-1(f) of the Exchange Act) adopted, terminated or modified the amount, pricing or provisions in a "Rule 10b5-1 trading arrangement" or a "non-Rule 10b5-1 trading agreement" (each as defined in Item 408 of Regulation S-K) during the quarterly period covered by this report as described in the table below:

Name	Title	Action	Date Adopted	Character of Trading Arrangement ⁽¹⁾	Aggregate Number of Shares of Common Stock to be Purchased or Sold Pursuant to a Trading Arrangement	Expiration Date ⁽²⁾
Jitendra Mohan ⁽³⁾	CEO, Director	Adoption	12/2/2024	Rule 10b5-1 Trading Arrangement	900,000 ⁽⁴⁾	3/16/2026
Sanjay Gajendra ⁽⁵⁾	President, COO, Director	Adoption	11/30/2024	Rule 10b5-1 Trading Arrangement	940,000 ⁽⁴⁾	12/31/2025
Bethany Mayer	Director	Adoption	11/25/2024	Rule 10b5-1 Trading Arrangement	1,372 ⁽⁴⁾	11/6/2026
Philip Mazzara	General Counsel	Adoption	11/21/2024	Rule 10b5-1 Trading Arrangement	75,000 ⁽⁴⁾	11/21/2025

(1) Except as indicated by footnote, each trading arrangement marked as a “Rule 10b5-1 Trading Arrangement” is intended to satisfy the affirmative defense of Rule 10b5-1(c) of the Exchange Act, as amended (the Rule).

(2) Except as indicated by footnote, each trading arrangement permitted or permits transactions through and including the earlier to occur of (a) the completion of sales or (b) the date listed in the table. Each trading arrangement marked as a “Rule 10b5-1 Trading Arrangement” only permits transactions upon expiration of the applicable mandatory cooling-off period under the Rule and is scheduled to terminate on the earlier of the expiration date or when all shares are sold under such plan, subject to early termination for certain specified events set forth therein.

(3) The shares covered by this trading arrangement include certain shares that are held by trusts and may be deemed to be indirectly beneficially owned by Jitendra Mohan.

(4) The shares subject to this trading arrangement also include certain shares subject to time-based RSUs that will be sold to satisfy applicable tax withholding and remittance obligations upon vesting of the RSUs during the applicable period. The total number of such shares that may be sold pursuant to such arrangement is not currently determinable, as the number of shares required to be sold will vary based on, among other things, the market price of our common stock at the time of settlement, the applicable withholding taxes at the time of settlement, and the potential future grant of additional equity awards subject to this arrangement. This trading arrangement, which also applies to RSUs held by the individual, provides for the automatic sale of shares that would otherwise be issuable on each settlement date of a covered RSU in an amount sufficient to satisfy the applicable withholding obligation with the proceeds of the sale delivered to the Company in satisfaction of the applicable withholding obligation, in accordance with the Company’s mandatory sell to cover policy.

(5) The shares covered by this trading arrangement include certain shares that are held by trusts and may be deemed to be indirectly beneficially owned by Sanjay Gajendra.

Item 9C. Disclosure Regarding Foreign Jurisdiction that Prevent Inspections

Not applicable.

Part III

Item 10. Directors, Executive Officers and Corporate Governance

The information required by this item is incorporated herein by reference to our Proxy Statement relating to our 2025 annual meeting of stockholders, which will be filed within 120 days after the end of the fiscal year to which the Annual Report on Form 10-K relates (our “2025 Proxy Statement”).

Item 11. Executive Compensation

The information required by this item is incorporated herein by reference to our 2025 Proxy Statement.

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

The information required by this item is incorporated herein by reference to our 2025 Proxy Statement.

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

The information required by this item is incorporated herein by reference to our 2025 Proxy Statement.

Item 14. Principal Accountant Fees and Services

The information required by this item is incorporated herein by reference to our 2025 Proxy Statement.

Part IV

Item 15. Exhibits, Financial Statement Schedules

(a) Financial Statements and Schedules

1. *Consolidated Financial Statements:*

The financial statements required by this item are listed under Part II, Item 8, “Financial Statements and Supplementary Data” in this Annual Report on Form 10-K.

2. *Financial Statement Schedules:*

All financial statement schedules have been omitted because they are not applicable or required, or the information required to be set forth therein is included in our consolidated financial statements or the notes thereto.

(b) *Exhibits.*

The following is a list of exhibits filed as part of this Annual Report on Form 10-K.

EXHIBIT INDEX

Exhibit Number	Description	Incorporated by Reference				Filed Herewith
		Form	File No.	Exhibit No.	Filing Date	
3.1	Amended and Restated Certificate of Incorporation of Astera Labs, Inc.	8-K	001-1736297	3.1	3/28/2024	
3.2	Second Amended and Restated Bylaws of Astera Labs, Inc	8-K	001-1736297	3.2	3/28/2024	
4.1	Form of common stock certificate of the	S-1/A	333-277205	4.1	3/8/2024	
4.2	Amended and Restated Investors’ Rights Agreement by and among the Registrant and the investors thereto.	S-1	333-277205	4.2	2/21/2024	
4.3	Description of Registrant’s Securities					X
10.1	Form of Indemnification Agreement between the Registrant and each of its directors and executive officers.	S-1	333-277205	10.1	2/21/2024	
10.2#	Amended and Restated 2018 Equity Incentive Plan, as amended, and forms of award agreements and sub-plans thereunder.	S-1/A	333-277205	10.2	3/1/2024	
10.3#	2024 Stock Option and Incentive Plan, and forms of award agreements thereunder.	8-K	001-41979	10.2	5/7/2024	
10.4#	2024 Employee Stock Purchase Plan.	8-K	001-41979	10.3	5/7/2024	
10.5#	Change of Control Severance Policy.	S-1	333-277205	10.5	2/21/2024	

10.6#	Form of Non-Employee Director Compensation Policy.	S-1	333-277205	10.6	2/21/2024	
10.7#	Senior Executive Cash Incentive Bonus Plan.	S-1	333-277205	10.7	2/21/2024	
10.8#	Offer Letter by and between the Registrant and Jitendra Mohan, dated March 13, 2018.	S-1	333-277205	10.8	2/21/2024	
10.9#	Offer Letter by and between the Registrant and Sanjay Gajendra, dated March 13, 2018.	S-1	333-277205	10.9	2/21/2024	
10.10#	Executive Employment Agreement by and between the Registrant and Michael Tate, dated July 21, 2020.	S-1	333-277205	10.10	2/21/2024	
10.11#	Offer Letter by and between the Registrant and Philip Mazzara, dated February 7, 2022.	S-1	333-277205	10.11	2/21/2024	
10.12	Warrant Agreement with Silicon Valley Bank, dated April 30, 2021.	S-1	333-277205	10.12	2/21/2024	
10.13†	Warrant Agreement with Amazon.com NV Investment Holdings, LLC, dated October 14, 2022, as amended by Amendment No. 1 to Warrant Agreement, signed October 31, 2023.	S-1	333-277205	10.13	2/21/2024	
10.14	Lease Agreement by and between the Registrant and Marriott Plaza Associates LP, dated February 21, 2020, as amended by the First Amendment to Lease Agreement, dated June 15, 2021, as further amended by the Second Amendment to Lease Agreement, dated March 20, 2022, the Third Amendment to Lease Agreement, dated January 30, 2023, the Fourth Amendment to Lease Agreement, dated December 16, 2023, and the Fifth Amendment to Lease Agreement, dated February 1, 2024.	S-1/A	333-277205	10.14	3/1/2024	
10.15	Lease Agreement by and between the Registrant and SI 37, LLC, dated December 16, 2024					X
19.1	Insider Trading Policy					X
21.1	Subsidiaries of the Registrant					X
23.1	Consent of PricewaterhouseCoopers LLP, independent registered public accounting firm.					X
24.1	Power of Attorney (incorporated by reference to the signature page of this Annual Report on Form 10-K)					X

31.1	Certification of Principal Executive Officer pursuant to Rule 13a-14(a)/15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	X
31.2	Certification of Principal Financial Officer pursuant to Rule 13a-14(a)/15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act	X
32.1*	Certification of Principal Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	X
32.2*	Certification of Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act	X
97.1	Clawback Policy	X
101. INS	Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.	X
101. SCH	Inline XBRL Schema Document	
101. CAL	Inline XBRL Calculation Linkbase Document	
101 DEF	Inline XBRL Definition Linkbase Document	
101. LAB	Inline XBRL Labels Linkbase Document	
101. PRE	Inline XBRL Presentation Linkbase Document	
104	Cover Page Interactive Data File (embedded within the Inline XBRL document and contained in Exhibit 101).	

* The certifications attached as Exhibits 32.1 and 32.2 that accompany this Annual Report on Form 10-K are deemed “furnished” and not “filed” for purposes of Section 18 of the Exchange Act. Such certifications will not be deemed to be incorporated by reference into any filings under the Securities Act or the Exchange Act, except to the extent specifically incorporated by reference into such filing.

Indicates management contract or compensatory plan, contract or agreement.

† Certain confidential information contained in this exhibit has been omitted because it is both (i) not material and (ii) is the type that the Registrant treats as private or confidential.

Item 16. Form 10-K Summary

None.

SIGNATURES

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

ASTERA LABS, INC

Date: February 13, 2025

By: /s/ Jitendra Mohan

Name: Jitendra Mohan

Title: Chief Executive Officer

Date: February 13, 2025

By: /s/ Michael Tate

Name: Michael Tate

Title: Chief Financial Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Jitendra Mohan and Michael Tate, and each of them individually, as his or her attorney-in-fact, each with the full power of substitution, for him or her in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his or her substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this Annual Report on Form 10-K has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/Jitendra Mohan	Co-Founder, Chief Executive Officer, and Director <i>(Principal Executive Officer)</i>	February 13, 2025
Jitendra Mohan		
/s/Michael Tate	Chief Financial Officer <i>(Principal Financial and Accounting Officer)</i>	February 13, 2025
Michael Tate		
/s/Manuel Alba	Chair of the Board	February 13, 2025
Manuel Alba		
/s/ Bethany Mayer	Director	February 13, 2025
Bethany Mayer		
/s/Stefan Dyckerhoff	Director	February 13, 2025
Stefan Dyckerhoff		
/s/Sanjay Gajendra	Co-Founder, President, Chief Operating Officer, and Director	February 13, 2025
Sanjay Gajendra		
/s/Michael Hurlston	Director	February 13, 2025
Michael Hurlston		
/s/Jack Lazar	Director	February 13, 2025
Jack Lazar		

Our Leadership

Executive Officers

Jitendra Mohan

Co-Founder and Chief Executive Officer

Sanjay Gajendra

Co-Founder, President and Chief Operating Officer

Michael Tate

Chief Financial Officer

Philip Mazzara

General Counsel and Secretary

Board of Directors

Manuel Alba

Board Chair

Craig Barratt

Director

Stefan Dyckerhoff

Director

Sanjay Gajendra

Director

Michael Hurlston

Director

Jack Lazar

Director

Bethany Mayer

Director

Jitendra Mohan

Director

