

PART I
ITEM 1. BUSINESS.

Overview

Luminar is a technology company specializing in advanced Light Detection and Ranging (LiDAR) hardware and software solutions to enable the world’s safest and smartest vehicles. Over the past decade, Luminar has been developing proprietary LiDAR hardware, core semiconductor components and software in-house to meet the demanding performance, safety, reliability and cost requirements to enable next-generation safety and autonomous capabilities for passenger and commercial vehicles, as well as other adjacent markets.

The global automotive and mobility sector is increasingly focused on safety and autonomy, specifically next-generation advanced driver assistance systems, or ADAS, and highway autonomy for passenger and commercial vehicles. Our LiDAR technology provides increased situational awareness in a broad range of driving environments through improved and higher confidence detection and planning at all vehicle speeds. Beyond sensor hardware, our product portfolio has expanded to include semiconductor components of our LiDAR that have utility in adjacent markets, in-development software capabilities such as perception and high-definition “3D” mapping, all of which we anticipate will monetize the ecosystem of improved safety and autonomy created by our LiDAR.

Our Markets

The Society of Automotive Engineers (“SAE”) defines levels of vehicle automation as follows, which SAE updates from time to time:

- **Level 0—No Driving Automation:** In this level, the human is fully responsible for all dynamic driving tasks (“DDT”) at all times, even if an active safety system assists in the task. “L0” is defined as driver support features that are limited to warnings or momentary emergency intervention. Examples of warnings include blind spot warning or lane departure warnings. Examples of features with momentary assistance include automated emergency braking (“AEB”) and lane keep assist (“LKA”).
- **Level 1—Driver Assistance:** In this level, while the human is fully responsible for all DDT at all times, an active safety system may assist by executing either the longitudinal or the lateral vehicle motion control subtask, and disengages immediately upon driver request. Examples include lane centering support (“LCS”) or the more widely adopted adaptive cruise control (“ACC”). These features are viewed as comfort features, easing the driving load from the driver during extended highway drives.
- **Level 2—Partial Driving Automation:** In this level, the human is fully responsible for all DDT at all times, even if an active safety system assists in the task. When the controls from an L1 system are operated by the vehicle simultaneously, such as LCS and ACC, the system is then classified as L2.

The term L2+, while not an officially recognized term, is often used for today’s higher capability L2 systems, many of which add a driver monitoring system, such as camera or steering wheel sensing to ensure the human driver remains engaged, but require that the driver remain attentive at all times. This is considered by safety experts as a challenging phase because the systems may work well for long periods of time, and can lull drivers into trust and complacency.

- **Level 3—Conditional Driving Automation:** In this level, the automated driving system (“ADS”) performs the entire DDT while engaged. The driver is responsible to verify the operational readiness of the ADS, determine whether to engage the system, and becomes the fallback-ready user when the ADS is engaged. The ADS permits engagement and operation only within its operational design domain (“ODD”). However, the ODD is often limited to highway applications within certain speed parameters. An example is a traffic jam assist feature that allows the driver to stop paying attention for short periods of time at lower speeds.
- **Level 4—High Driving Automation:** In this level, the ADS performs the entire DDT while engaged. The driver is responsible to verify the operational readiness of the ADS, determine whether to engage the system, and becomes a passenger when the ADS is engaged (when physically present in the vehicle). The ADS permits engagement and operation only within its ODD. The ODD is expanded in this level to include numerous different driving environments, such as highway and urban.
- **Level 5—Full Driving Automation:** In this level, the ADS performs the entire DDT while engaged. It is the designation for vehicles that, when placed in automated driving mode, can drive everywhere and in all conditions without human intervention or even occupants.

We believe the market is currently segmented in two distinct categories: (1) ADAS (L0 / L1 / L2 / L2+) and (2) autonomous driving, or AD, (L3 / L4 / L5). Within these two segments, we believe the largest near-term business opportunities

exist for technologies that enhance, not replace, the driver, specifically in ADAS (L2+) and conditional highway autonomy applications (L3). We believe our products meaningfully improve ADAS functionality and are also key enablers for highway autonomy.

ADAS and Proactive Safety™

ADAS standards are primarily driven by both the European and North American markets. The European New Car Assessment Program (“NCAP”), a voluntary vehicle safety performance assessment program that uses a star safety rating system, requires a minimum level of crash mitigation functionality such as automatic emergency braking (“AEB”) (for vehicles, pedestrians, and cyclists), lane keep assist (“LKA”), speed alert systems and other ADAS features for a vehicle to have a 5-star rating. Furthermore, we believe the European Union may be moving toward mandates of certain of these advanced functions.

Until recently, the United States (“U.S.”) was less focused on mandates and instead allowed the U.S. New Car Assessment Program (known as the “Stars on Cars” program) and designations such as the Insurance Institute for Highway Safety “Top Safety Pick” and “Top Safety Pick+” to drive adoption of vehicles with ADAS technologies and provide consumers with an understanding of a vehicle’s crash avoidance capability. In 2020, in conjunction with the National Highway Traffic Safety Administration (“NHTSA”), 20 automakers announced a voluntary effort to equip almost all new passenger vehicles sold in the US with a low-speed AEB system, including forward-collision warning, by mid-2023.

In 2024, NHTSA published a Final Rule adopting new Federal Motor Safety Standard No. 127, which mandates advanced higher speed, no-contact AEB and Pedestrian AEB (“PAEB”) systems on new cars and light trucks. All new vehicles must comply with all requirements in this Final Rule by 2029. The Federal Motor Carrier Safety Administration (“FMCSA”) may also follow NHTSA’s effort, as FMCSA had also introduced proposed rulemaking in 2023 with NHTSA to mandate AEB in heavy trucks. These new safety standards will likely require additional hardware and software to meet performance requirements.

With global safety rating programs being the main drivers of adoption and pressure on original equipment manufacturers (“OEMs”) competing to deliver more safety and comfort features to their customers, we believe it is reasonable to expect near complete adoption of at least some ADAS functionalities in new vehicles manufactured and sold in developed markets such as Europe, the United States, Japan, and South Korea by 2026. We expect adoption rates to increase significantly in China as well.

According to the World Health Organization, the number of fatalities globally on roadways still exceeds one million annually and the global macroeconomic costs of vehicle accidents has been estimated at more than \$1 trillion globally. While the increasing application of existing ADAS features should help reduce the number of accidents and fatalities, we believe there is significant room for improvement in these technologies. In particular, we believe there is a significant opportunity to reduce collisions with a capable LiDAR sensing system that increases the quality and reliability of the perception data collected by vehicles and enables improved ADAS functionality in a wider range of environmental conditions, such as at higher speeds and at night.

We have been developing a turn-key ADAS system known as Proactive Safety™, which leverages our core LiDAR hardware and software technologies. Intended functionality for Proactive Safety™ that is currently under development includes AEB, automatic emergency steering, and ACC. If implemented, we expect these functionalities to represent a new generation of vehicle safety that enables more accident avoidance rather than merely mitigation of crash severity.

Highway Autonomy

Our focus since inception has been to enable ubiquitous vehicle safety and autonomy. We view Highway Autonomy, in combination with Proactive Safety™, as providing the most value to the end consumer of vehicles for the foreseeable future. The market appears to be trending in this direction, targeting hands-off and eyes-off operations in a more controlled setting, such as highways, than the highly complex urban environment.

Historically, there was a significant focus on investment and development of Level 4 robo-taxi solutions; however, this is proving to be a much more complex and expensive challenge to solve than many companies anticipated. As a result, in the past few years, the industry experienced a retrenching of efforts in the robo-taxi space, which we believe has validated our focus from the outset on improving ADAS functionality and enabling highway autonomy. We continue to believe that the passenger vehicles and commercial vehicle sectors focused on L2+/L3 applications will be the greatest source of demand for our products over the next several years.

Passenger Vehicle Market

The passenger vehicle market is very large. We expect that approximately 100 million new passenger and commercial vehicles will be manufactured annually, on average, through the end of this decade. The automotive industry is looking to achieve widespread adoption of next-generation safety and autonomous features in all vehicles for the benefits of safety, economics, and accessibility of transportation. We expect a ramp up of LiDAR and our technology adoption over time as

ADAS and autonomous functionalities mature, hardware costs and prices are reduced, and consumers become more familiar with the full benefits and capabilities of a safe autonomy system. As such, we believe there is a substantial market opportunity for our LiDAR products in the passenger vehicle segment.

Commercial Trucking Market

The amount of goods transported by trucking globally continues to rise year-over-year. The application of ADAS technology continues to grow and the interest in autonomy for commercial transport remains high. The business case for trucking highway autonomy beyond improved safety also includes: lower operating costs, increased vehicle utilization, and more time spent on the road. Although the number of commercial vehicles manufactured annually is a fraction of passenger vehicles, we believe commercial vehicles require more sensor hardware to enable a similar level of ADAS and autonomous functionalities; for example, 2+ LiDARs per commercial truck versus 1 per passenger vehicle. As such, we believe there is also a substantial market opportunity for our LiDAR products in the commercial trucking segment.

Robo-Taxi Market

The robo-taxi industry remains an area of investment and development by leading technology companies and mainstays from the automotive industry. The timeline for widespread deployment of robo-taxis continues to be pushed out due to the complexity of the technical requirements, specifically a sensing and compute solution that must anticipate every possible mixed-traffic scenario, as well as the need for regional and federal government support and funding for infrastructure. With this, there has been a near-term contraction and retrenchment of industry participants in the robo-taxi market. However, we continue to believe the robo-taxi market segment remains an important market for LiDAR, both for near-term validation and for long-term demand.

Adjacent Markets

Adjacent markets, including but not limited to last mile delivery, aerospace and defense, robotics and security offer additional use cases for which our technology is well suited. Our goal is to scale first within our core markets and utilize our robust solutions to best serve these adjacent markets where it makes sense for us and our partners.

Our Products

Our LiDAR and other products are described in further detail below:

Hardware

Iris: Our Iris LiDAR and variants combine a 1550nm laser, transmitter, and receiver and provide long-range sensing that we expect will meet OEM specifications for advanced safety and autonomy. This technology provides automotive-grade, efficient, and affordable solutions that are scalable, reliable, and optimal for series production. Our LiDAR sensors are dynamically configurable dual-axis scan sensors that detect objects up to 600 meters away over a horizontal field of view of 120° and a software configurable vertical field of view of up to 30°. This provides high point densities in excess of 200 points per square degree that enables long-range detection, tracking, and classification over the whole field of view. Iris and its variants have been refined to meet the size, weight, cost, power, and reliability requirements of automotive qualified series production sensors.

Iris and its variants feature our vertically integrated receiver, detector, and application-specific integrated circuit (“ASIC”) solutions that have been developed by our Advanced Technologies & Services (“ATS”) segment companies—Optogration, Freedom Photonics, and Black Forest Engineering, collectively referred to as Luminar Semiconductor, Inc. (“Luminar Semiconductor” or “LSI”). We refer to the internal development of these key sub-component technologies as our “chip-level up” strategy, which we believe gives us a significant advantage in the development of our product roadmap and a competitive moat in the LiDAR industry.

In April 2024, we achieved our start of production (“SOP”) for Volvo Cars and began delivering our Iris LiDAR sensors for the Volvo EX90. Our LiDAR sensors on initial vehicles are first being used for road data collection and system training, and will later be activated as part of the vehicle’s active safety system.

Luminar Halo: In 2024, we unveiled our next-generation LiDAR product, Luminar Halo, which is being designed for mass adoption by mainstream consumer vehicles. Building off the same 1550nm laser architecture of Iris, Luminar Halo will incorporate four next-generation chip technologies from Luminar Semiconductor. These advancements are expected to enable a 4x improvement in performance, a 3x reduction in size, a 2x improvement in thermal efficiency, and more than a 2x improvement in cost. Luminar Halo is being designed to provide backwards system compatibility to existing customers of our Iris LiDAR. We expect it will also boast a sleeker integration profile, being under 1 inch in height, under 1 kilogram in weight, and using approximately 10 watts of power consumption. We are currently targeting SOP of Luminar Halo by 2027.

We recently began transitioning from investing and developing multiple LiDAR hardware products simultaneously to meet different customers' needs to a singular technology platform – Luminar Halo – that can meet all customer requirements. As part of this effort, we discontinued development of our Iris+ product, and essentially all our engineering and development efforts with customers are shifting to Luminar Halo. This narrowing of product scope is intended to further streamline our business model to drive efficient execution and reduce costs.

Luminar Semiconductor, Inc.

In 2023, we announced the combination of our chip design subsidiary companies, Black Forest Engineering, Optogration, and Freedom Photonics, into a unified entity, Luminar Semiconductor, Inc. Our strategy in bringing these advanced receiver, laser, and processing chip technologies in-house was to accelerate our LiDAR product roadmap, strengthen our competitive moat, and secure and industrialize our LiDAR supply chain. With these acquisitions, Luminar Semiconductor aims to leverage our investment in high-performance, specialized semiconductors beyond LiDAR to power applications for customers across a broad range of sectors from communications to medical to aerospace.

In 2024, we augmented Luminar Semiconductor with the acquisition of EM4, LLC (“EM4”), a designer, manufacturer, and seller of packaged photonic components and sub-systems for aerospace and industrial markets, which is expected to accelerate our strategy to package lasers, detectors, and ASICs.

Operations of Luminar Semiconductor, and the acquired companies Black Forest Engineering, Optogration, Freedom Photonics and EM4 have been included in our ATS segment of reporting since their respective acquisition dates.

Software

Software presently under development includes the following:

Core Sensor Software: Our LiDAR sensors are configurable and capture valuable information extracted from the raw point-cloud that can be used to promote the development and performance of perception software. Our core sensor software features are being designed to help our commercial partners to operate, integrate, and control our LiDAR sensors, and enrich the sensor data stream before perception processing.

Perception and Mapping Software: Our perception software is being designed to transform our LiDAR point-cloud data into actionable information about the environment surrounding the vehicle. This information includes classifying static objects, such as lane markings, road surface, curbs, signs and buildings, as well as dynamic objects, such as, other vehicles, pedestrians, cyclists and animals. Through internal development, as well as the acquisition of certain assets of Solforce (a.k.a. Civil Maps), we expect to be able to utilize our point-cloud data to achieve precise vehicle localization and create and provide continuous updates to a high definition 3D map of a vehicle's environment.

Driving Functions Software: Driving functions software builds on Core Sensor Software and Perception capabilities to deliver control functions for a vehicle to avoid or mitigate collision. Driving functions are expected to also incorporate data from radars and cameras to enable additional features, such as cross traffic collision avoidance, traffic sign assist, emergency braking, and emergency steering.

Tools/Other: These products include delivery of certain data sets and other information as well as tools that help visualize and configure the sensor, replay recorded data, and simulate the sensor.

We refer to our full-stack software platform for safety and autonomy that is expected to enable Proactive SafetyTM and highway autonomy for passenger vehicles and commercial trucks as “Sentinel”.

Substantially all our software products remain in the designing and coding phase of development and have not yet achieved technological feasibility.

Competition

The market for LiDAR-enabled vehicle features, on- and off-road, is an emerging one with many potential applications in the development stage. As a result, we face competition in the LiDAR hardware business from a range of companies seeking to have their products incorporated into these applications. We believe we hold a strong position based on our hardware product performance and maturity, as well as our growing ability to develop deeply integrated software capabilities needed to provide safety and autonomous features to our customers. Historically, we have also faced competition from Tier 1 suppliers that have pursued various LiDAR investments or partnerships; however, many of these efforts have abated over the past few years, and a number of Tier 1 suppliers have exited or abandoned their LiDAR development efforts.

The majority of our competitors in the LiDAR hardware space are focused on a lower-performance segment due to limitations of their technology, whereas we remain focused on a high-performance segment, as measured by Range-X-Resolution, or more specifically the distance up to which objects can be detected by the LiDAR and the point densities of the objects being detected to reliably track and classify them over the most optimal field of view.

More specifically, all LiDARs utilize a laser with a specific wavelength; each with its own unique physics constraints. Current LiDARs and future roadmaps for LiDARs are primarily 1550nm or 905/940nm. Luminar's LiDAR operates at 1550nm, while most of our LiDAR competitors operate at 9XXnm, and 1550nm offers superior performance over its 9XXnm counterparts in virtually every measure. These include:

Eye Safety: 905nm wavelength lasers operate at a wavelength that is closer to that which is visible by the human eye, and thus can cause eye damage. 1550nm wavelength lasers, however, can emit 17 times the number of photons into the environment, on average, than is allowed from those below 1000nm (such as, 905nm and 940nm) and still remain eye safe. This means 1550nm LiDAR has the potential for substantially better resolution and detection range, as compared to a 9XXnm LiDAR.

Inclement Weather: LiDAR wavelength performance in weather is fairly complicated, but on the whole, 1550nm wavelength performs best overall due to both the eye safety benefit and favorable range degradation physics.

Solar Radiation: Significantly more sunlight reaches the earth at 905nm than at 940nm or 1550nm, meaning the “floor” for detection of 905nm systems is much higher than its counterparts. As higher levels of sunlight decreases a LiDAR's ability to detect objects, 1550nm and 940nm systems have a major sensitivity advantage over 905nm systems.

Additionally, production of LiDAR uses parts developed specifically for the demands of the use case. While 9XXnm LiDAR is built on parts intended for consumer applications, 1550nm LiDAR leverages parts intended for aerospace, defense, and telecommunications applications that can be leveraged for automotive applications. In other words, 9XX begins with a cost benefit, but must catch up on performance and robustness, while 1550nm begins with a performance and robustness benefit and must catch up on cost. Different wavelengths require different semiconductor materials for detection. 9XXnm systems are detected by silicon, a common single-element selected for its availability due to the infrastructure of the camera semiconductor industry rather than its suitability for use in automotive applications. 1550nm detection requires Indium Gallium Arsenide (InGaAs), an alloy consisting of less readily available materials that ultimately provide superior performance in automotive applications.

Competition within the LiDAR hardware space is also bifurcated between Chinese versus Western companies. The China market and Chinese automakers have generally been earlier adopters of LiDAR technology for integration into vehicle platforms than automakers in the Western markets. As a result, the Chinese LiDAR companies have enjoyed economies of scale and associated better sensor economics in a way that Western LiDAR companies, including Luminar, have yet to achieve. However, as LiDAR penetration in the Western market increases, this cost advantage should lessen or dissipate.

Within the automotive autonomy software space, the competitive landscape is still nascent and has primarily been focused on developing Level 4-5 autonomous capabilities for robo-taxi or other applications, as opposed to active safety or autonomous features for Level 2-3 capabilities in passenger vehicles. Other autonomous software providers include in-house OEM software teams; automotive silicon providers; large technology companies; and newer technology companies focused on autonomous software. We partner with certain autonomous software providers to provide our LiDAR and other products into the passenger vehicle, commercial truck, and robo-taxi markets.

Beyond the automotive markets, the adjacent markets, including but not limited to last mile delivery, aerospace and defense, robotics, and security, among others, are highly competitive. There are entrenched incumbents and competitors, including from China, many of which have low cost products that are widely available.

Intellectual Property

Our success and competitive advantage depend in part upon our ability to develop and protect our core technology and intellectual property. We own a portfolio of intellectual property, including patents and registered trademarks, confidential technical information, and expertise in the development of LiDAR technology and software for our end markets.

We have filed patent and trademark applications in order to further secure these rights and strengthen our ability to defend against third parties who may infringe on our rights. Additionally, we protect our proprietary rights through agreements with our commercial partners, supply-chain vendors, employees, and consultants, as well as close monitoring of the developments and products in the industry.

As of February 2025, we had 222 issued patents (191 U.S. and 31 international), 197 pending applications (127 U.S. and 70 international), of which five U.S. application has been allowed. In addition, as of February 2025, we had six registered U.S. trademarks, 103 registered foreign trademarks and 61 pending trademark applications.

Manufacturing Process

We design certain critical semiconductor components in-house, including our receiver ASIC and Indium Gallium Arsenide (“InGaAs”) photodiode.

In 2021, we executed contract manufacturing services agreements to enable series production of our Iris LiDAR sensors with Celestica and Fabrinet, whereby Fabrinet is responsible for assembly and testing of our transceiver sub-component based on our design and components, and Celestica is responsible for final assembly and testing of our LiDAR sensor including the transceiver from Fabrinet. In 2024, we announced our SOP for our lead customer at the dedicated manufacturing facility in Mexico, owned and operated by Celestica, and we began shipping production LiDAR sensors.

In 2023, we executed a contract manufacturing services agreement with TPK to build and operate a high volume facility in Asia, and we commenced the process of series production tooling in partnership with TPK at the facility. In 2024, we executed an agreement to establish an engineering center in China, staffed by TPK, to assist with our industrialization efforts, including manufacturing process design, development and validation, component process verification and validation, supplier development support, system validation, cost analysis, and benchmarking. This expanded partnership with TPK is accretive to our contract manufacturing relationship, as well as our contract manufacturing relationships with Celestica and Fabrinet.

We continually evaluate opportunities for optimizing our manufacturing and product design processes. In 2024, we commenced an effort to further streamline our sourcing strategy and improve per unit sensor manufacturing costs, including changing the sourcing and final assembly of certain components from one contract manufacturer to another. This effort included scaled down or production downtime at the dedicated manufacturing facility in Mexico.

Research and Development

Our research and development activities occur in various locations in the United States, Germany, Sweden, China and India.

Our research and development team is responsible for creating new technologies and expanding LiDAR and perception and mapping software functionality. The team is responsible for ensuring our LiDAR is designed for manufacturability and testability. The team partners with our operations and supply chain functions to develop scalable, commercial and reliable manufacturing processes and direct production material procurement.

Sales and Marketing

We use customer feedback to specifically tailor our product and approach to build and expand our relationships with potential commercial partners. In parallel, marketing and communications drive our brand equity and narrative through ongoing announcements, campaigns, events, speaking opportunities, and public relations efforts.

The automotive value chain characteristically involves research and feasibility studies, followed by long-term product development cycles, including testing and qualification with automakers which can last for several years. In general, automaker agreements do not guarantee potential volumes, or timing of purchases to their suppliers during product development cycle. Instead, typically, after initial research and feasibility agreements and extensive competitive negotiations, automakers enter into development agreements that establish collaborations or partnerships to develop and integrate technology into the automaker's vehicles or platforms intended for series production, frequently accompanied by non-recurring engineering ("NRE") projects. While these collaboration or partnership agreements provide automakers the right to terminate the relationship without purchasing any production volume, factors such as difficulty of integrating complex technologies, sunken costs relating to NRE projects, impact on product roadmaps, time to market, and risk of being unable to secure future supply may deter automakers to cancel collaboration or development agreements. Automakers typically only enter into blanket purchase orders or other definitive supply agreements with binding commitments several months before production is expected to begin.

Government Regulation

Automotive safety regulation in the area of autonomy is split between two categories: (1) SAE Level 0-2 (including active safety, driver assist, and conditional autonomy); and (2) SAE Level 3-5 (partial through full autonomy, commonly referred to as "higher autonomy"). In general, throughout the world, there is a positive legal environment that encourages consumer sale and use of SAE Level 0-2 functionality. The legal environment for SAE Level 3-5 functionality varies, generally encouraging the safe testing and development of higher autonomy functions, but restricting consumer use in personal vehicles and commercial use, as in automated trucking and taxis in many regions.

In the U.S., at both the federal and state level, nearly all SAE Level 0-2 functionality is permitted, while SAE Level 3-5 enjoys a positive environment for on-road testing and development, but mixed opportunities to deploy in consumer and commercial use. Federal regulation does not prohibit higher levels of autonomy today, but if NHTSA deems an autonomy system unsafe, it would order a recall to remove vehicles from the road. Thus far, several U.S. states have expressly permitted SAE Level 4-5 levels of autonomy, while many remain silent, and others have laws that limit driverless operation. We believe regulations related to autonomous vehicle technologies will continue to evolve to remove hurdles as state and federal regulators gain more experience with the technology.

In Europe, China, and the rest of the world, most automotive safety is regulated by a common system under the United Nations Economic Commission for Europe (UN/ECE). Under current UN/ECE standards, SAE Level 0-2 functionality may be deployed with certain restrictions, such as road type and with driver monitoring, and certain SAE Level 3 systems, such as so-called “traffic jam assist” systems, may be introduced with speed limitations determined by the detection range, but higher SAE Level 4-5 functionality is limited to testing only or narrow exceptions. Safety regulators continue to work on standards for higher autonomy, but we expect this development process to be slow. However, China has increasingly departed from the common UN/ECE standards and is more likely to create its own regulations allowing higher levels of autonomy in the nearer term and has also developed regions and cities for higher levels of autonomy based on local regulation.

Given the intense work in these regulatory areas, there is a positive environment for deploying our LiDAR technology and Proactive Safety™ today in SAE Level 0-2 systems. While there is risk that SAE Level 3-5 systems may be delayed by regulation in some countries, we expect a workable path forward over the next several years as a more permissive regulatory and political environment develops.

Employees

As of December 31, 2024, excluding contractors, we had 580 full-time employees primarily in the United States, Germany, Sweden, India and China. None of our employees are represented by a labor union.

Our human capital resources objectives include, as applicable, identifying, recruiting, retaining, incentivizing and integrating our existing and new employees, advisors and consultants, while aiming towards a talented and diverse workforce. The principal purposes of our equity and cash incentive plans are to attract, retain and reward personnel through the granting of stock-based and cash-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.

Metrics Update

In the past, before we had commenced series production, we disclosed “Order Book” as an alternative metric to measure our commercial progress and the opportunity for our business. Order Book was defined as the forward-looking cumulative billings estimate of Luminar’s hardware and software products over the lifetime of given vehicle production programs for which our technology was expected to be integrated into or provided for, based primarily on projected or actual contractual pricing terms and our good faith estimates of volume.

Now that we have achieved series production, our assessment is that Order Book is no longer as valuable a metric as sensors shipped. We have thus removed disclosure of an Order Book estimate in favor of disclosing sensors shipped, and associated guidance, as an alternative metric by which to measure our commercial, operational, and financial progress. This is a consistent practice with other LiDAR companies that have reached the series production stage.

Corporate Social Responsibilities and Sustainability

We are committed to active and responsible corporate citizenship. Our Corporate Social Responsibility (“CSR”) program is divided into seven elements (diversity and inclusion; human resources; finance/accounting; responsible sourcing; environmental, health and safety; trade compliance; and business ethics), each spearheaded by company leaders and subject matter experts in their respective areas. We expect ADAS and automated driving technologies to provide strong social benefits, such as reducing roadway injuries and fatalities, including in urban areas, making roadways more efficient by reducing commuting times and CO2 emissions, and offering improved productivity.

Available Information

This Form 10-K, along with all other reports and amendments filed with or furnished to the SEC, are publicly available free of charge on our Investor Relations website at <https://investors.luminartech.com/> or at www.sec.gov as soon as reasonably practicable after these materials are filed with or furnished to the SEC. We also use our website as a tool to disclose important information about the company and comply with our disclosure obligations under Regulation Fair Disclosure. Our governance guidelines, code of conduct, and Board committee charters are also posted on our Investor Relations website. The information on our website (or any webpages referenced in this Form 10-K) is not part of this or any other report we file with, or furnish to, the SEC.

ITEM 1A. RISK FACTORS.

Risk Factor Summary

Investing in our securities involves a high degree of risk. You should carefully consider all information in this Form 10-K, including our consolidated financial statements and related notes appearing elsewhere in this Form 10-K and Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations,” before purchasing our securities. These risks are discussed more fully in the section titled “Risk Factors.” These risks and uncertainties include, but are not limited to, the following:

- our history of losses and our expectation that we will continue to incur significant expenses, including substantial R&D costs, and continuing losses for the foreseeable future, as well as our limited operating history which makes it difficult to evaluate our future prospects and the risks and challenges we may encounter;
- our strategic initiatives which may prove more costly than we currently anticipate and potential failure to increase our revenue to offset these initiatives;
- whether our LiDAR products are or will continue to be selected for inclusion in autonomous driving or ADAS systems by automotive OEMs or their suppliers, and whether we will be de-selected by any customers, and end customer adoption rates and demand for our products;
- the lengthy period of time from a major commercial win to implementation and the risks of cancellation or postponement of the contract or unsuccessful implementation;
- potential inaccuracies in our forward-looking metrics and estimates, and our future cost of goods sold (COGS) and bill of materials (BOM) and total addressable market;
- the discontinuation, lack of success of our customers in developing and commercializing products using our solutions or loss of business with respect to a particular vehicle model or technology package and whether end automotive consumers will demand and be willing to pay for such features;
- our ability to successfully fund our growth if there are considerable delays in product introductions by us or our customers or difficulties our automotive original equipment manufacturers customers (“OEMs”) may face with their products;
- our inability to reduce and control the cost of the inputs on which we rely, which could negatively impact the adoption of our products and our profitability;
- the effect of continued pricing pressures, competition from other LiDAR manufacturers, cost reduction initiatives by OEMs and the ability of OEMs to re-source or cancel vehicle or technology programs which may result in lower than anticipated margins, or losses, which may adversely affect our business;
- the effect of general economic conditions, including inflation, recession risks and rising interest rates, generally and on our industry and us in particular, including the level of demand and financial performance of the autonomous vehicle industry and LiDAR industry and the decline in fair value of available-for-sale debt securities in a rising interest rate environment;
- specific economic and market uncertainty regarding the autonomous vehicle industry and LiDAR industry as a result of competitor failures, mergers, and delays;
- market adoption of LiDAR as well as developments in alternative technology and the increasingly competitive environment in which we operate, which includes established competitors and market participants that have substantially greater resources;
- our ability to achieve technological feasibility and commercialize our software products and the requirement to continue to develop new products and product innovations due to rapidly changing markets and government regulations of such technologies;
- our ability to build, launch, receive regulatory approval, sell, and service insurance products as well as market and differentiate the benefits of LiDAR-based ADAS to consumers;
- our ability to manage our growth and expand our business operations effectively, including into international markets, such as China, which exposes us to operational, financial, regulatory and geopolitical risks;
- changes in our government contracts business and our defense customers’ business due to political change and global conflicts;
- the nature of our sales, which despite our start of series production for certain customers, still include a significant amount of sales to customers for R&D projects and project-based orders, which may cause potentially significant fluctuations in our quarterly and annual results of operations;
- adverse impacts due to limited availability and quality of materials, supplies, and capital equipment, or dependency on third-party service providers and single source suppliers;

- whether we will be able to successfully transition our engineering designs into high volume manufacturing, including our ability to transition to an outsourced manufacturing business model and whether we and our outsourcing partners and suppliers can successfully operate complex machinery;
- our ability to establish and maintain confidence in our long-term business prospects among customers and analysts and within our industry and whether we are subject to negative publicity;
- whether we can successfully select, execute or integrate our acquisitions;
- any defects, errors, lack of reliability or other issues with our products which could reduce market adoption of our products, limit our ability to manufacture, damage our reputation and expose us to product liability, warranty and other claims;
- our ability to maintain and adequately manage our inventory;
- our ability to maintain an effective system of internal control over financial reporting;
- our ability to protect and enforce our intellectual property rights;
- availability of qualified personnel, loss of highly skilled personnel;
- the impact of inflation and our stock price on our ability to hire and retain highly skilled personnel;
- the amount and timing of future sales and whether the average selling prices of our products could decrease rapidly over the life of the product as well as our dependence on a few key customers, who are often large corporations with substantial negotiating power;
- interruption or failure of our information technology and communications systems and cybersecurity risks to our operational systems, security systems, infrastructure, and integrated software in our LiDAR solutions;
- strict government regulation that is subject to amendment, repeal or new interpretation and our ability to comply with modified or new laws and regulations applying to our business;
- changing government regulations relating to vehicle safety and autonomous vehicles that could prevent, delay or negatively affect the quality of ADAS and autonomy systems introduced by our OEM customers;
- market instability exacerbated by geopolitical conflicts, including the Israel-Hamas war and the conflict between Russia and Ukraine;
- trade and national security disputes, particularly with China, including the effect of sanctions, tariffs and other trade restrictions that may affect supply chain or sales opportunities in the United States, Europe, and China;
- whether the concentration of our stock ownership and voting power limits the ability of our stockholders to influence corporate matters;
- the amount of our outstanding indebtedness and our ability to comply with covenants contained in the agreements governing our indebtedness;
- our ability to access sources of capital to pay our indebtedness, and finance operations and growth; and
- our ability to maintain compliance with the Nasdaq continued listing standards for the listing of our Class A common stock.

Risk Factors

Risks Related to Our Business and Industry

We are an early stage company with a history of losses, and we expect to incur significant expenses and continuing losses for the foreseeable future.

We have incurred net losses on an annual basis since our inception. We incurred net losses of \$273.1 million, \$571.3 million and \$445.9 million for the years ended December 31, 2024, 2023 and 2022, respectively. We believe that we will continue to incur operating and net losses each quarter until at least the time we begin high volume commercial deliveries of our LiDAR-based products, which may occur later than we anticipate or not at all. Even if we successfully develop and sell our LiDAR and software solutions, there can be no assurance that they will be commercially successful. Our potential profitability is dependent upon the successful development and successful commercial introduction and acceptance of our LiDAR solutions, which may not occur.

We expect the rate at which we will incur losses to be remain high in future periods as we:

- expand our production capabilities to produce our LiDAR solutions, including costs associated with outsourcing the production of our LiDAR solutions;
- continue to utilize our third-party partners for design, testing and commercialization;
- expand our design, development, installation and servicing capabilities to address production of more products for more customers in more countries;
- build up inventories of parts and components for our LiDAR solutions;
- produce an inventory of our LiDAR solutions;
- continue to invest in our software development; and
- increase our sales and marketing activities and develop our distribution infrastructure.

Because we will incur the costs and expenses from these efforts before we receive incremental revenues with respect thereto, our losses in future periods will be significant. In addition, we may find that these efforts are more expensive than we currently anticipate or that these efforts may not result in revenues, which would further increase our losses.

Our limited operating history makes it difficult to evaluate our future prospects and the risks and challenges we may encounter.

We have been focused on developing LiDAR products for autonomous driving systems and driver assistance systems since 2012. This relatively limited operating history makes it difficult to evaluate our future prospects and the risks and challenges we may encounter. Risks and challenges we have faced or expect to face include our ability to:

- produce and deliver LiDAR and software products of acceptable performance, volume, cost, and quality;
- forecast our revenue and budget for and manage our expenses;
- attract new customers and retain existing customers in the automotive supply chain where sourcing and volume production targets are not guaranteed;
- comply with existing and new or modified laws and regulations applicable to our business;
- plan for and manage capital expenditures for our current and future products, and manage our supply chain and supplier relationships related to our current and future products;
- anticipate and respond to macroeconomic changes and changes in the markets in which we operate;
- maintain and enhance the value of our reputation and brand;
- effectively manage our growth and business operations;
- develop and protect intellectual property;
- hire, integrate, and retain talented people at all levels of its organization; and
- successfully develop new solutions to enhance the experience of customers and consumers.

If we fail to address the risks and difficulties that we face, including those associated with the challenges listed above as well as those described elsewhere in this “Risk Factors” section, our business, financial condition, and results of operations could be adversely affected. Further, because we have limited historical financial data and operate in a rapidly evolving market,

any predictions about our future revenue and expenses may not be as accurate as they would be if we had a longer operating history or operated in a more predictable market. We have encountered in the past, and will encounter in the future, risks and uncertainties frequently experienced by growing companies with limited operating histories in rapidly changing industries. If our assumptions regarding these risks and uncertainties, which we use to plan and operate our business, are incorrect or change, or if we do not address these risks successfully, our results of operations could differ materially from our expectations and our business, financial condition, and results of operations could be adversely affected.

We continue to implement strategic initiatives designed to grow our business. These initiatives may prove more costly than we currently anticipate, and we may not succeed in increasing our revenue in an amount sufficient to offset the costs of these initiatives and to achieve and maintain profitability.

We continue to make investments and implement initiatives designed to grow our business, including:

- investing in R&D;
- investing in new applications and markets for our products;
- investing in our manufacturing processes and partnerships to scale production;
- expanding our sales and marketing efforts to attract new customers;
- protecting our intellectual property;
- acquiring businesses of strategic importance; and
- investing in legal, accounting, human resources, and other administrative functions necessary to support our operations as a public company.

These initiatives may prove more expensive than we currently anticipate, and we may not succeed in increasing our revenue, if at all, in an amount sufficient to offset these higher expenses and to achieve and maintain profitability. The market opportunities we are pursuing are at an early stage of development, and it may be many years before the end markets we expect to serve generate demand for our products at scale. Our revenue may be adversely affected for a number of reasons, including:

- the development and/or market acceptance of new technology that competes with our LiDAR products;
- if certain automotive OEMs or other market participants change their autonomous vehicle and driver assistance technologies;
- failure of our customers to commercialize autonomous systems that include our solutions, or delays thereof;
- our ability to create, validate, and manufacture at high volume, as well as ship our products to customers;
- our inability to effectively manage our inventory or manufacture our products at scale;
- our inability to enter new markets or help our customers adapt our products for new applications;
- our failure to attract new customers or expand orders from existing customers; or
- increasing competition from other LiDAR companies.

Furthermore, it is difficult to predict the size and growth rate of our target markets, customer demand for our products, commercialization timelines, developments in autonomous vehicle sensing and related technology, the entry of competitive products, or the success of existing competitive products and services. For these reasons, we do not expect to achieve profitability over the near term. If our revenue does not grow over the long-term, our ability to achieve and maintain profitability may be adversely affected, and the value of our business may significantly decline.

If our LiDAR products are not selected for inclusion in ADAS or autonomous driving systems by more automotive OEMs or their suppliers, our business will be materially and adversely affected.

Automotive OEMs and their suppliers design and develop ADAS and autonomous driving technology over several years. These automotive OEMs and suppliers undertake extensive testing and qualification processes prior to placing orders for large quantities of products such as our LiDAR, because such products will function as part of a larger system or platform over the duration of program life, and often must meet certain other specifications. We spend significant time and resources to have our products selected by automotive OEMs and their suppliers. We define the term “major win” or “major commercial win” to have occurred when (a) we have obtained a written agreement (e.g. non-binding expression of interest arrangement or an agreement for non-recurring engineering project) or public announcement with a major industry player, and (b) based on past experience in high volume production, leadership in autonomy, or market leadership of said major industry player, we expect to ultimately be awarded a significant commercial program, including an OEM series production program. If we do not achieve a major commercial win with respect to a particular vehicle model, we may not have an opportunity to supply our products to the

automotive OEM for that vehicle model for a period of many years. In many cases, this period can be as long as seven or more years. If our products are not selected by an automotive OEM or its suppliers for one vehicle model or if our products are not successful in that vehicle model, it is unlikely that our product will be deployed in other vehicle models of that OEM. If we fail to win a significant number of vehicle models from one or more automotive OEMs or their suppliers, our business, results of operations, and financial condition will be materially and adversely affected. For more information about certain risks related to product selection, see the risk factor captioned “*The period of time from a major commercial win to implementation is long, and we are subject to risks of cancellation or postponement of the contract or unsuccessful implementation.*”

The period of time from a major commercial win to implementation is long, and we are subject to risks of cancellation or postponement of the contract or unsuccessful implementation.

Prospective customers, including those in the automotive industry, generally must make significant commitments of resources to test and validate our products and confirm that they can integrate with other technologies before including them in any particular system, product, or model. While certain customers have executed a non-binding expression of interest arrangement or engaged us for non-recurring engineering projects while they are evaluating our products, none of our customers make contractual commitments to use our LiDAR sensors or software until all test and validation activities have been completed, they have finalized plans for integrating our systems, have a positive expectation of the market demand for our features, and unrelated to us, have determined that their vehicle is ready for market and there is appropriate consumer demand. We expect that only after this point will our customers consider entering into definitive volume production agreements.

Through the end of 2024, we have entered into high volume series production with only one of our OEMs, and although we have certain purchase orders from others, none of our other automotive OEM customers have completed their on-going testing and validation with us. There is no assurance or guarantee that any of our other customers, including any for which we have announced a “major win” or “major commercial win”, will ever complete such testing and validation or enter into a definitive volume production agreement with us or that we will receive any revenues forecasted in connection with such “major win” or “major commercial win”.

The development cycles of our products with new customers varies widely depending on the application, market, and customer, as well as the complexity of the product. In the automotive market, for example, this development cycle can be as long as seven or more years. The development cycle in certain other markets can be several months to a few years. These development cycles result in us investing our resources prior to realizing any revenue from commercialization or obtaining any firm commitments of pricing, volume or timing of purchases of our products by our customers. Further, we are subject to the risk that customers cancel or postpone implementation of our technology, or that we will not be able to integrate our technology successfully into a larger system with other sensing modalities. Additionally, our revenue could be materially less than forecasted estimates if the system, product, or vehicle model that includes our LiDAR is unsuccessful, including for reasons unrelated to our technology. Long development cycles and product cancellations or postponements may adversely affect our business, results of operations and financial condition, and we cannot provide any assurance that we will be able to successfully fund our growth if there are considerable delays in product introductions by us or our customers. Thus, even if we have been successful in obtaining major commercial wins, long development cycles, product cancellations or postponements, and failures to successfully integrate our technology may materially and adversely affect our business, results of operations, and financial condition.

Our forward-looking estimates of certain financial metrics may prove inaccurate.

We use various estimates in formulating our business plans. We base our estimates upon a number of assumptions that are inherently subject to significant business and economic uncertainties and contingencies, many of which are beyond our control. These estimates include our assessment of whether a “major win” or “major commercial win” has occurred, and previously included an estimate of “Order Book” as an alternative metric to measure our commercial progress and the opportunity for our business. Our estimates therefore may prove inaccurate, causing the actual amount to differ from our estimates. The factors which may cause actual amounts to differ from our estimates include, without limitation:

- the extent to which customers who have selected Luminar for a major commercial win include our hardware and software products into their systems, products, or vehicle models, including the percentage or take rate within a vehicle configuration planned for production by our customers, which may change over time;
- the extent to which Luminar meets contractual terms and conditions, and whether there are any series production delays, whether caused by Luminar or unrelated to our technology;
- the extent to which our technology is successfully integrated into our customers’ products;
- the timing of when our customers adopt our technology into their products on a commercial basis which could be delayed for regulatory, safety or reliability issues unrelated to our technology;

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

The following discussion and analysis provides information that Luminar's management believes is relevant to an assessment and understanding of Luminar's consolidated results of operations and financial condition. The discussion should be read together with "Selected Historical Consolidated Financial and Operating Data of Luminar" and the historical audited annual consolidated financial statements as of and for the years ended December 31, 2024 and 2023, and the related notes thereto, included elsewhere in this Form 10-K. This discussion may contain forward-looking statements based upon Luminar's current expectations, estimates, and projections that involve risks and uncertainties. Actual results could differ materially from those anticipated in these forward-looking statements due to, among other considerations, the matters discussed under "Risk Factors" and "Cautionary Note Regarding Forward-Looking Statements."

Discussion regarding our financial condition and results of operations for the year ended December 31, 2023 as compared to the year ended December 31, 2022 is included in Item 7 of our Annual Report on Form 10-K for the fiscal year ended December 31, 2023, filed with the SEC on February 28, 2024.

Overview

We are a technology company specializing in advanced Light Detection and Ranging (LiDAR) hardware and software solutions to enable the world's safest and smartest vehicles. Over the past decade, we have been developing proprietary LiDAR hardware, core semiconductor components, and software in-house to meet the demanding performance, safety, reliability, and cost requirements to enable next-generation safety and autonomous capabilities for passenger and commercial vehicles, as well as other adjacent markets.

Beyond sensor hardware, our product portfolio has expanded to include semiconductor components of our LiDAR that have utility in adjacent markets, in-development software capabilities such as perception and high-definition "3D" mapping, certain data sets and other information, all of which we anticipate will monetize the ecosystem of improved safety and autonomy created by our LiDAR. Substantially all of our software products have not achieved technological feasibility or have been commercialized.

Acquisition of EM4, LLC ("EM4")

On March 18, 2024, we completed the acquisition of EM4, a designer, manufacturer and seller of packaged photonic components and sub-systems for aerospace and industrial markets. The EM4 acquisition is expected to accelerate our strategy to package lasers, detectors and ASICs. Operations of EM4 have been included in our ATS segment since the acquisition date.

Industrialization Update

We continue to execute on our industrialization plan in conjunction with our automaker partners.

In 2021, we executed contract manufacturing services agreements to enable series production of our Iris LiDAR sensors with Celestica and Fabrinet, whereby Fabrinet is responsible for assembly and testing of our transceiver sub-component based on our design and components and Celestica is responsible for final assembly and testing of our LiDAR sensor including the transceiver from Fabrinet. In April 2024, we announced our start of production ("SOP") for Volvo, our lead customer at the dedicated manufacturing facility in Mexico, owned and operated by Celestica, and we began shipping production LiDAR sensors.

In 2023, we executed a contract manufacturing services agreement with TPK to build and operate an additional high-volume facility in Asia, and we commenced the process of series production tooling in partnership with TPK at the facility. In 2024, we executed an agreement to establish an engineering center in China, staffed by TPK, to assist with our industrialization efforts, including manufacturing process design, development and validation, component process verification and validation, supplier development support, system validation, cost analysis, and benchmarking. This expanded partnership with TPK is accretive to our contract manufacturing relationship, as well as our contract manufacturing relationships with Celestica and Fabrinet.

We continually evaluate opportunities for optimizing our manufacturing and product design processes, including evaluating our sourcing strategies to reduce future per unit sensor manufacturing costs. In 2023, we commenced a change in sourcing of certain sub-assemblies and components from one supplier to another, which required us to abandon certain equipment located at the legacy supplier. As a result, we reduced the useful lives of the long-lived assets within the impacted asset group in line with when these assets are expected to be abandoned. The reduction in the estimated useful lives of the impacted assets resulted in us recording \$4.4 million of accelerated depreciation charges during the year ended December 31, 2024, and our expected transition to new suppliers has essentially been completed. In 2024, we commenced a change in sourcing of final assembly of components from one contract manufacturer to another. This effort included taking scaled down or production downtime at the dedicated manufacturing facility in Mexico. Our continuing optimization of our manufacturing

and product design processes may impact estimated useful lives or carrying values of additional property, plant and equipment or other assets.

Business Updates

In April 2024, we achieved our SOP for Volvo Cars and began delivering production LiDAR sensors for the Volvo EX90, the first global production vehicle to feature and standardize our technology. Our LiDAR sensors on initial vehicles are first being used for road data collection and system training, and will later be activated as part of the vehicle's active safety system.

On May 3, 2024, we announced a restructuring and cost reduction plan (the "Restructuring Plan"), which included reducing our workforce by approximately 20% and sub-leasing of certain facilities. We estimated the impact of the Restructuring Plan and other actions such as contractor spend reduction, when completed, would reduce operating costs by approximately \$50.0 million to \$65.0 million on an annual basis, of which approximately \$20.0 million to \$30.0 million would be savings in cash expenditures.

On September 20, 2024, we announced additional actions under the Restructuring Plan that represented a cumulative workforce reduction of approximately 30% of our full-time employees since the beginning of 2024. These additional actions commenced immediately following the announcement, and we expect them to be substantially complete by the end of 2025.

Through December 31, 2024, we incurred \$9.8 million in total charges associated with employee severance and related costs, including both cash and stock from the actions we took in May 2024 and September 2024. We estimate that the additional workforce adjustments we announced in September 2024, along with other cost-saving measures expected to take place over the next year, will generate approximately \$80.0 million in additional annual cash savings on a run-rate basis.

On August 6, 2024, we entered into private, separately negotiated agreements for (i) the private offering and sale of \$100.0 million in aggregate principal amount first-lien, senior secured floating rate notes (due in 2028) (the "Senior Notes") and (ii) the exchange of approximately \$421.9 million in aggregate principal amount of 1.25% 2026 Convertible Senior Notes (due in 2026) for approximately \$274.2 million in aggregate principal amount of 2030 Convertible Notes (due in 2030) (the "2030 Convertible Notes"), consisting of two series of second-lien, senior secured notes, both of which have identical terms other than the principal amount, interest rate, and applicable conversion price. We did not receive any cash proceeds from the exchange transaction. The transactions closed on August 8, 2024. See Note 8 of the Notes to the Consolidated Financial Statements included in this Form 10-K for more detail.

Through the year ended December 31, 2024, we received notices from the 2030 Convertible Notes' holders to convert the principal amount of \$27.0 million and \$8.5 million of Series 1 Notes and Series 2 Notes, respectively, upon which we issued 1,601,304 shares and 379,104 shares of Class A common stock on a reverse split-adjusted basis to settle such conversion of the Series 1 Notes and Series 2 Notes, respectively.

Given the customary business practices in the automotive industry, the rapidly changing nature of the markets in which we compete, and the fact that LiDAR is a new technology in the industry, there remains potential risk that our major commercial wins or other milestone achievements may not ultimately generate any significant revenue. See the discussion under the heading "*The period of time from a major commercial win to implementation is long, and we are subject to risks of cancellation or postponement of the contract or unsuccessful implementation*" in "Risk Factors" in Item IA of Part I in this Form 10-K.

Reverse Stock Split

In November 2024, following approval by the Company's stockholders at a special meeting of stockholders (the "Special Meeting") held in October 2024 and approval by the Board of Directors of a certificate of amendment to the Company's Second Amended and Restated Certificate of Incorporation, we effected a reverse stock split (the "Reverse Stock Split") of all the outstanding Class A common stock and Class B common stock and any common stock held by the Company as treasury shares, at a ratio of 1-for-15 (the "Reverse Stock Split Ratio"). All share data and per share data amounts included in this Form 10-K have been retrospectively adjusted to reflect the effect of the Reverse Stock Split.

Metrics Update

In the past, before we had commenced series production, we disclosed "Order Book" as an alternative metric to measure our commercial progress and the opportunity for our business. Order Book was defined as the forward-looking cumulative billings estimate of Luminar's hardware and software products over the lifetime of given vehicle production programs for which our technology was expected to be integrated into or provided for, based primarily on projected or actual contractual pricing terms and our good faith estimates of volume.

Now that we have achieved series production, our assessment is that Order Book is no longer as valuable a metric as sensors shipped. We have thus removed disclosure of an Order Book estimate in favor of disclosing sensors shipped, and

associated guidance, as an alternative metric by which to measure our commercial, operational, and financial progress. This is a consistent practice with other LiDAR companies that have reached the series production stage.

Basis of Presentation

Our consolidated financial statements include the accounts of our wholly-owned subsidiaries. We have eliminated intercompany accounts and transactions.

Components of Results of Operations

Revenue

Our business and revenue producing activities are organized in two operating segments: (i) Autonomy Solutions and (ii) Advanced Technologies and Services (“ATS”).

The Autonomy Solutions segment is engaged in the design, manufacturing, and sale of LiDAR sensors catering mainly to OEMs in the automotive, commercial vehicle, robo-taxi and adjacent industries. The Autonomy Solutions segment revenue also includes fees earned from non-recurring engineering services provided to customers in connection with customization of our hardware and software products, as well as revenue generated from licensing of certain data and information.

The ATS segment provides advanced semiconductors and related components, as well as design, testing and consulting services to the Autonomy Solutions segment and to various third-party customers, including government agencies and defense contractors, in markets generally unrelated to autonomous vehicles.

One customer, customer A of the Autonomy Solutions segment, accounted for 39% of our revenue for the year ended December 31, 2024. Two customers, customer A and customer B of the Autonomy Solutions segment, accounted for 35% and 11%, respectively, of our revenue for the year ended December 31, 2023. Two customers, customer A and customer B of the Autonomy Solutions segment, accounted for 17% and 21%, respectively, of our revenue for the year ended December 31, 2022.

Consideration Payable to Customers

We enter into revenue and purchase contracts with the same customers from time to time. When payments to customers are in exchange for distinct goods and services, we evaluate the underlying economics and fair value of the distinct goods and services. If we determine any portion of the consideration payable to the customer exceeds the fair value of the distinct goods and services, the excess is accounted for as a reduction of the transaction price of the revenue contract.

Cost of Sales and Gross Profit (Loss)

Cost of sales includes the fixed and variable manufacturing cost of our LiDAR sensors, which primarily consists of material purchases from third-party contract manufacturers and suppliers that are directly associated with our manufacturing process, as well as personnel-related costs, including stock-based compensation expense for personnel engaged in manufacturing, and engineering. Cost of sales also includes the cost of providing services to customers, depreciation and amortization for manufacturing fixed assets or equipment, cost of components, product testing and launch-related costs, an allocated portion of overhead, facility and information technology (“IT”) costs, write-downs for excess and obsolete inventory, as well as shipping costs.

The ATS segment provides certain services and components to the Autonomy Solutions segment, which are recorded as cost of goods sold or research and development costs depending on the nature and use of such services and components by the Autonomy Solutions segment. These inter-segment transactions are eliminated in the consolidated results.

Gross profit (loss) equals revenue less cost of sales. As we transition from prototype production to series production, average selling prices for our products will be lower. We expect these lower average selling prices to temporarily increase our gross loss until we start to realize the benefits of cost reduction and efficiency measures and production scaling.

Operating Expenses

Research and Development (R&D)

R&D costs are expensed as incurred. Design and development costs for products to be sold under long-term supply arrangements are expensed as incurred. Design and development costs for molds, dies, and other tools involved in developing new technologies are expensed as incurred.

Our R&D efforts are focused on enhancing and developing additional functionality for our existing products and on new product development, including new releases and upgrades to our LiDAR hardware and integrated software solutions. R&D expenses consist primarily of:

- Personnel-related expenses, including salaries, benefits, and stock-based compensation expense, for personnel in our research and engineering functions;

- Expenses related to materials, software licenses, supplies, data labeling and other third-party services;
- Prototype expenses; and
- An allocated portion of facility and IT costs and depreciation.

The ATS segment provides certain services and components to the Autonomy Solutions segment, which are recorded as cost of goods sold or R&D costs depending on the nature and use of such services and components by the Autonomy Solutions segment. These inter-segment transactions are eliminated in our consolidated results.

We expect our R&D costs to remain elevated for the foreseeable future as we continue to invest in research and development activities to achieve our product roadmap, and we expect to continue to incur operating losses for at least the foreseeable future due to continued R&D investments.

Sales and Marketing Expenses

Sales and marketing expenses consist of personnel and personnel-related expenses, including stock-based compensation of our business development team, as well as advertising and marketing expenses. These include the cost of marketing programs, trade shows, promotional materials, demonstration equipment, an allocated portion of facility and IT costs, and depreciation.

General and Administrative Expenses

General and administrative expenses consist of personnel and personnel-related expenses, including stock-based compensation of our executive, finance, human resources, information systems and legal departments, as well as legal and accounting fees for professional and contract services.

Other income (expense), net

Other income (expense), net includes change in fair value of warrant liabilities, interest expense, interest income, gain of extinguishment of debt, gain on acquisition of EM4, changes in fair value of derivative liability, and losses and impairments related to investments and certain other assets and other income (expense).

Change in Fair Value of Warrants

The warrant liabilities are classified as marked-to-market liabilities, and the corresponding increase or decrease in value is reflected in change in fair value of warrants.

Change in Fair Value of Derivative Liabilities

The derivatives are classified as marked-to-market liabilities, and the corresponding increase or decrease in value is reflected in change in fair value of bifurcated derivatives.

Interest Income and Interest Expense

Interest income consists primarily of income earned on our cash equivalents and marketable securities. These amounts will vary based on our cash, cash equivalents, and marketable securities balances, and also with market rates. Interest expense consists primarily of interest on our notes as well as amortization of premium (discount) on marketable securities.

Losses and Impairments to investments and Certain Other Assets, and Other Income (Expense)

Other income (expense), net includes realized gains and losses related to the marketable securities, as well as impact of gains and losses related to foreign exchange transactions, and impairment of investments and certain other assets.

Results of Operations

Comparison of the Years Ended December 31, 2024 and 2023

The results of operations presented below should be reviewed in conjunction with the consolidated financial statements and notes included elsewhere in this report. The following table sets forth our consolidated results of operations data for the periods presented (in thousands):

	Year Ended December 31,		Change	Change
	2024	2023	\$	%
Revenue	\$ 75,395	\$ 69,779	\$ 5,616	8 %
Cost of sales	101,085	142,469	(41,384)	(29)%
Gross loss	(25,690)	(72,690)	47,000	(65)%
Operating Expenses:				
Research and development	231,669	262,217	(30,548)	(12)%
Sales and marketing	45,488	53,097	(7,609)	(14)%
General and administrative	115,771	159,815	(44,044)	(28)%
Impairment of goodwill and intangible assets	6,647	15,489	(8,842)	(57)%
Restructuring costs	9,772	—	9,772	nm
Total operating expenses	409,347	490,618	(81,271)	(17)%
Loss from operations	(435,037)	(563,308)	128,271	(23)%
Other income (expense), net:				
Change in fair value of warrant liabilities	1,069	1,936	(867)	(45)%
Interest expense	(27,032)	(11,048)	(15,984)	145 %
Interest income	10,418	13,109	(2,691)	(21)%
Gain on extinguishment of debt	148,660	—	148,660	nm
Gain from acquisition of EM4	1,474	—	1,474	nm
Changes in fair value of derivative liability	31,729	—	31,729	nm
Losses related to investments and certain other assets, and other income (expense)	(5,164)	(10,262)	5,098	(50)%
Total other income (expense), net	161,154	(6,265)	167,419	(2672)%
Loss before provision for income taxes	(273,883)	(569,573)	295,690	(52)%
Provision for income taxes	(743)	1,696	(2,439)	(144)%
Net loss	\$ (273,140)	\$ (571,269)	\$ 298,129	(52)%

Revenue

The following table sets forth a breakdown of our revenue by our segments for the periods presented (in thousands):

	Year Ended December 31,		Change	Change
	2024	2023	\$	%
Revenue from sales to external customers:				
Autonomy Solutions	\$ 53,480	\$ 48,835	\$ 4,645	10 %
ATS	21,915	20,944	971	5 %
Total	\$ 75,395	\$ 69,779	\$ 5,616	8 %

The increase in revenue of our Autonomy Solutions in 2024 compared to 2023 was primarily due to an increase in sensor shipments to Volvo, driven by SOP of the Volvo EX90, as well as licensing of certain information, partially offset by lower service revenue on certain NRE contracts.

The increase in revenue of our ATS segment in 2024 compared to 2023, was primarily due to an increase in revenue from the acquisition of EM4 in March 2024, partially offset by lower non-recurring engineering service revenue and product sales.

Cost of Sales

The \$41.4 million decrease in the cost of sales in 2024 compared 2023, was primarily due to cost reduction initiatives in 2024, launch related costs in 2023, and lower number of service projects offset by ramp up in production and units sold. In the

fourth quarter of 2024, an Iris+ development contract for non-recurring engineering services was terminated. As a result, we recorded a \$11.3 million reversal of the provision for NRE contract losses that we had accrued throughout the contract term, which had a positive impact on the cost of sales in the quarter.

In 2023, we commenced a change in sourcing strategy of certain sub-assemblies and components from one supplier to another, which resulted in discontinued use of certain plant, property and equipment assets as they were no longer needed for their original intended use and required us to abandon certain equipment at the legacy supplier. As a result, we revised the estimated useful lives of the long-lived assets within the impacted asset group, which resulted in us recording depreciation for these assets over an accelerated period. For certain manufacturing activities is expected to result in discontinued use of certain plant, property and equipment assets as they will no longer be needed for their original intended use. As a result of executing our plan, we revised the estimated useful lives of certain long-lived assets within the impacted asset group. This resulted in recording depreciation for these assets over an accelerated period. In 2024 and 2023, we recorded \$4.4 million and \$9.2 million of accelerated depreciation charges associated with this manufacturing and sourcing change, respectively.

In 2024, we commenced a change in sourcing and final assembly of components from one contract manufacturer to another. This effort included taking production downtime at the dedicated manufacturing facility in Mexico. Our continuing optimization of our manufacturing and product design processes may impact estimated useful lives or carrying values of additional property, plant and equipment or other assets.

Operating Expenses

Research and Development

The \$30.5 million decrease in research and development expenses in 2024 compared to 2023 was primarily due to a \$24.6 million decrease in personnel-related costs driven mainly by decreased headcount and a decrease in stock-based compensation expense, a \$5.5 million decrease in purchased materials, \$1.8 million decrease in travel related costs and a \$0.7 million decrease in depreciation, amortization and other expenses, partially offset by a \$1.7 million increase in contractor fees and external spend in relation to continued development and testing of our sensor and software products, development activities related to advanced manufacturing, as well as data labelling services.

Sales and Marketing

The \$7.6 million decrease in sales and marketing expenses for 2024 compared to 2023 was primarily due to a \$12.6 million decrease in personnel related costs including stock-based compensation costs due to decrease in headcount, a \$1.7 million reduction in travel related costs and a \$0.5 million reduction in supplies expenses, partially offset by a \$5.7 million increase in sponsorship fees and a \$1.5 million increased in professional services.

General and Administrative

The \$44.0 million decrease in general and administrative expenses for 2024 compared to 2023 was primarily due to a \$38.7 million net decrease in personnel-related costs including stock-based compensation expense as a result of headcount reduction and vesting of certain awards previously granted in connection with merger and acquisition activity, a \$3.0 million decrease in travel related costs, a \$1.6 million decrease in expenses related to subscriptions and material expenses due to limited hiring and a \$0.2 million net decrease in legal, outside consultants and contractor expenses offset by an increase of \$1.4 million in expenses related to commissions for subleases.

Impairment of goodwill and intangible assets

In 2023, we recognized impairment charges of \$12.5 million of goodwill and \$3.0 million of IPR&D intangible assets related to Freedom Photonics. These impairment charges were due to events that occurred during the fourth quarter of 2023, including a decision to delay development activities on certain new products resulting from an increase in focus on supporting the product roadmap of the Autonomy Solutions segment, and a lowering of the growth outlook for the business due to less than anticipated traction in sales of new products.

During the third quarter of 2024, we recognized additional impairment charges of \$3.4 million and \$3.3 million related to goodwill and IPR&D intangible assets related to Freedom Photonics, driven by a slower industry LiDAR adoption rate in the near-term as well as a reduction in the Freedom Photonics workforce assigned to perform development work for external customers.

Total life-to-date goodwill impairment charge recorded by the ATS reportable segment was \$15.9 million. No impairment charge has been recorded by the Autonomy Solutions reportable segment.

Restructuring Costs

We incurred \$9.8 million in restructuring expenses in 2024 due to actions taken pursuant to the Restructuring Plan announced in May 2024 and expanded in September 2024.

Change in Fair Value of Warrant Liabilities

The change in fair value of warrant liabilities is a non-cash benefit or charge due to the corresponding decrease or increase in the estimated fair value of warrants issued in a private placement on connection with the initial public offering of Gores Metropoulos, Inc. ("Private Warrants").

Losses related to investments and certain other assets, and other income (expense)

Losses and impairment related to investments and certain other assets in 2024 and 2023 primarily related to marked to market fair value adjustment related to declines in fair values of marketable equity investments.

Gain on Extinguishment of Debt

In 2024, as a result of the exchange and purchase transactions, we recognized \$148.7 million gain on debt extinguishment, which represented the difference between the carrying value of the 2026 Convertible Senior Notes so exchanged and the collective fair value of the 2030 Convertible Notes and the Senior Notes, net of the cash payment received from the noteholders, along with the gain from the 2030 Convertible Notes principal amount conversion initiated by the holders. The extinguishment gain was recorded in other income (expense), net in the consolidated statements of operations.

Change in Fair Value of Derivative Liability

The change in fair value of derivative liability is a non-cash benefit or charge due to the corresponding decrease or increase in the estimated fair value of the bifurcated derivatives in the 2030 Convertible Notes.

Segment Operating Loss

Segment income or loss is defined as income or loss before taxes. Our segment loss breakdown is as follows (in thousands):

	Year Ended December 31,		Change	Change
	2024	2023	\$	%
Segment operating loss				
Autonomy Solutions	\$ (412,998)	\$ (513,668)	\$ 100,670	(20 %)
ATS	(22,039)	(49,640)	27,601	(56 %)

Autonomy solutions segment operating loss decreased \$100.7 million from 2023 to 2024. The decrease in operating loss was primarily due to decreases in personnel-related costs driven by decreased headcount and a decrease in stock-based compensation expense, and travel related expenses, a decrease in purchased materials, and a reduction in supplies expenses, partially offset by restructuring costs in 2024.

ATS segment operating loss decreased \$27.6 million from 2023 to 2024. The decrease in operating loss was primarily due to a decrease in personnel-related costs including stock-based compensation expense as a result of headcount reduction and vesting of certain awards previously granted in connection with merger and acquisition activity, and a decrease in purchased materials, partially offset by restructuring costs in 2024 and a \$6.6 million charge related to impairment of goodwill and intangible assets in 2024.

Liquidity and Capital Resources

Sources of Liquidity and Capital Requirements

Our capital requirements will depend on many factors, including:

- market adoption of new and enhanced products and features;
- production capacity and volume;
- the timing and extent of spending to support R&D efforts;
- investments in manufacturing equipment and facilities; and
- investments in information technology systems.

Until we can generate sufficient revenue and profits from the sale of products and services to cover our operating expenses, working capital, and capital expenditures, we expect our cash, cash equivalents and marketable securities, and proceeds from debt and/or equity financings to fund our cash needs.

Issuances of our equity securities have resulted, and any future issuances of our equity securities will result, in dilution to stockholders. Any equity securities issued may also provide for rights, preferences, and privileges senior to those of existing holders of our common stock and may contain terms which impose significant restrictions on our operations. Issuances of our debt securities have resulted in rights, preferences, and privileges senior to holders of our common stock. The indentures

governing our outstanding Senior Notes and Convertible Notes contain, and any future indebtedness that we may incur may contain, financial and other restrictive covenants that limit our ability to operate our business, raise capital or make payments under our other indebtedness.

In addition, we may from time to time seek to retire or repurchase material amounts of our outstanding debt securities through open-market purchases, privately negotiated transactions, or otherwise, for cash or through exchanges for debt or equity, subject to limitations in the agreements governing our outstanding debt securities. Any repurchases or exchanges would be on terms and at prices that we may determine in our discretion and would depend on prevailing market conditions, our liquidity requirements, our receipt of any necessary corporate approvals, and other factors. The credit market and financial services industry have in the past, and may in the future, experience periods of uncertainty that could impact the availability and cost of equity and debt financing.

We expect to continue to invest in our product and software development, as well as incur efforts to build customer relations and expand into additional markets. Further, we expect to invest in developing advanced manufacturing capabilities, including at our contract manufacturing partners. We expect to fund these product and business development initiatives and associated capital expenditures either through our cash, cash equivalents and marketable securities or through issuance of shares of our Class A common stock to vendors and third parties for services provided under our stock in lieu of cash program (“Stock-in-lieu of Cash Program”).

In February 2024, we entered into two non-recourse loan and securities pledge agreements (the “Loan Agreements”) with The St. James Bank & Trust Company Ltd. (the “Lender”), pursuant to which we may borrow up to an aggregate of \$50.0 million. Any loans made by the Lender under the Loan Agreements would be collateralized by shares of our Class A common stock or stock we hold of another company. The Loan Agreements require us to pay an up-front structure fee of 1.5% on any amounts borrowed, and any outstanding amounts would bear interest at 8.0% per annum. We did not borrow any amount from this credit facility and had no outstanding balance as of December 31, 2024.

In May 2024, we entered into a Sales Agreement (the “2024 Sales Agreement”) with Virtu Americas LLC (the “Agent”) under which we may offer and sell, from time to time at our sole discretion, shares of our Class A common stock with aggregate gross sales proceeds of up to \$150.0 million under our Equity Financing Program. This was an extension of the prior Equity Financing Program we established with the Agent in February 2023. In August 2024, we increased the Equity Financing Program by an additional \$50.0 million pursuant to the 2024 Sales Agreement and in March 2025, we further increased the program by an additional \$75.0 million. We intend to use the net proceeds from offerings under the Equity Financing Program for expenditures or payments in connection with merger and acquisitions, strategic investments, partnerships and similar transactions, repurchases of outstanding debt securities, and for general corporate and business purposes.

Under the 2024 Sales Agreement, we set the parameters for the sale of the shares, including the number of shares to be issued, the time period during which sales are requested to be made, limitations on the number of shares that may be sold in any one trading day, and any minimum price below which sales may not be made. Subject to the terms and conditions of the 2024 Sales Agreement, the Agent has agreed to use its commercially reasonable efforts, consistent with its normal trading and sales practices, to sell the shares by methods deemed to be an “at the market” offering as defined in Rule 415 promulgated under the Securities Act, including sales made through The Nasdaq Global Select Market.

We issued 6,735,375 and 8,335,450 shares of Class A common stock under the Equity Financing Program during the three and twelve months ended December 31, 2024 for net cash proceeds of \$47.6 million and \$89.4 million, respectively. As of December 31, 2024, \$134.0 million of Class A Common Stock was available for sale under the program.

In August 2024, we entered into private, separately negotiated agreements for (i) the private offering and sale of \$100 million in aggregate principal amount of first-lien, senior secured floating rate notes due 2028 (the “Senior Notes”) and (ii) the exchange of approximately \$421.9 million in aggregate principal amount of 1.25% Convertible Senior Notes due 2026 (the “2026 Convertible Senior Notes”) for approximately \$274.2 million in aggregate principal amount of newly issued Convertible Notes due 2030 (the “2030 Convertible Notes”), consisting of two series of second-lien, senior secured notes, both of which have identical terms other than the principal amount, interest rate, and applicable conversion price. We received \$97.0 million net of debt discount of \$3.0 million, in cash proceeds from the offering and sale of the Senior Notes, but did not receive any cash proceeds from the exchange of the 2026 Convertible Senior Notes for the 2030 Convertible Notes. As a result of this transaction, we extended a significant amount of our 2026 maturities into 2030 and raised additional capital to bolster our liquidity position. We expect to incur higher annual interest expense for the Senior Notes and 2030 Convertible Notes. For additional information regarding the notes, including the financial and other restrictive covenants and contractual obligations contained in the indentures governing the notes, see Note 8 of the Notes to the Consolidated Financial Statements included in this Form 10-K.

In 2024, \$35.5 million in aggregate principal amount of the 2030 Convertible Notes were converted by the holders. We issued 1,980,408 shares of Class A common stock to settle conversions of \$35.5 million in aggregate principal amount of 2030 Convertible Notes.

As of December 31, 2024, we had cash and cash equivalents totaling \$82.8 million and marketable securities of \$99.8 million, totaling \$182.7 million of total liquidity. To date, our principal sources of liquidity have been proceeds received from issuances of debt and equity. Market and economic conditions, such as the increase in interest rates by federal agencies, may materially impact relative cost and mix of these sources of liquidity.

To date, we have not generated positive cash flows from operating activities and have incurred significant losses from operations in the past as reflected in our accumulated deficit of \$2.1 billion as of December 31, 2024. We expect to continue to incur operating losses for at least the foreseeable future due to continued investments that we intend to make in our business and, as a result, we may require additional capital resources to grow our business. We believe that current cash, cash equivalents, and marketable securities as well as the availability under the Equity Financing Program will be sufficient to continue to execute our business strategy in the next 12 months.

Cash Flow Summary

The following table summarizes Luminar's cash flows for the periods presented:

	Year Ended December 31,	
	2024	2023
Net cash provided by (used in):		
Operating activities	\$ (276,630)	\$ (247,304)
Investing activities	42,463	236,626
Financing activities	178,265	80,197

Operating Activities

Net cash used in operating activities was \$276.6 million for the year ended December 31, 2024. Net cash used in operating activities was due to our net loss of \$273.1 million adjusted for non-cash items of \$36.5 million, primarily consisting of \$148.7 million gain on extinguishment of debt, \$139.1 million of stock-based compensation, \$31.7 million of change in fair value of derivatives, \$25.3 million of depreciation and amortization, \$20.1 million of inventory write-offs and write-downs and \$14.6 million of vendor stock in lieu of cash program, offset by cash used by operating assets and liabilities of \$40.0 million due to the timing of cash payments to vendors and receipts from customers.

Investing Activities

Net cash provided by investing activities of \$42.5 million for the year ended December 31, 2024 was comprised of \$177.9 million and \$3.4 million, of cash proceeds from maturities and sales/ redemptions of marketable securities, respectively, offset primarily by \$130.4 million related to purchases of marketable securities, \$5.1 million in capital expenditures and \$3.5 million of cash paid to acquire certain assets from EM4.

Financing Activities

Net cash provided by financing activities of \$178.3 million for the year ended December 31, 2024 was comprised of \$89.4 million cash received from sale and issuance of shares of Class A common stock under the Equity Financing Program, \$89.2 million from the issuance of Senior Notes, net of issuance costs and \$1.7 million of proceeds from ESPP purchases and exercise of stock options, offset by \$2.0 million payments of employee taxes related to stock-based awards.

Critical Accounting Policies and Estimates

We prepare our consolidated financial statements in accordance with generally accepted accounting principles in the United States ("GAAP"). The preparation of these consolidated financial statements requires us to make estimates, assumptions and judgments that can significantly impact the amounts we report as assets, liabilities, revenue, costs, and expenses, as well as the related disclosures. We base our estimates on historical experience and other assumptions that we believe are reasonable under the circumstances. Our actual results could differ significantly from these estimates under different assumptions and conditions. We believe that the accounting policies and estimates discussed below are critical to understanding our historical and future performance as these policies involve a greater degree of judgment and complexity.

Our significant accounting policies are described in Note 2 to the Consolidated Financial Statements.

Revenue

Revenue from product sales is recognized upon transfer of control of promised products. Revenue for service projects is recognized as services are performed and amounts are earned in accordance with the terms of a contract. Revenue is recognized in an amount that reflects the consideration that we expect to receive in exchange for those products and services.

Revenues related to non-recurring engineering (“NRE”) projects are recognized over time using the cost input method. In using this input method, we generally apply the cost-to-cost method of accounting, where sales and profits are recorded based on the ratio of costs incurred to estimated total costs at completion. Recognition of profit on the NRE contracts requires estimates of the total contract value, the total cost at completion, and the measurement of progress towards completion.

During the years ended December 31, 2023 and 2022, we recorded \$16.4 million and \$19.2 million, respectively, in cost of sales (services) estimated losses expected to be incurred on NRE service projects with certain customers. The estimated contract losses recorded in 2023 were primarily driven by delays in achievement of certain milestones and changes in scope of project deliverables agreed upon with a customer during the year, and in 2022 were primarily driven by changes in estimates related to costs expected to be incurred for contractual milestones of certain projects based on actual experience on similar projects and changes in technical specifications by a customer during the year. During the year ended December 31, 2024, estimated losses were immaterial. Significant judgment is required when estimating total contract costs and progress to completion on the arrangements, as well as whether a loss is expected to be incurred on the contract. In estimating total contract costs, we are also required to estimate the effort expected to be incurred to complete a NRE project. These estimates are subject to significant uncertainty as actual time and effort incurred on completing a NRE project or actual rates of either internal or contracted personnel working on such NRE projects may differ from our estimates. If circumstances arise that change the original estimates of revenues, costs, or extent of progress toward completion, revisions to the estimates are made. These revisions may result in increases or decreases in estimated revenues or costs, and such revisions are reflected in income in the period in which the circumstances that gave rise to the revision become known to us. We perform ongoing profitability analysis of our contracts accounted for under this method to determine whether the latest estimates of revenues, costs, and profits require updating. If at any time these estimates indicate that the contract will be unprofitable, the entire estimated loss for the remainder of the contract is recorded immediately.

We enter into contracts that can include various combinations of products and services, which are generally capable of being distinct and accounted for as separate performance obligations; however, determining whether products or services are considered distinct performance obligations that should be accounted for separately versus together may sometimes require significant judgment. Transaction price is allocated to each performance obligation on a relative standalone selling price (“SSP”) basis. Judgment is required to determine SSP for each distinct performance obligation. We use a range of sales prices from actual sales to customers to estimate SSP when products and services are sold separately. In instances where SSP is not directly observable, we determine SSP using information that may include other observable inputs available to it.

Changes in judgments with respect to these assumptions and estimates could impact the timing or amount of revenue recognition.

Convertible and Senior Notes and Derivative Liability

We evaluate the notes to determine if embedded features of those contracts qualify as derivatives to be separately accounted for under the relevant sections of Accounting Standards Codification (“ASC”) 815-40, *Derivatives and Hedging: Contracts in Entity’s Own Equity*. This accounting treatment requires that the carrying amount of any derivatives be recorded at fair value in the consolidated balance sheet at issuance and marked-to-market at each balance sheet date as components of convertible and senior notes. The change in the fair value during the period is recorded in the consolidated statement of operations as either other income or expense as changes in fair value of derivative liability. Additionally, when we change the terms of existing notes, we evaluate the transactions under ASC 470-50, *Debt Modification and Extinguishment* to determine whether the change should be treated as a modification or as a debt extinguishment. For extinguishments, we compare the reacquisition price of the extinguished notes to the carrying amount of the respective extinguished notes, and a gain or loss is recorded in other income (expense), net on our consolidated statements of operations. Upon conversion, exercise or repayment, the respective derivative liability is marked to fair value at the conversion, repayment, or exercise date, and then the related fair value amount is reclassified to other income or expense as part of gain or loss on debt extinguishment in the consolidated statement of operations.

We use a binomial lattice bond model to estimate the fair value of the senior notes, convertible notes, and bifurcated derivatives. Our use of the binomial model requires the input of highly subjective assumptions, including expected volatility of our common stock, risk-free interest rates, discount rates, and estimated effective conversion price ratios based on forecasted financial metrics (adjusted for additional interest payment upon conversion per the agreement). The assumptions used in the binomial model represent managements’ best estimates. These estimates involve inherent uncertainties and the application of management’s judgment.

Smaller Reporting Company Status

Based on our public float as of June 28, 2024, as well as our revenue, we have transitioned to “smaller reporting company” status, and we have taken advantage of certain reduced disclosure requirements available to smaller reporting companies.

Recent Accounting Pronouncements

See Note 2 in Item 8. of this Form 10-K for information related to recent accounting pronouncements.

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

We are a smaller reporting company as defined by Rule 12b-2 of the Securities Exchange Act of 1934 and are not required to provide the information under this item.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.

LUMINAR TECHNOLOGIES, INC.

INDEX TO THE CONSOLIDATED FINANCIAL STATEMENTS

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of Luminar Technologies, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Luminar Technologies, Inc. and subsidiaries (the “Company”) as of December 31, 2024 and 2023, the related consolidated statements of operations and comprehensive loss, stockholders’ equity (deficit), and cash flows, for each of the three years in the period ended December 31, 2024, and the related notes (collectively referred to as the “financial statements”). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 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 financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

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

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

Critical Audit Matter

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

Accounting for Note Purchase and Initial Exchange Transactions — Refer to Notes 2, 8, and 9 to the financial statements***Critical Audit Matter Description***

During August 2024, the Company entered into private, separately negotiated agreements for (i) the private offering and sale (the “Note Purchase Transaction”) of \$100.0 million in aggregate principal amount of newly issued, first-lien, senior secured floating rate notes of the Company (the “Senior Notes”); and (ii) the exchange (the “Initial Exchange Transaction” and, together with the Note Purchase Transaction, the “Note Purchase and Initial Exchange Transactions”) of approximately \$421.9 million in aggregate principal amount of 1.25% Convertible Senior Notes due 2026 for approximately \$274.2 million in aggregate principal amount of newly issued Convertible Senior Secured Notes due 2030 (the “2030 Convertible Notes”).

The Company accounted for the Note Purchase and Initial Exchange Transactions as an extinguishment of the \$421.9 million amount of 1.25% Convertible Senior Notes due 2026 and recorded an extinguishment gain of \$142.2 million. The Company accounted for the conversion option and other features of the 2030 Convertible Notes as bifurcated derivatives, which are accounted for separately as derivative instruments. The bifurcated derivative instruments are liability classified and recorded at fair value of \$49.2 million in the consolidated balance sheet, with the corresponding amount recorded as a discount to the 2030 Convertible Notes upon issuance.

Given the significant judgments required by management in evaluating the accounting for the transactions, we identified the accounting for the Note Purchase and Initial Exchange Transactions as a critical audit matter. Auditing the Company’s

accounting for the transactions required a high degree of auditor judgment and an increased extent of effort due to the nature and extent of specialized skill and knowledge required.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to management’s accounting for the Note Purchase and Initial Exchange transactions included the following, among others:

- With the assistance of professionals within our firm having expertise in accounting for debt transactions, we performed the following:
 - We read the Note Purchase and Initial Exchange Transactions contracts to understand the terms and conditions.
 - We evaluated the Company’s accounting analysis for the Note Purchase and Initial Exchange Transactions under accounting principles generally accepted in the United States of America, including whether the transactions represented an extinguishment, the identification of embedded derivatives, and the determination of whether the embedded feature require bifurcation and recognition as separate derivative financial instruments.

/s/ Deloitte & Touche LLP

San Jose, California

March 28, 2025

We have served as the Company’s auditor since 2020.

LUMINAR TECHNOLOGIES, INC. AND SUBSIDIARIES
Consolidated Balance Sheets
(In thousands, except share and per share data)

	December 31,	
	2024	2023
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 82,840	\$ 139,095
Restricted cash	1,882	1,529
Marketable securities	99,827	150,727
Accounts receivable	14,272	14,124
Inventory	14,908	12,196
Prepaid expenses and other current assets	31,498	32,950
Total current assets	245,227	350,621
Property and equipment, net	52,281	66,300
Operating lease right-of-use assets	31,479	42,706
Intangible assets, net	15,556	22,994
Goodwill	3,994	7,390
Other non-current assets	16,676	22,356
Total assets	\$ 365,213	\$ 512,367
LIABILITIES AND STOCKHOLDERS' DEFICIT		
Current liabilities:		
Accounts payable	\$ 18,972	\$ 21,113
Accrued and other current liabilities	31,567	52,605
Operating lease liabilities	10,049	10,154
Total current liabilities	60,588	83,872
Warrant liabilities	—	1,069
Debt	500,516	615,428
Operating lease liabilities, non-current	24,083	35,079
Other non-current liabilities	815	1,667
Total liabilities	586,002	737,115
Commitments and contingencies (see Note 15)		
Stockholders' deficit:		
Preferred stock, \$0.0001 par value; 10,000,000 shares authorized, no shares issued and outstanding as of December 31, 2024 and 2023	—	—
Class A common stock, \$0.0001 par value; 715,000,000 shares authorized as of December 31, 2024 and 2023, respectively, 38,056,676 shares issued, 36,599,113 shares outstanding as of December 31, 2024; 22,952,280 shares issued, 21,494,717 outstanding as of December 31, 2023	3	2
Class B common stock, \$0.0001 par value; 121,000,000 shares authorized, 4,872,578 and 6,472,578 shares issued and outstanding as of December 31, 2024 and 2023, respectively	1	1
Additional paid-in capital	2,204,814	1,927,419
Accumulated other comprehensive income (loss)	(295)	2
Treasury stock, at cost, 1,457,563 shares as of December 31, 2024 and 2023	(312,477)	(312,477)
Accumulated deficit	(2,112,835)	(1,839,695)
Total stockholders' deficit	(220,789)	(224,748)
Total liabilities and stockholders' deficit	\$ 365,213	\$ 512,367

*All periods presented have been retroactively adjusted to reflect the 1-for-15 reverse stock split effected on November 20, 2024. Refer to Note 1 for further information.

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

LUMINAR TECHNOLOGIES, INC. AND SUBSIDIARIES
Consolidated Statements of Operations and Comprehensive Loss
(In thousands, except share and per share data)

	Year Ended December 31,		
	2024	2023	2022
Revenue:			
Products	\$ 62,608	\$ 45,044	\$ 18,492
Services	12,787	24,735	22,206
Total revenue	75,395	69,779	40,698
Cost of sales:			
Products	86,005	105,236	61,985
Services	15,080	37,233	38,998
Total cost of sales	101,085	142,469	100,983
Gross loss	(25,690)	(72,690)	(60,285)
Operating expenses:			
Research and development	231,669	262,217	185,283
Sales and marketing	45,488	53,097	38,672
General and administrative	115,771	159,815	158,162
Impairment of goodwill and intangible assets	6,647	15,489	—
Restructuring costs	9,772	—	—
Total operating expenses	409,347	490,618	382,117
Loss from operations	(435,037)	(563,308)	(442,402)
Other income (expense), net:			
Change in fair value of warrant liabilities	1,069	1,936	9,222
Interest expense	(27,032)	(11,048)	(11,095)
Interest income	10,418	13,109	5,697
Gain on extinguishment of debt	148,660	—	—
Gain from acquisition of EM4	1,474	—	—
Changes in fair value of derivative liability	31,729	—	—
Losses and impairments related to investments and certain other assets, and other income (expense)	(5,164)	(10,262)	(6,689)
Total other income (expense), net	161,154	(6,265)	(2,865)
Loss before provision for income taxes	(273,883)	(569,573)	(445,267)
Provision for income taxes	(743)	1,696	672
Net loss	<u>\$ (273,140)</u>	<u>\$ (571,269)</u>	<u>\$ (445,939)</u>
Net loss per share:			
Basic	<u>\$ (8.70)</u>	<u>\$ (22.02)</u>	<u>\$ (18.79)</u>
Diluted	<u>\$ (8.70)</u>	<u>\$ (22.02)</u>	<u>\$ (18.79)</u>
Shares used in computing net loss per share:			
Basic	<u>31,404,616</u>	<u>25,939,912</u>	<u>23,734,269</u>
Diluted	<u>31,404,616</u>	<u>25,939,912</u>	<u>23,734,269</u>
Comprehensive Loss:			
Net loss	\$ (273,140)	\$ (571,269)	\$ (445,939)
Net unrealized gains (losses) on available-for-sale debt securities	(297)	4,228	(3,318)
Comprehensive loss	<u>\$ (273,437)</u>	<u>\$ (567,041)</u>	<u>\$ (449,257)</u>

*All periods presented have been retroactively adjusted to reflect the 1-for-15 reverse stock split effected on November 20, 2024. Refer to Note 1 for further information.

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

LUMINAR TECHNOLOGIES, INC. AND SUBSIDIARIES
Consolidated Statements of Stockholders' Equity (Deficit)
(In thousands, except share data)

	Class A Common Stock		Class B Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Accumulated Deficit	Total Stockholders' Equity (Deficit)
	Shares	Amount	Shares	Amount					
Balance as of December 31, 2021	17,721,742	\$ 2	6,472,578	\$ 1	\$ 1,257,248	\$ (908)	\$ (235,871)	\$ (822,487)	\$ 197,985
Shares repurchased	—	—	—	—	—	—	(76,606)	—	(76,606)
Issuance of Class A common stock upon exercise of Private Warrants	27,049	—	—	—	19,003	—	—	—	19,003
Issuance of Class A common stock upon exercise of stock options and vesting of restricted stock units	610,385	—	—	—	3,945	—	—	—	3,945
Issuance of Class A common stock under ESPP	11,129	—	—	—	1,271	—	—	—	1,271
Retirement of unvested restricted common stock	(3,212)	—	—	—	—	—	—	—	—
Vendor payments under the stock in lieu of cash program	663,284	—	—	—	80,255	—	—	—	80,255
Investment in ECARX Holdings, Inc.	135,358	—	—	—	12,588	—	—	—	12,588
Optigration milestone awards	108,799	—	—	—	11,751	—	—	—	11,751
Acquisition of Freedom Photonics LLC	145,065	—	—	—	30,510	—	—	—	30,510
Acquisition of certain assets from Solstice Research, Inc.	24,946	—	—	—	3,361	—	—	—	3,361
Stock-based compensation	—	—	—	—	142,519	—	—	—	142,519
Payments of employee taxes related to stock-based awards	—	—	—	—	(3,730)	—	—	—	(3,730)
Other comprehensive loss	—	—	—	—	—	(3,318)	—	—	(3,318)
Net loss	—	—	—	—	—	—	—	(445,939)	(445,939)
Balance as of December 31, 2022	19,444,545	2	6,472,578	1	1,558,721	(4,226)	(312,477)	(1,268,426)	(26,405)
Issuance of Class A common stock upon exercise of stock options and vesting of restricted stock units	1,239,246	—	—	—	3,056	—	—	—	3,056
Issuance of Class A common stock under ESPP	47,147	—	—	—	2,641	—	—	—	2,641
Issuance of Class A common stock under Equity Financing Program	631,191	—	—	—	50,190	—	—	—	50,190
Issuance of Class A common stock to a TPK group company	220,384	—	—	—	20,000	—	—	—	20,000
Issuance of Class A common stock to Plus AI	128,431	—	—	—	12,141	—	—	—	12,141

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	Class A Common Stock		Class B Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Accumulated Deficit	Total Stockholders' Equity (Deficit)
	Shares	Amount	Shares	Amount					
Vendor payments under the stock in lieu of cash program	1,045,115	—	—	—	75,873	—	—	—	75,873
Milestone awards relating to acquisitions	196,221	—	—	—	20,656	—	—	—	20,656
Stock-based compensation	—	—	—	—	186,278	—	—	—	186,278
Payments of employee taxes related to stock-based awards	—	—	—	—	(2,137)	—	—	—	(2,137)
Other comprehensive loss	—	—	—	—	—	4,228	—	—	4,228
Net loss	—	—	—	—	—	—	—	(571,269)	(571,269)
Balance as of December 31, 2023	22,952,280	2	6,472,578	1	1,927,419	2	(312,477)	(1,839,695)	(224,748)
Issuance of Class A common stock upon exercise of stock options and vesting of restricted stock units	2,456,525	—	—	—	548	—	—	—	548
Issuance of Class A common stock under ESPP	63,675	—	—	—	1,153	—	—	—	1,153
Issuance of Class A common stock under 401(k) Plan	99,652	—	—	—	2,550	—	—	—	2,550
Issuance of Class A common stock under Equity Financing Program	8,335,450	1	—	—	89,358	—	—	—	89,359
Issuance of Class A common stock upon conversion of 2030 Convertible Notes	1,980,408	—	—	—	28,945	—	—	—	28,945
Issuance of Class A common stock in settlement of certain claims	46,978	—	—	—	1,842	—	—	—	1,842
Vendor payments under the stock in lieu of cash program	129,959	—	—	—	5,473	—	—	—	5,473
Milestone awards relating to acquisitions	391,749	—	—	—	11,250	—	—	—	11,250
Conversion of Class B common stock to Class A common stock	1,600,000	—	(1,600,000)	—	—	—	—	—	—
Expense related to Volvo Warrants	—	—	—	—	642	—	—	—	642
Stock-based compensation	—	—	—	—	137,631	—	—	—	137,631
Payments of employee taxes related to stock-based awards	—	—	—	—	(1,997)	—	—	—	(1,997)
Other comprehensive income	—	—	—	—	—	(297)	—	—	(297)
Net loss	—	—	—	—	—	—	—	(273,140)	(273,140)
Balance as of December 31, 2024	38,056,676	\$ 3	4,872,578	\$ 1	\$ 2,204,814	\$ (295)	\$ (312,477)	\$ (2,112,835)	\$ (220,789)

*All periods presented have been retroactively adjusted to reflect the 1-for-15 reverse stock split effected on November 20, 2024. Refer to Note 1 for further information.

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

LUMINAR TECHNOLOGIES, INC. AND SUBSIDIARIES
Consolidated Statements of Cash Flows
(In thousands)

	Year Ended December 31,		
	2024	2023	2022
Cash flows from operating activities:			
Net loss	\$ (273,140)	\$ (571,269)	\$ (445,939)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	25,255	26,624	6,566
Amortization of operating lease right-of-use assets	8,497	6,987	5,237
Amortization of premium (discount) on marketable securities	(2,248)	(5,929)	1,288
Loss on marketable securities	1,901	7,594	—
Losses and impairments on non-marketable securities and certain other assets	4,000	2,141	6,016
Change in fair value of warrants	(1,069)	(1,936)	(9,222)
Vendor stock in lieu of cash program	14,614	50,829	41,459
Amortization of debt discount and issuance costs	4,938	3,236	3,236
Inventory write-offs and write-downs	20,133	19,547	12,154
Change in the fair value of the derivatives	(31,729)	—	—
Gain or write-off on sale or disposal of property and equipment	(51)	1,522	—
Gain on extinguishment of debt	(148,660)	—	—
Share-based compensation, including restructuring costs	139,135	207,132	162,405
Impairment of goodwill and other intangible assets	6,647	15,489	—
Gain from acquisition of EM4	(1,474)	—	—
Change in product warranty and other	(2,790)	2,382	2,481
Deferred taxes	(582)	(64)	232
Changes in operating assets and liabilities:			
Accounts receivable	916	(2,951)	5,144
Inventories	(19,306)	(22,951)	(10,477)
Prepaid expenses and other current assets	(4,990)	11,641	(6,557)
Other non-current assets	10,722	177	(3,289)
Accounts payable	(2,639)	3,657	5,301
Accrued and other current liabilities	(7,212)	9,158	17,768
Other non-current liabilities	(17,498)	(10,320)	(2,035)
Net cash used in operating activities	(276,630)	(247,304)	(208,232)
Cash flows from investing activities:			
Purchases of marketable securities	(130,404)	(301,493)	(404,598)
Proceeds from maturities of marketable securities	177,932	520,286	367,367
Proceeds from sales/redemptions of marketable securities	3,421	52,356	88,041
Purchases of property and equipment	(5,090)	(21,915)	(15,614)
Acquisition of EM4 (net of cash acquired)	(3,531)	—	—
Proceeds from disposal of property and equipment	135	—	—
Acquisition of Freedom Photonics LLC (net of cash acquired)	—	—	(2,759)
Acquisition of certain assets from Solrice Research, Inc.	—	—	(2,001)
Acquisition of Seagate's lidar business	—	(12,608)	—
Advances for capital projects and equipment	—	—	(2,450)
Net cash provided by investing activities	42,463	236,626	27,986
Cash flows from financing activities:			
Net proceeds from issuance of Class A common stock under the Equity Financing Program	89,359	50,190	—
Proceeds from issuance of Senior notes, net of Senior Notes and 2030 Convertible Notes issuance costs	89,202	—	—
Proceeds from exercise of stock options	548	3,061	3,986
Proceeds from sale of Class A common stock under ESPP	1,153	2,641	1,271
Payments of employee taxes related to stock-based awards	(1,997)	(2,137)	(3,730)
Proceeds from issuance of Class A common stock to a wholly owned subsidiary of TPK	—	20,000	—
Proceeds from a financing transaction	—	6,442	—
Repurchases of common stock and redemption of warrants	—	—	(80,878)
Net cash provided by (used in) financing activities	178,265	80,197	(79,351)
Net increase (decrease) in cash, cash equivalents and restricted cash	(55,902)	69,519	(259,597)
Beginning cash, cash equivalents and restricted cash	140,624	71,105	330,702

	Year Ended December 31,		
	2024	2023	2022
Ending cash, cash equivalents and restricted cash	\$ 84,722	\$ 140,624	\$ 71,105
Supplemental disclosures of cash flow information:			
Cash paid for interest	\$ 14,837	\$ 7,813	\$ 7,769
Supplemental disclosures of noncash investing and financing activities:			
Conversion of 2030 Convertible Notes to equity	28,945	—	—
Recognition/derecognition of right-of-use assets in exchange for lease obligations	(4,821)	28,447	16,749
Purchases of property and equipment recorded in accounts payable and accrued liabilities	490	826	3,870
Vendor stock in lieu of cash program—advances for capital projects and equipment	—	8,551	28,402
Investment in Plus	—	10,000	—
Issuance of Class A common stock upon exercise of warrants	—	—	19,003
Investment in ECARX Holdings, Inc.	—	—	12,588

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

LUMINAR TECHNOLOGIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1. Organization and Description of Business

Luminar Technologies, Inc. (together with its wholly-owned subsidiaries, the “Company” or “Luminar”) is incorporated in Delaware. Luminar is a technology company specializing in advanced Light Detection and Ranging (LiDAR) hardware and software solutions to enable the world’s safest and smartest vehicles. Over the past decade, Luminar has been developing proprietary LiDAR hardware, core semiconductor components, and software in-house to meet the demanding performance, safety, reliability and cost requirements to enable next-generation safety and autonomous capabilities for passenger and commercial vehicles, as well as other adjacent markets. The Company’s Class A common stock is listed on The Nasdaq Global Select Market under the symbol “LAZR.”

The Company is headquartered in Orlando, Florida and has personnel that conducts the Company’s operations from various locations in the United States and internationally including Germany, Sweden, Mexico, China and India.

Reverse Stock Split

In November 2024, following approval by the Company’s stockholders at a special meeting of stockholders (the “Special Meeting”) held in October 2024 of a reverse stock split of all the outstanding Class A common stock and Class B common stock and any common stock held by the Company as treasury shares (the “Reverse Stock Split”), and a determination by the Board of Directors of a reverse stock split ratio of 1-for-15 (the “Reverse Stock Split Ratio”), the Company effected a Reverse Stock Split at the Reverse Stock Split Ratio. All share data and per share data amounts included in this Form 10-K have been retrospectively adjusted to reflect the effect of the Reverse Stock Split.

Note 2. Basis of Presentation and Summary of Significant Accounting Policies**Basis of Presentation and Consolidation**

The accompanying consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States (“GAAP”) and applicable rules and regulations of the Securities and Exchange Commission (“SEC”) regarding annual financial reporting. All intercompany transactions and balances have been eliminated in consolidation. Certain prior period amounts in the consolidated financial statements and accompanying notes have been reclassified to conform to the current period presentation.

Use of Estimates

The preparation of consolidated financial statements in conformity with GAAP requires management to make judgments, estimates, and assumptions that affect the reported amounts of assets, liabilities, equity, revenues and expenses, and related disclosures. The significant estimates made by management include inventory reserves, useful life of long-lived assets, valuation allowance for deferred tax assets, impairment of goodwill and IPR&D, assets acquired in mergers and acquisitions, including intangible assets, forecasted costs associated with non-recurring engineering (“NRE”) services, restructuring costs, valuation of convertible and senior notes and derivatives associated with them, valuation of distinct goods and services in the purchase contract with customers, and stock-based compensation expense. Management periodically evaluates such estimates and they are adjusted prospectively based upon such periodic evaluation. Actual results could differ from those estimates.

Derivative Liability

The Company evaluated the embedded conversion features within its convertible and senior notes under the Financial Accounting Standards Board (“FASB”)’s Accounting Standards Codification (“ASC”) ASC 815-15, *Derivatives and hedging - Embedded Derivative* to determine if embedded features meet the definition of a derivative and, if so, whether to bifurcate the conversion feature and account for it as a separate derivative liability. This accounting treatment requires that the carrying amount of any derivatives be recorded at fair value in the consolidated balance sheet at issuance and marked-to-market at each balance sheet date as component of convertible and senior notes. The change in the fair value during the period is recorded in other income (expense), net in the consolidated statement of operations. Upon conversion, exercise, or repayment, the respective derivative liability is marked to fair value at the conversion, repayment, or exercise date, and then the related fair value amount is reclassified to other income or expense as part of gain or loss on debt extinguishment in the consolidated statement of operations.

Segment Information

The Company has determined its operating segments using the same indicators that were used to evaluate its performance internally. The Company’s business activities are organized in two operating segments: