

2022 COGNEX ANNUAL REPORT PRESENTS

VISION TREK



Boldly going where machine vision has not gone before!

"VISION TREK" STARRING **ROBERT J. WILLETT** PRESIDENT, CHIEF EXECUTIVE OFFICER & DIRECTOR

CO-STARRING: **SHEILA DIPALMA** EXECUTIVE VICE PRESIDENT, EMPLOYEE SERVICES **CARL GERST** EXECUTIVE VICE PRESIDENT, VISION AND ID PRODUCTS **JOERG KUECHEN** SENIOR VICE PRESIDENT, ADVANCED VISION TECHNOLOGY & CHIEF TECHNOLOGY OFFICER **PAUL TODGHAM** SENIOR VICE PRESIDENT & CHIEF FINANCIAL OFFICER

CASTING DIRECTORS: **ANTHONY SUN** CHAIRMAN OF THE BOARD, COGNEX CORPORATION, AND FORMER MANAGING GENERAL PARTNER, VENROCK ASSOCIATES

PATRICK A. ALIAS SENIOR VICE PRESIDENT, COGNEX CORPORATION **THEODOR KRANTZ** FORMER VICE PRESIDENT & CHIEF FINANCIAL OFFICER, AIRMAR TECHNOLOGY CORPORATION **SACHIN S. LAWANDE** PRESIDENT & CHIEF EXECUTIVE OFFICER, VISION CORPORATION

DR. JOHN T.C. LEE PRESIDENT & CHIEF EXECUTIVE OFFICER, MKS INSTRUMENTS, INC. **DIANNE M. PARROTTE** INDEPENDENT CONSULTANT **MARJORIE T. SENNETT** FORMER MANAGING DIRECTOR, FARALLON CAPITAL MANAGEMENT, LLC



This Annual Report is a parody and not a real movie poster.

Captain's Log: Stardate 2022



The starship Cogness embarked on its 2022 vision expedition with stellar expectations. Our mission was to exceed the record revenue we beamed back to Starfleet Headquarters in 2021, which was an exceptional year led by astronomical growth in logistics. As we set a course for the outer reaches of the machine vision galaxy, demand for Cogness products was cosmic. However, hostile forces that would make Khan himself shudder soon tested our courage and resilience.

The two most challenging encounters during our quest were a fire at our primary contract manufacturer, and the decision by a few large logistics customers to reduce their spending plans after two years of heavy investment.

We also confronted a volatile macroeconomic backdrop that presented the following supernovae and blackholes:

- Ongoing component and labor shortages and wage inflation led manufacturers to re-evaluate and delay automation investments in the industries we serve.
- Elevated premiums to buy scarce components through brokers, which negatively impacted gross margins.
- A strong U.S. dollar lowered our reported revenue.

Cogness 2022 Revenue by Industry

(percentage rounded to the nearest 5%)



Automotive: 25%
Logistics: 20%
Consumer Electronics: 20%
Medical Related: 10%
Other: 25%

In the face of this turbulence, Cognoids (as we call our crew) demonstrated resolve and an ability to move at warp speed. We quickly recovered from the fire due to strong teamwork, long-standing relationships with our suppliers, and a relentless focus on our customers. Cognoids raised the bar for technological excellence, writing a new chapter for machine vision through innovations including Edge Learning™ — an example-based method that deploys pretrained deep-learning models in hardware that is easy to program and operate. We'll conquer teleoperation eventually. Understanding the impact shore leave can have on morale, we also came together at celebrations worldwide to commemorate our company's 40th anniversary and toast our four decades of machine vision leadership.

Code-1-Alpha-Zero I Flying Through a Fire Cloud
No. It was not a holodeck simulation. In June, a major fire really did occur at our primary contract manufacturer's plant where most Cogness products are assembled.

While no one was injured, and our manufacturing equipment was largely unaffected, a significant portion of our component inventory was destroyed. This included strategic supply and other chips that were already difficult to acquire because of global shortages.

Rather than retreating to the spacedock, crew members immediately executed a "Cogness Maneuver" by responding with perseverance, creativity, and excellence:

- We worked together, across our entire starship, to repurpose a supply chain war room established following the COVID-19 outbreak. This allowed us to gain visibility into order backlog, reach customers to share our expected recovery schedule and updated fulfillment times, and redesign products to strengthen dependence on the kinds of components lost.

We leveraged our strong supplier relationships, which were built upon years of close partnership and our reliable business growth, and their belief in our promising future. This resulted in vendors prioritizing Cogness in the face of an already challenging supply backdrop.

- Our strong balance sheet enabled us to make quick decisions on component purchases and pay above-market prices for essential parts when necessary (thankfully, we never had to pay in Lithium). At all times, our "customer first" mindset was foremost on our minds, even when it meant paying high prices for components or communicating bad news that we had to prematurely end the life of some products and refer customers elsewhere.

Because of fast actions and clear communications across our flight decks, we were producing again just three weeks after the fire and were at full-scale production in less than three months. By the four-month mark, delivery times were back to normal for most Cogness products. Cognoids' "move fast" behavior in the face of this setback resulted in the isolation of the business disruption to the third quarter. We are grateful to report this challenge is now in our spaceship's rear sensors.

A Lush and Fertile Planet

After reporting lithium-fueled growth from logistics of approximately 65% in 2021, we navigated a slowdown during the second half of 2022. A few large e-commerce customers who invested heavily following the pandemic paused investment to absorb excess capacity. These large customers deferred capital investment in fulfillment capabilities, and prioritized productivity and process improvement to reduce costs and improve worker safety.

Despite lower spending by this small but significant subset of customers, the remainder of our revenue from planet logistics grew in 2022. We embarked on probing missions and were able to find new life and civilizations of e-commerce and omnichannel retailers in the Americas, as well as European and Asian logistics customers who are early in their automation voyages.

With humanoid operations currently inhabiting most of the planet, we believe logistics will be our fastest growing market as we venture further into other planetary quadrants. We remain confident we can gain share and grow this element of our revenue by 30% annually over the long term. We are encouraged by new applications in logistics fulfillment as well as further penetration of logistics segments, such as parcel and post, where we have a small presence

today, but we are developing superior solutions that will position us well for future growth.

Our Tractor Beam Continues to Bring in New Revenue

While we steer through the meteor shower in logistics, we are excited by the need for machine vision in other key end markets we serve, which is supported by several long-term trends:

- With the world's labor shortage and the cost of labor rising faster than productivity, companies are looking to automation enabled by machine vision to bridge this gap.
- Quality is important to manufacturers; our products help improve our customers' quality by measuring, understanding, and improving their production processes.
- Advancements in our deep learning technology and optics are creating new use cases and greater productivity gains for our customers.
- Companies are diversifying their supply chains and relocating production to lessen risk and be closer to their end customer, resulting in a need for more machine vision solutions.

We believe these trends will expand our estimated \$6.5 billion served market for years to come. Based on our pipeline of new products, focus on high-growth end markets, and the strength of our reputation with leading manufacturers, our target is to grow Cogness revenue by 15% compounded annually over the long term. Despite the near-term challenges, we have positioned Cogness to remain the envy of our entire galaxy.

Automotive

Yes, human development of shuttle pods still lags behind the rest of the Alpha quadrant. Even so, our revenue from automotive grew in 2022 due to the ongoing global transition to electric vehicles (EVs). This transition led to heightened EV battery production as well as new model introductions across both electric and traditional vehicles. Complemented by the technology we acquired in our purchase of SAC Sirius Advanced Cybernetics GmbH, our deep learning technology enables critical steps for ensuring the safety and performance of EV batteries through defect detection and assembly inspection. Asia's major EV battery manufacturers, that together produce more than 80% of the world's EV batteries, are already Cogness customers. We expect more growth as battery production accelerates in Europe and America.

Consumer Electronics

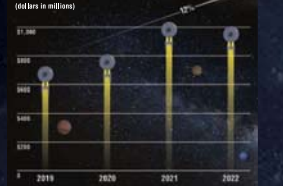
After-action reports of consumer electronics revenue in 2022 reflected growth in the premium segment of the smart-phone market and additional technology introductions where precision manufacturing, rapid ramping of output, and product quality are most prized. Our close relationships with the world's largest and most sophisticated electronics companies position us to play a key role as they create and produce on a planetary scale new devices that are increasingly complex and difficult to manufacture. We will also offer our friendship and aid to inhabitants of new worlds we discover while voyaging deeper into the consumer electronics sector.

Boldly Going Where Machine Vision Has Not Gone Before

Our success is sustained by routinely expanding the frontiers of machine vision technology. An example is Edge Learning™, a proprietary new technology from Cogness that utilizes pretrained deep-learning models. Edge Learning™ mentally lowers the cost to implement deep learning, as it requires just a few examples rather than the large sets of image data traditionally associated with deep learning. When deployed in smart cameras that are easy to program and operate, such as the Cogness In-Sight® 2500, small and mid-sized manufacturers can access our advanced machine vision tools without requiring a vision expert for installation or operation. You can travel 10,000 light years but you still won't find another company in our market currently offering this technology.

Cogness 4-year Revenue History

(values in million)



It Takes a Crew to Live Long and Prosper

At Cogness, our Prime Directive—Work Hard, Play Hard, Move Fast—inspires everything we do. We are united by a few principles:

- We expect excellence and push each other to solve our customers' most challenging problems. Call it the Cogness Mind Meld.
- We regularly recognize and celebrate the behaviors that uphold our company values.
- We cultivate an environment of collaboration and trust.
- We prioritize hiring for cultural fit, which is key to our strong retention throughout the years.
- We are quirky and different—some of us may even be Vulcan—and we are proud of that.

We prioritize culture in everything we do, from our Ministers of Culture (who foster the Play Hard spirit in our global offices) to our ReCOGNition program (which celebrates employees who exemplify our company values) to Cogness Cares (an employee-led initiative that empowers Cognoids to give back and volunteer in their local communities).

This ethos supports our culture by attracting smart, hardworking people who want to collaborate, do great work, and inspire each other. This leads to retention of top talent. The crew manifest is filled with accomplished engineers eager to work with our customers, who are among the most sophisticated engineering and manufacturing companies in the world.

This fuels our revenue growth, which in turn enables further investment in culture and our continued success.

To Preserve and Enhance Vision

Despite intergalactic turbulence in 2022, we believe we have done so well of our best work and positioned ourselves well for future voyages. We continue to invest in our engineering and sales teams; there are large trends that are in our favor; our machine vision products are central to the future of manufacturing; and we have an arsenal of competitive advantages.

We remain passionate about solving our customers' most complex manufacturing challenges and strengthening our reputation as the foremost machine vision company in the cosmos.

Robert J. Willett
To Preserve and Enhance Vision!
Captain Robert J. Willett, commanding officer

These are the voyages of the starship Cogness



CAPTAIN... THE RECOGNITION PROTOCOL HAS BEEN ACTIVATED! THE CREW IS STANDING BY FOR YOUR ORDERS!

ALL ENGINES FULL SPEED AHEAD! MAKE IT SO, SHELA!

Attention all Decks

Since Cogness's founding more than 40 years ago, we have invested consistently to help a ship where Cognoids are inspired to think differently and lean on each other to solve tough problems. Our Chief Culture Officer leads a global team of Cognoids we call the Ministers of Culture (MOC) who are entrusted to present, ve and enhance our unique culture.

Surviving a Supernova

Deflector shields could not stop the June fire at our contract manufacturer's plant. This was a serious situation that destroyed a significant portion of our component inventory, resulting in many Cogness products. Cogness's culture shined during this challenging time as Cognoids company-wide stepped up to run their battle stations and support customers and source supply.

Edge of the Universe

Every starfleet captain knows the importance of running a good systems check. With Cogness's Edge Intelligence™ (EI) data analytics software platform, customers can measure the performance of their Cogness devices and conduct full device management — all within a microsecond, example-based solution. Traction for EI has been particularly strong in logistics, where a high volume of Cogness devices can be deployed in very complex environments. We intend to extend EI across all Cogness products so more customers can be in command of their flight decks.



WHAT'S GOING ON DOWN THERE, PAUL?

IT APPEARS TERRANS HAVE EVOLVED SIGNIFICANTLY, AND SO HAVE THEIR VEHICLES! A HIGHLY LOGICAL DEVELOPMENT.



Incoming Transmission

As the vast number of electronic parts orbiting automobiles continues to rise, Cogness is positioned to help. Innovations in safety, driver assist, and entertainment features are increasing the number of items to be placed, tracked, measured, and inspected by machine vision. Add the transition from gas engines to electric is driving a multi-year investment in battery manufacturing equipment.



COME IN STARSHIP COGNEX. WHAT CAN YOU REPORT, CAPTAIN?

...WILLET TO COGCOMMAND: THE FIRE IS CONTAINED. RE-ENGAGING INNOVATION MODE.



DON'T WORRY JOERG, THE IN-SIGHT 2500 CAN'T READ YOUR MIND.

NOPE, IT'S ALL IN YOUR HEAD.

TECHNOLOGICAL EDGE...

Scan Me Up!

Cogness's In-Sight® 2500 smart camera integrates proprietary Edge Learning™ technology, making powerful deep learning vision tools much simpler to use and train. That's right! We've taken a serious ray to the massive image library and fan-cooled GPU previously required to operate deep learning. Nice, manufacturers can quickly automate inspection tasks of varying complexity with as few as five images. Even a K9dog can use it!

Ensuring a Class M Planet

Cogness is committed to ensuring our planet remains safe and habitable for humans and all other lifeforms. Our machine vision technology plays an important role in making manufacturing more efficient and reducing its environmental impact. In 2022, we published our first comprehensive sustainability report that demonstrates the strong progress we are making in communicating our ESG journey. We have much to be proud of, and more progress to make as we continue to focus on our sustainability goals.

A copy of the Annual Report on Form 10-K filed with the Securities and Exchange Commission is available free of charge upon written request to Cogness Investor Relations at One Vision Drive, Natick, MA 01760, or via online request at www.cogness.com/investor.

This report, including the CEO's letter, contains "forward-looking statements" within the meaning of the Securities Act of 1933 and the Securities Exchange Act of 1934. For further information, please see the section entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations" in the Form 10-K. A discussion regarding risks associated with forward-looking statements is included under the heading "Forward-Looking Statements." All information in this report is subject to change without notice. Cogness and In-Sight are registered trademarks, and Edge Intelligence and Edge Learning are trademarks, all owned by Cogness Corporation. © 2023 Cogness Corporation; all rights reserved.

This Annual Report is a parody. CBS Studios Inc. owns the Star Trek trademark and related indicia and all other indicia. Our machine vision technology plays an important role in making manufacturing more efficient and reducing its environmental impact. In 2022, we published our first comprehensive sustainability report that demonstrates the strong progress we are making in communicating our ESG journey. We have much to be proud of, and more progress to make as we continue to focus on our sustainability goals. Design: PointOne Marketing & Design (www.pointonemarketing.com) Creative Director: Don Ferber Original Photography: David Shopper (www.davidshopper.com) Printing: In the USA by DS Graphics | Universal Wide (www.dsgraphics.com)

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-K**

(Mark One)

- Annual report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the fiscal year ended December 31, 2022 or
 Transition report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the transition period from _____ to _____.

Commission File Number **001-34218**

COGNEX CORPORATION

(Exact name of registrant as specified in its charter)

Massachusetts

*(State or other jurisdiction of
incorporation or organization)*

04-2713778

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

**One Vision Drive
Natick, Massachusetts 01760-2059
(508) 650-3000**

*(Address, including zip code, and telephone number,
including area code, of principal executive offices)*

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

<u>Title of Each Class</u>	<u>Trading Symbol(s)</u>	<u>Name of Exchange on Which Registered</u>
Common Stock, par value \$.002 per share	CGNX	The NASDAQ Stock Market LLC

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

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

Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

Yes No

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

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

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

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

Yes No

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

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes No

Aggregate market value of voting stock held by non-affiliates of the registrant as of July 3, 2022: \$7,520,015,752

Common stock, par value \$.002 per share, outstanding as of January 29, 2023: 172,536,238 shares

DOCUMENTS INCORPORATED BY REFERENCE:

The registrant intends to file a Definitive Proxy Statement pursuant to Regulation 14A within 120 days of the end of the fiscal year ended December 31, 2022. Portions of such Proxy Statement are incorporated by reference in Part III of this report.

COGNEX CORPORATION
ANNUAL REPORT ON FORM 10-K
FOR THE YEAR ENDED DECEMBER 31, 2022

INDEX

<u>PART I</u>		1
ITEM 1.	BUSINESS	1
ITEM 1A.	RISK FACTORS	6
ITEM 1B.	UNRESOLVED STAFF COMMENTS	16
ITEM 2.	PROPERTIES	16
ITEM 3.	LEGAL PROCEEDINGS	16
ITEM 4.	MINE SAFETY DISCLOSURES	16
<u>PART II</u>		17
ITEM 5.	MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS, AND ISSUER PURCHASES OF EQUITY SECURITIES	17
ITEM 6.	[RESERVED]	19
ITEM 7.	MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS	19
ITEM 7A.	QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK	30
ITEM 8.	FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA	32
ITEM 9.	CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE	71
ITEM 9A.	CONTROLS AND PROCEDURES	71
ITEM 9B.	OTHER INFORMATION	73
ITEM 9C.	DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS	73
<u>PART III</u>		73
ITEM 10.	DIRECTORS, EXECUTIVE OFFICERS, AND CORPORATE GOVERNANCE	73
ITEM 11.	EXECUTIVE COMPENSATION	73
ITEM 12.	SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS	73
ITEM 13.	CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE	74
ITEM 14.	PRINCIPAL ACCOUNTING FEES AND SERVICES	74
<u>PART IV</u>		74
ITEM 15.	EXHIBITS AND FINANCIAL STATEMENT SCHEDULES	74
ITEM 16.	FORM 10-K SUMMARY	74

PART I

This Annual Report on Form 10-K contains forward-looking statements within the meaning of the federal securities laws. Readers can identify these forward-looking statements by our use of the words “expects,” “anticipates,” “estimates,” “believes,” “projects,” “intends,” “plans,” “will,” “may,” “shall,” “could,” “should,” and similar words and other statements of a similar sense. Our future results may differ materially from current results and from those projected in the forward-looking statements as a result of known and unknown risks and uncertainties. Readers should pay particular attention to considerations described in the section captioned “Risk Factors,” appearing in Part I - Item 1A of this Annual Report on Form 10-K. We caution readers not to place undue reliance upon any such forward-looking statements, which speak only as of the date made. We disclaim any obligation to subsequently revise forward-looking statements to reflect the occurrence of anticipated or unanticipated events or circumstances after the date such statements are made.

Unless the context otherwise requires, the words “Cognex®,” the “Company,” “we,” “our,” “us,” and “our company” refer to Cognex Corporation and its consolidated subsidiaries.

ITEM 1: BUSINESS

Our Company

Cognex Corporation (“the Company” or “Cognex”) invents and commercializes technologies that address some of the most critical manufacturing and distribution challenges. We are a leading global provider of machine vision products and solutions that improve efficiency and quality in a wide range of businesses across attractive industrial end markets. Our solutions blend physical products and software to capture and analyze visual information, allowing for the automation of manufacturing and distribution tasks for customers worldwide. Machine vision products are used to automate the manufacturing or distribution and tracking of discrete items, such as mobile phones, electric vehicle batteries, and e-commerce packages, by locating, identifying, inspecting, and measuring them. Machine vision is particularly valuable for applications in which human vision is inadequate to meet requirements for size, accuracy, or speed, or in instances where substantial cost savings are obtained through the reduction of labor or improved product quality.

Cognex operates in one segment. We offer a variety of machine vision products that have similar economic characteristics, production processes, sales distribution channels, and types of customers. Cognex sells to customers in nearly all industries in which discrete items are manufactured on an assembly line or moved through a distribution center. Our largest sales are in the automotive, logistics, and consumer electronics industries, which combined represented approximately 69% of our total revenue in 2022. Our two largest customers, one in the logistics industry and one in the consumer electronics industry, each represented approximately 11% of our total revenue in 2022. Cognex was incorporated in Massachusetts in 1981.

Our Industry

Machine vision is used in a variety of industries where technology is widely recognized as an important component of automated production, distribution, and quality assurance. Virtually every manufacturer or distributor can achieve better quality and efficiency by using machine vision. This results in a broad base of customers across a variety of industries, including automotive, logistics, consumer electronics, medical-related, semiconductor, consumer products, food and beverage, and others.

Cognex is one of the leading machine vision companies in the world. Our competitors include other vendors of machine vision systems, controllers, and components; manufacturers of image processing systems, sensors, and components; and system integrators. We also compete with internal engineering departments of current or prospective customers, as well as open-source tools available for free from various companies.

Cognex’s ability to compete depends on our ability to design new products and functionality that meet evolving customer requirements, and then to manufacture and sell those high-quality products in a timely manner. The primary competitive factors affecting the choice of a machine vision system include product functionality and performance, ease of use, vendor reputation, price, and post-sales support. The importance of each of these factors varies depending on the specific needs of the customer.

Our Business Strategies

Expansion of market position

Our goal is to expand our position as a leading worldwide machine vision provider by growing in our core markets, as well as expanding into new markets and customers with both current and new products and services.

We continue to invest in our core markets, such as automotive, logistics, and consumer electronics where we are a leading provider of vision and ID products for factory automation. Within these markets, we are making significant investments to focus on what we believe to be the fastest-growing applications and use cases. In the logistics market, we are moving beyond barcode reading into more complex applications in e-commerce and omni-channel retail distribution centers, as well as parcel and post warehouses. In automotive, we are developing new solutions for fast growing electric vehicle manufacturers and suppliers.

We reach a broad base of customers through our worldwide direct sales force that sells primarily to large, strategic customers, as well as through our network of distributors and integrators that sell primarily to smaller customers who may be more geographically remote or may require supplemental technical support or integration assistance. Our “Emerging Customer” sales initiative is expanding our sales force to reach customers who may be newer to factory automation and have yet to fully benefit from all that machine vision can offer. These customers are increasingly looking for automation solutions that are easy to implement, easy to use, and provide the best technology. We expect our Emerging Customer strategy to broaden our reach, increase penetration, and further diversify our customer base.

Growth through innovation

We invest heavily in research and development to maintain our position as a technology leader in machine vision. We invest in technology that addresses the most challenging vision applications, such as our deep learning vision software that solves complex applications with unpredictable defects and deviations. We also invest in technology that makes vision easier to use and more affordable, and therefore, available to a broader base of customers, such as our vision sensor products that enable customers with a lower budget to use machine vision while minimizing installation and applications support.

Inorganic growth

We plan to drive inorganic growth through expansion in adjacent market segments. We are focusing specifically on segments in which our products and solutions, application expertise, and customer and industry relationships should enable us to provide significant value to end-users.

We seek out selective opportunities in new applications and markets through the acquisition of businesses and technologies that are synergistic with our core markets. We are selective in choosing businesses and technologies that we believe will enhance long-term growth and profitability, as well as fit within our corporate culture. We plan to continue to seek acquisition opportunities to expand our product lines, customer base, distribution network, and technical talent.

Sustainable profitability

We are careful in choosing growth opportunities that we believe will maintain our gross margin percentages, which have averaged in the mid-70 percent range in the past several years and reflect the value our customers place on our innovative products. Our relatively high gross margins have the potential to provide us with strong incremental profit margins, leading to high operating leverage in our financial model.

Culture

Our strong and unique corporate culture reinforces our values of customer first and innovation, and enables us to attract and retain smart, enthusiastic, and creative talent who are motivated to solve the most challenging vision tasks both quickly and painlessly for customers.

End Markets

Automotive

The automotive market has been one of our largest markets for the past 20 years. Machine vision is used in almost every step of vehicle manufacturing, from measuring inbound parts, to guiding robot assembly, to inspecting the stitching on leather seats. We currently expect the proliferation of electronics in automobiles to be a significant growth driver in both electric vehicles and internal combustion engine vehicles. For example, innovations in safety, driver assist, and entertainment features increase the number of items to be placed, tracked, measured, and inspected by machine vision.

We also anticipate a multi-year wave of investment in Electric Vehicle (“EV”) manufacturing equipment, including related to battery manufacturing and inspection. Cognex works closely with the major EV battery manufacturers in Asia that we believe produce more than 90% of the world’s automotive batteries. We believe that these manufacturers are positioned to grow within Asia, and to expand both independently and through partnerships in the Americas and Europe, and we anticipate that our existing relationships and proven offerings will position us to

capture a significant share of this growth. These anticipated trends may offset expected reductions in traditional powertrain investments on internal combustion engine vehicles, leading to growth in the automotive market.

Consumer Electronics

We anticipate major investments in new generations of consumer electronics. We expect leading companies in this space to continue to grow based on new technologies that we expect to succeed and build on the smartphone. We believe new devices will be difficult to manufacture on a large scale, and therefore will require more innovative vision products in that process. Cognex has close relationships with the largest and most sophisticated companies in the consumer electronics market, and we expect to be a partner of choice as they bring new technologies to market.

Logistics

Logistics has been one of our largest growth drivers over the past five years and has become one of our largest end markets. We believe that our e-commerce logistics business is differentiated by the high performance of our barcode reading and that growth will be driven by retailers investing in online fulfillment. From an automation perspective, the logistics industry is still in its early stages with a large reliance on human labor and a low rate of robotic automation. Beyond barcode reading, we expect vision applications in logistics to grow quickly and become a more substantial business for us. Vision applications include tasks like inspecting packages for damage, object and symbol recognition, and dimensioning. Geographically, our current logistics business is primarily within the U.S., but, over the long term, we expect to realize the highest rates of growth in Europe and Asia, where we believe customers are beginning to catch up with the U.S. in logistics automation technology and are moving away from local incumbent suppliers. In 2022, we saw a slowdown in this end market as the leading e-commerce players took a post-pandemic “time out” to absorb excess capacity, but we currently continue to expect logistics to be our highest growth end market over the mid to long term.

Medical-Related

Cognex has a growing customer base of life science equipment suppliers. Our products are specified in over 100 different machine designs, many of which are in the process of obtaining regulatory approval. As they launch, we believe they will deliver many years of recurring revenue. Applications in this market include lab automation and medical device inspection applications. In recent years, we also have seen demand for machine vision grow from manufacturers of diagnostic tests, vaccines, and protective equipment.

Other

The number of end markets with a need for machine vision applications is expanding. Other end market uses of Cognex machine vision include manufacturers of semiconductors, regulated products reducing counterfeiting, food producers improving food safety, manufacturers using 3D measurement for robotic guidance, and many others.

Products and Technology

Cognex offers a full range of machine vision systems and sensors, vision software, and industrial image-based barcode readers designed to meet customer needs at different performance and price points. Our products range from deep learning solutions that solve complex applications with unpredictable defects and deviations, to lower-cost vision sensors that conduct simple presence/absence inspections. Our products have a variety of physical forms, depending on the user's needs. For example, customers can purchase vision software to use with their own camera and processor, or they can purchase a standalone unit that combines camera, processor, and software into a single package.

Vision Systems and Sensors

Vision systems combine smart cameras and software to perform a wide range of tasks including part location, identification, measurement, assembly verification, and robotic guidance. Vision sensors can deliver an easy-to-use, low-cost, reliable solution for simple pass/fail inspections, such as checking the presence and size of parts. In-Sight vision systems and sensors, which include 2D, 3D, deep learning, and edge learning models, meet various price and performance requirements for factory automation customers. Our deep learning-based systems automate and solve complex inline inspections that typically require human judgment for defect detection, optical character recognition (OCR), assembly verification, or classification. Similar to our deep learning-based systems, our edge learning-based systems use pre-trained models, but on simpler applications that prioritize ease of use and have a broader appeal with easier and faster implementation and training.

Vision Software

Vision software offers customers the flexibility of the Cognex vision tools library to use with the cameras, frame grabbers, and peripheral equipment of their choice. Cognex VisionPro® software offers an extensive suite of patented vision tools, including both traditional rule-based tools and deep learning-enabled tools, for advanced programming. Its QuickBuild prototyping environment allows customers to build complete vision applications with the simplicity of a graphical, flowchart-based programming interface.

Industrial Image-Based Barcode Readers

Cognex industrial image-based barcode readers quickly and reliably read 1D, 2D, label-based, and direct part mark (DPM) codes found in nearly every industry including automotive, consumer products, medical-related, and logistics. The DataMan® product line, which includes fixed-mount and handheld models, as well as barcode verifiers, help organizations optimize performance, increase throughput, and control traceability.

Research, Development, and Engineering

Cognex engages in research, development, and engineering (RD&E) to enhance our existing products and to develop new products and functionality to address market opportunities. We believe that a continued commitment to RD&E activities is essential to maintain or achieve product leadership with our existing products and to provide innovative new product offerings, as well as to provide engineering support for large customers. In addition, we consider our ability to accelerate time to market for new products to be critical to our revenue growth. We incurred RD&E costs of approximately \$141 million, \$135 million, and \$131 million for the years ended December 31, 2022, 2021 and 2020, respectively. We expect to continue our commitment to RD&E, even during periods of lower revenue levels, to introduce new products, platforms, and solutions throughout economic cycles.

Intellectual Property

We rely on the technical expertise, creativity, and knowledge of our personnel, and therefore, we utilize patent, trademark, copyright, and trade secret protection to maintain our competitive position and protect our proprietary rights in our products and technology. While our intellectual property rights are important to our success, we believe that our business as a whole is not materially dependent on any particular patent, trademark, copyright, or other intellectual property right.

Operations

Cognex's hardware products are manufactured utilizing third-party contractors, whereby the majority of component procurement, system assembly, and initial testing are performed by electronics manufacturing services suppliers. Cognex's primary contract manufacturer is located in Indonesia. Our contract manufacturers use specified components sourced from vendor lists approved by Cognex and assembly/test processes created and controlled by Cognex. After the completion of initial testing, assembled products from our contract manufacturers are routed to our distribution centers in Cork, Ireland or Southborough, Massachusetts, USA, where trained Cognex personnel load Cognex software onto the products, provide additional assembly and image alignment as needed, and perform quality control procedures. Fully configured finished products for customers in the Americas, with the exception of certain products stocked locally in Mexico, are then shipped from our Southborough, Massachusetts distribution center, while finished products for customers outside of the Americas are shipped from our Cork, Ireland distribution center.

Sales Channels and Support Services

Cognex sells its products through a worldwide direct sales force that primarily focuses on the development of strategic accounts which generate or are expected to generate significant sales volume, as well as through a global network of distribution and integration partners. Our distribution partners provide sales and local support to help Cognex reach the many prospects for our products in factories around the world, and our integration partners are experts in vision and complementary technologies that can provide turnkey solutions for complex automation projects using vision. Through each of these channels, sales engineers call directly on targeted accounts, with the assistance of application engineers, and manage the activities of our distribution and integration partners within their territories in order to provide an advantageous sales model for our products. Towards the end of 2022, we also began to build out our Emerging Customer sales force that primarily focuses on establishing relationships and selling into new accounts which are newer to factory automation and Cognex.

Sales to customers based outside of the United States represented approximately 66% of our total revenue in 2022, with approximately 23% from customers based in Europe, 23% from customers based in Greater China, and 20% from customers based in other regions outside the United States. Sales to customers based in Europe are denominated in Euros and U.S. Dollars, sales to customers based in Greater China are denominated in Renminbi

for sales within Mainland China and U.S. Dollars in other territories, and sales to customers based in other regions are denominated in U.S. Dollars, Japanese Yen, Korean Won, and Mexican Pesos.

Cognex's service offerings represent less than 10% of our total revenue and include maintenance and support, consulting, and training services. Maintenance and support programs can include hardware support programs that entitle customers to have products repaired, as well as software support programs that provide customers with application support and software updates to the latest software releases. Application support is provided by technical support personnel located at Cognex regional offices, as well as by field service engineers that provide support at the customer's production site. We provide consulting services that range from a specific area of functionality to a completely integrated installed application. Training services include a variety of product courses that are available at our offices worldwide, at customer facilities, and online.

Human Capital

Our employees are our most valuable asset and critical to our success. We create and maintain an environment where "Cognoids," a unique name for our employees, can engage with each other, perform their best work, develop their careers, and be creative. As of December 31, 2022, Cognex employed 2,441 Cognoids globally, including 1,403 in sales, marketing, and service activities; 621 in research, development, and engineering; 191 in manufacturing and quality assurance; and 226 in information technology, finance, and administration. Of our 2,441 Cognoids, 1,495 are based outside of the United States.

Culture and Values

We pride ourselves on having a unique culture that exemplifies our motto of *Work Hard, Play Hard, Move Fast*. Our culture guides the actions and behaviors of our Cognoids and is defined by our ten values - *Customer First, Excellence, Perseverance, Enthusiasm, Creativity, Pride, Integrity, Recognition, Sharing, and Fun*. We are committed to finding the very best talent to be part of our growing technology company. We believe our culture enables us to attract and retain smart, energetic, and creative talent, and is central to our ability to execute our operating plans and strategic initiatives. To preserve and enhance our corporate culture, while recognizing differences across and within regions, we have a global team of Cognoids who serve as Ministers of Culture, led by our Chief Culture Officer.

We believe in investing in tools and resources that support employees' learning and development and setting a compensation structure that reflects the Company's commitment to pay-for-performance philosophy. We believe these efforts align with our stockholders' long-term interests and better position Cognex to operate as a leader in the machine vision industry.

Diversity, Equity, Inclusion, and Belonging

While we are incredibly proud of our culture, we continue to listen, learn, and grow. We are excited about the opportunities to continue to build an organization that reflects the best of the world around us. As a multi-national company where over half our Cognoids live outside the U.S., diversity means different things to different groups. We are building strategies and plans to continue to enhance our diversity, equity, inclusion, and belonging (DEIB) initiatives. One specific place where this evolution is visible is through the launch of our DEIB Council. The Council is led by Cognex's Vice President of Solutions and is comprised of over 50 volunteer Cognoids representing a broad cross-section of functions, geographies, and backgrounds.

Regulatory Compliance

Cognex's capital expenditures, earnings, and competitive position are not materially affected by compliance with federal, state, and local environmental provisions which have been enacted or adopted to regulate the distribution of materials into the environment.

Available Information

Cognex maintains a website at www.cognex.com. We make available, free of charge, on our website in the "Company" section under the caption "Investor Information" followed by "Financial Reports" and then "SEC Filings," our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K, including exhibits, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, as soon as reasonably practicable after such reports are electronically filed with, or furnished to, the SEC. Cognex's reports filed with, or furnished to, the SEC are also available at the SEC's website at www.sec.gov. Cognex has used, and intends to continue to use, its investor relations website as means of disclosing material non-public information and for complying with our disclosure obligations under Regulation FD. Information contained on our website is not a part of, or incorporated by reference into, this Annual Report on Form 10-K or in any other document or report that Cognex files with the SEC, and any references to Cognex's website are intended to be inactive textual references only.

ITEM 1A: RISK FACTORS

The risks and uncertainties described below are not the only ones that we face. Additional risks and uncertainties that we are unaware of, or that we currently deem immaterial, also may become important factors that affect our company in the future. If any of these risks were to occur, our business, financial condition, or results of operations could be materially and adversely affected. This section includes or refers to certain forward-looking statements. We refer you to the explanation of the qualifications and limitations on such forward-looking statements, appearing under the heading "Forward-Looking Statements" in Part II - Item 7 of this Annual Report on Form 10-K.

Risks Related to our Supply Chain

The failure of key suppliers to manufacture and deliver product in a timely manner could negatively affect customer satisfaction and our operating results.

A significant portion of our products is presently manufactured by a third-party contractor located in Indonesia. The loss of this key supplier, or failure of this contract manufacturer to timely supply products, access necessary credit to operate its business, or otherwise remain in business, could have a material adverse impact on our operating results. Although our primary contract manufacturer has the ability to shift production to plants in other regions when operations in its Indonesia plant are disrupted, production and test equipment located at the Indonesia plant that is unique to the manufacture of Cognex products creates practical challenges to doing so in a timely manner. We have been working to ramp up an additional contract manufacturer to further mitigate risk, diversify supply chain, and expand production capacity. Changes and additions to our supply chain require considerable time and resources and involve significant risks and uncertainties, and we can provide no assurance of return on, or success of, such investments.

We also rely on our contract manufacturers to meet delivery schedules. We have experienced, and may continue to experience, delays in the delivery of our products from our suppliers due to the impact of global supply chain challenges or other factors. For example, on June 7, 2022, our primary contract manufacturer experienced a fire at its plant in Indonesia which destroyed a significant amount of Cognex-owned consigned inventories, as well as component inventories owned by the contract manufacturer that were designated for Cognex products. The fire resulted in delayed shipments and loss of sales which adversely impacted our business, financial condition, and results of operations during 2022. Challenges in obtaining components and maintaining production have resulted in delays, and may continue to result in delays, in meeting our delivery schedules that, as a result, delay deliveries to our customers past their requested delivery date. Delays in customer orders also can result in delayed revenue recognition or loss of business which can impact our operating results in a particular reporting period.

The fire at our primary contract manufacturer's plant in Indonesia, at which Cognex products are manufactured and inventory is stored, has had, and may continue to have, a negative impact on our business and results of operations.

On June 7, 2022, our primary contract manufacturer experienced a fire at its plant in Indonesia. The fire destroyed a significant amount of Cognex-owned consigned inventories as well as component inventories owned by the contract manufacturer that were designated for Cognex products, limiting our ability to fulfill certain orders during the second half of the year. We have worked with the contract manufacturer to assess the damage, resume production, maintain standards of product quality, and replenish inventories destroyed by the fire, which included component purchases at higher-than-normal prices. In 2022, the Company recorded a net loss related to the fire of \$20,779,000, consisting primarily of losses from inventories and other assets of \$48,339,000, offset by insurance recoveries of \$27,560,000.

We can provide no assurance that additional insurance coverage and/or recoveries from the contract manufacturer will be available to cover the net loss from the fire. Our assessment of the impact of the fire on our business and our work with the contract manufacturer remains ongoing as of the date of this report and, as a result, we cannot predict the full extent of the impact that the fire may have on our business, results of operations, and financial condition.

Our inability to obtain components for our products could adversely affect our operating results.

Certain key electronic and mechanical components, such as integrated circuit chips, are fundamental to the design of Cognex products. Due to the impact of global supply chain challenges and other factors, we have experienced, and may continue to experience, disruptions to the supply of components for our products that have resulted, and may continue to result, in higher purchase costs, higher delivery costs, and manufacturing delays.

Cognex sources components from preferred vendors that are selected based on price and performance considerations. In the event of a supply disruption from a preferred vendor, these components typically may be purchased from alternative vendors, which may result in higher purchase costs and manufacturing delays based on the time required to identify and obtain sufficient quantities from an alternative source. Certain of Cognex's products utilize components that are available from only one source. If we are unable to secure adequate supply from these sources, we may have to redesign our products, which may lead to higher costs, delays in manufacturing, and possible loss of sales.

Although we are taking certain actions to mitigate supply risk and have entered into agreements, including in broker markets, for the supply of many components, there can be no assurance that Cognex will be able to extend or renew these agreements on similar terms, such as purchase prices, or at all. Component suppliers may suffer from poor financial conditions, which can lead to business failure for the supplier, further limiting our ability to obtain sufficient quantities of components on reasonable terms, or at all. Therefore, Cognex remains subject to risks of supply shortages and price increases that can adversely affect its business and operating results.

Our failure to effectively manage product transitions or accurately forecast customer demand could result in excess or obsolete inventory and resulting charges.

Because the market for our products is characterized by rapid technological changes, we frequently introduce new products with improved functionality, ease-of-use, and performance, or lower cost that may replace existing products. Among the risks associated with the introduction of new products are difficulty predicting customer demand and effectively managing inventory levels to ensure adequate supply of the new product and avoid excess supply of the legacy product. Our failure to effectively manage product transitions or accurately forecast customer demand, in terms of both volume and configuration may lead to an increased risk of excess or obsolete inventory and resulting charges.

We strategically may enter into non-cancelable and/or non-refundable commitments with vendors to purchase materials for our products in advance of demand to address concerns about the availability of future supplies, build safety stock to help ensure customer shipments are not delayed should we experience higher than anticipated demand for materials with long lead times, or take advantage of favorable pricing. Disruptions in both the supply of materials for our products and delivery of products from our contract manufacturers, such as those caused by the impact of global supply chain challenges or other factors, have resulted, and may continue to result, in the Company purchasing a significant amount of inventory in response to these disruptions and in advance of demand. These measures to purchase inventory may expose us to an increased risk of excess or obsolete inventory and resulting charges if actual demand is lower than anticipated.

If components purchased by our primary contract manufacturer have not been consumed in the production of our finished goods within a certain period of time, we have been required, and may continue to be required, to purchase these components from our contract manufacturer and later sell them back when they are needed to meet our demand. While we typically expect these components to be consumed in the production of our finished goods, this arrangement may expose us to an increased risk of excess or obsolete inventory and resulting charges.

Disruptions to one of our distribution centers could adversely affect our operating results.

Cognex ships finished products for customers located in the Americas from our Southborough, Massachusetts distribution center, and finished products for customers located outside of the Americas from our Cork, Ireland distribution center. Following the COVID-19 pandemic, Cognex has experienced, and may continue to experience, increased labor shortages or working restrictions due to factors such as health and safety concerns or governmental regulations. Although we have the ability to shift operations from one distribution center to another, there are practical challenges to doing so in a timely, cost-effective manner, and we may experience delays in shipping customer orders. These delays could negatively impact customer satisfaction and, in turn, cause loss of sales, which could adversely affect our operating results.

Our products may contain design or manufacturing defects, which could result in reduced demand, significant delays, substantial costs, or customer dissatisfaction and/or loss of sales.

If flaws in either the design or manufacture of our products were to occur, we could experience a rate of failure in our products that could result in significant delays in shipment and material repair or replacement costs. Due, in part, to our focus on releasing new products as quickly as possible to satisfy customer demands, our release-to-market process may not be robust enough to detect significant design flaws or software bugs. While we engage in product quality programs and processes, including actively monitoring and evaluating the quality of our component suppliers and contract manufacturers, these actions may not be sufficient to avoid a product failure rate that results in:

- substantial delays in shipment,
- significant repair or replacement costs,
- product liability claims or lawsuits, particularly in connection with life sciences customers or other high-risk end-user industries
- customer dissatisfaction and/or loss of sales, or
- potential damage to our reputation.

Any of these results could have a material adverse effect on our operating results.

Risks Related to the COVID-19 Pandemic

The extent to which the COVID-19 pandemic may impact our business is uncertain and it could adversely affect our results of operations and financial condition.

The COVID-19 pandemic continues to have a significant impact around the world, particularly in China, prompting governments and businesses to take certain measures in response, such as the imposition of travel restrictions, temporary closures of businesses, quarantine and shelter-in-place orders, and adoption of remote working. COVID-19 continues to impact global economic activity and create macroeconomic uncertainty.

Although the impact of the pandemic has lessened in most locations, we continue to face several risks and uncertainties related to the impact of COVID-19 on our business. It is difficult for us to quantify the duration and severity of this impact due to many factors beyond our control and knowledge, including the timing, extent, trajectory, and duration of the pandemic, the emergence of new variants, the imposition of protective public safety measures, and the impact of the pandemic on the global economy. These risks and uncertainties include, among others:

- our customers may delay or cancel orders for our products and services,
- our global facilities, offices, and/or operations, as well as those of our distribution and integration partners or customers, may be temporarily shut down at various times, or subject to operating restrictions to protect public health and the health and safety of employees and customers,
- our vendors and contract manufacturers may be unable to fulfill their delivery obligations to us within acceptable lead times for extended periods of time, which may force us to seek alternative sources of supply at higher costs or redesign our products,
- challenges involved in remote working may cause disruptions in our business and operations, including an increased risk of delays in new product introductions, information security breaches, and personnel-related challenges, and
- our online sales and marketing efforts may be less effective than face-to-face activities, resulting in fewer new customers and lower sales from new products and services.

These risks and uncertainties could have a material adverse effect on the continuity of our business, results of operations, and financial condition. This situation is continuously changing and additional impacts on our business may arise of which we are not currently aware.

Risks Related to Revenue Concentrations

The loss of, or significant curtailment of purchases by, large customers could have an adverse effect on our business.

In 2022, we had two large customers, one in the logistics industry and one in the consumer electronics industry, that each represented more than 10% of our total revenue. Large customers may divert management's attention from other operational matters and pull resources from other areas of the business, resulting in potential loss of sales from other customers. In addition, large customers may receive preferred pricing and a higher level of support, which may lower our gross margin percentage. Furthermore, in certain instances, due to long supplier lead times, we may purchase inventory in advance of receipt of a large customer purchase order, which exposes us to an increased risk of excess or obsolete inventory and resulting charges. The loss of, or curtailment of purchases by, any one or more of our large customers, has had, and could in the future have a material adverse effect on our operating results.

Risks Related to Information Technology and Intellectual Property

Information security breaches may adversely affect our business.

We rely on our information technology systems, including third-party services, to effectively run our business. We may be subject to information security failures or breaches caused by hacking, malicious software, acts of vandalism or terrorism, or other events. The risk of a cyber attack continues to increase given rapid advancements in technologies as well as the proliferation of diplomatic and armed conflict throughout the world. Our security measures or those of our third-party service providers may not detect or prevent such breaches. Any such compromise to our information security could result in the distraction of management and diversion of information technology resources, theft of our intellectual property, including software source code, a misappropriation of our cash or other assets, an interruption in our operations, the unauthorized publication of our confidential business or proprietary information, the unauthorized release of customer, vendor, or employee data, and the exposure to litigation or regulatory penalties, any of which could harm our business and operating results. We have experienced cybersecurity incidents in the past; however, to date, these incidents have not had a material impact on our operations or financial results. Future cybersecurity incidents could have a material adverse effect on our business, reputation, financial condition, or operating results.

Changes in laws or regulations relating to data privacy or data protection, or any actual or perceived failure by us to comply with such laws and regulations, could harm our business.

We are subject to a variety of United States and international laws, rules, policies and other obligations regarding data protection and security breaches. Privacy and data security have become significant issues in the United States, Europe, and in many other jurisdictions where we conduct or may in the future conduct our operations. For instance, the European Union's General Data Protection Regulation ("GDPR"), many state and federal privacy laws within the United States, and other similar global laws in locations in which we do business govern our global data privacy practices. The regulatory framework for the collection, use, safeguarding, sharing and transfer of information worldwide is rapidly evolving and is likely to remain uncertain for the foreseeable future. These laws continue to develop and may be inconsistent from jurisdiction to jurisdiction. Complying with emerging and changing requirements may be costly and require us to change certain business practices. Noncompliance could result in significant fines, penalties, claims or legal liability. Any inability to adequately address privacy and data security concerns or comply with applicable privacy or data security laws, regulations and policies could result in additional cost and liability to us, damage our reputation, inhibit sales, and harm our business.

If we fail to successfully protect our intellectual property, our competitive position and operating results could suffer.

We rely on our proprietary software technology and hardware designs, as well as the technical expertise, creativity, and knowledge of our personnel to maintain our position as a leading provider of machine vision products. Software piracy and reverse engineering may result in counterfeit products that are misrepresented in the market as Cognex products or pirated products that contain stolen technology such as software. Although we use a variety of methods to protect our intellectual property, we rely most heavily on patent, trademark, copyright, and trade secret protection, as well as non-disclosure agreements with customers, suppliers, employees, and consultants. We also attempt to protect our intellectual property by restricting access to our proprietary information by a combination of technical and internal security measures. These measures, however, may not be adequate to:

- protect our proprietary technology,
- protect our patents from challenge, invalidation, or circumvention, or
- ensure that our intellectual property will provide us with competitive advantages.

Our pending and future patent applications may not issue as patents or, if issued, may not issue in a form that will provide us with any meaningful protection or any competitive advantage. Even if issued, existing or future patents may be challenged, narrowed, invalidated, or circumvented, which could limit our ability to stop competitors from developing and marketing similar products, increase costs, or limit the length of patent protection we may have for our products. Furthermore, other companies may design around technologies we have patented, licensed, or developed. Moreover, changes in patent laws or their interpretation in the United States and other countries could also diminish the value of our intellectual property or narrow the scope of our patent protection. In addition, the legal systems of certain countries do not favor the aggressive enforcement of patents, and the laws of foreign countries may not protect our rights to the same extent as the laws of the United States. As a result, our patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar to ours. Any of these adverse circumstances could have a material adverse effect on our operating results.

Risks Related to Execution of our Business Strategy

If we fail to attract and retain key talent and maintain our unique corporate culture, our business and operating results could suffer.

To support our growth and execute on our operating plans and strategic initiatives, we must effectively attract, train, develop, motivate, and retain skilled employees, while maintaining our unique corporate culture. Technical personnel with experience in machine vision and artificial intelligence are in high demand and competition for their talents is intense. We use time-based and performance-based equity awards, including stock options and restricted stock units ("RSUs") as a key component of compensation for our more senior employees in order to align employee interests with the interests of our shareholders, provide competitive compensation packages, and encourage employee retention. Our stock price volatility may cause periods of time during which option exercise prices might be less than the sale price of our common stock or the value of RSUs might be less competitive, which may lessen the retentive attributes of these awards. We are limited as to the number of stock options and RSUs that we may grant under our stock plans, and we are unsure how effective different stock-based awards with different vesting schedules will be to retain key talent. Accordingly, we may find it difficult to attract, retain, and motivate employees, and any such difficulties could materially adversely affect our business.

Beginning with the COVID-19 pandemic, many of our employees in various Cognex offices have worked remotely or pursuant to "hybrid" office attendance policies due to health and safety concerns, to comply with governmental regulations, or to adapt to changing workplace expectations, with the primary exception of our distribution center employees who remain on-site to manage the delivery of inventory to our customers. While we have been able to effectively conduct most business activities in this manner, these conditions have made it more challenging to maintain our collaborative corporate culture. As regulatory and health conditions allow, we are returning to a more collaborative, largely on-site work environment. In most locations, we have instituted a "hybrid" work model, where our employees work on-site in a team environment the majority of the time. If we are unsuccessful in bringing our employees back into the office, or our employees choose to leave the Company altogether for more remote work flexibility or higher compensation, our business and ability to execute our plans could be adversely affected in a material way. If we do not manage changing workforce dynamics effectively, it could materially adversely affect our culture, reputation, and operations.

Our failure to introduce new products in a successful and timely manner could result in the loss of our market share and a decrease in our revenues and profits.

The market for our products is characterized by rapidly changing technology and increasingly capable competitors. Accordingly, we believe that our future success will depend on our ability to accelerate time-to-market for new products with improved functionality, ease-of-use, performance, and price. There can be no assurance that we will be able to introduce new products in accordance with scheduled release dates or that new products will achieve market acceptance. Our inability to keep pace with the rapid rate of technological change and customer demands in the high-technology marketplace could have a material adverse effect on our operating results.

Product development is often a complex, time-consuming, and costly process involving significant investment in research and development with no assurance of return on investment. Our strong balance sheet allows us to continue to make significant investments in research, development, and marketing for new products and technologies. Research is by its nature speculative, and the ultimate commercial success of a product depends on various factors, many of which are not under our control. We may not achieve significant revenue from new product investments for a number of years, if at all. Moreover, new products, if introduced, may not generate the gross margins that we have experienced historically.

Our failure to properly manage the distribution of our products and services could result in the loss of revenues and profits.

We utilize a direct sales force, as well as a network of distribution and integration partners, to sell our products and services. We are continually reviewing our go-to-market strategy to help ensure that we are reaching the most customers that we can and with the highest level of service. At times, this may require strategic changes to our sales organization or enlisting or dropping various distributors in certain regions, which could result in additional costs or operational challenges. Successfully managing the interaction of our direct and indirect sales channels to reach various potential customers for our products and services is a complex process. In addition, our reliance on indirect selling methods may reduce visibility to demand and pricing issues.

To support the expansion of our business internationally, we may decide to make changes to our operating structure in other countries when we believe these changes will make us more competitive by reaching additional customers, offering faster delivery, importation services, and/or local currency sales. These new operating models may require changes in legal structures, business systems, and business processes that may result in significant business disruption and negatively impact our customers' experience, resulting in loss of sales. Furthermore, as we assume more responsibility for the importation of our products into other countries, we face higher compliance risk to adhering to local regulatory and trade requirements. Finally, the local stocking of finished products in countries outside of our primary distribution centers may result in higher costs and increased risk of excess or obsolete inventory associated with maintaining the appropriate level and mix of stock in multiple inventory locations, resulting in lower gross margins.

Our go-to-market strategy has distinct risks and costs, and therefore, our failure to implement the most advantageous balance in the sales and operating model for our products and services could have a material adverse effect on our revenue and profitability.

Increased competition may result in decreased demand or prices for our products and services, and may harm our operating results.

The machine vision market continues to be fragmented and competitive. Our competitors include primarily other vendors of machine vision systems, controllers, and components; manufacturers of image processing systems, sensors, and components; and system integrators. We also compete with internal engineering departments of current or prospective customers, as well as open-source tools available for free by various companies. In recent years, we have encountered increased competition from low-cost vision providers in China, as well as from large technology companies that may offer free open-source solutions. Any of these competitors may have greater financial or other resources than we do, or may develop more compelling technologies. We may not be able to compete successfully in the future and our investments in research and development, sales and marketing, and support activities may be insufficient to enable us to maintain our competitive advantage. In addition, competitive pressures could lead to price erosion that could have a material adverse effect on our gross margins and operating results.

Further, over the past year, we have seen some examples of industry consolidation in our markets. This trend may continue as companies attempt to strengthen or hold their market positions in an evolving industry and as companies are acquired or are unable to continue operations. For example, some of our current and potential competitors in the machine vision industry have made acquisitions, or announced new strategic alliances, with other current and potential competitors in the machine vision industry. We believe that industry consolidation may result in stronger competition and may be accompanied by pressure from customers for lower prices. This could lead to more variability in our operating results and could have a material adverse effect on our business, operating results, and financial condition.

Implementation of our acquisition strategy may not be successful, which could affect our ability to increase our revenue or profitability and may otherwise adversely affect our business.

We have acquired, and may continue to acquire, new businesses and technologies. These acquisitions may involve significant risks and uncertainties, which could include, among others:

- the diversion of management's attention from other operational matters,
- difficulties or delays integrating personnel, operations, technologies, products, and systems of the acquired business, particularly in locations far from the company's headquarters,
- the inability to realize expected synergies or other benefits resulting from the acquisition,
- the failure to retain key talent,
- the impairment of acquired intangible assets resulting from lower-than-expected cash flows from the acquired assets,
- acquisition-related charges, which could adversely impact operating results and cash flows in any given period and could be substantially different from period to period,
- difficulties with closing a transaction due to regulatory approvals, employment matters, required consents, litigation, or other challenges, which could increase costs and prevent the acquisition from being completed within the expected timeframe, or from being completed at all,
- the inability to protect and secure acquired intellectual property or confidential information,
- difficulties or delays completing the development of acquired in-process technology,

- the failure to retain key customers, and
- the failure to achieve projected sales of acquired products.

Acquisitions are inherently risky and the inability to effectively manage these risks could have a material adverse effect on our operating results.

Business system disruptions may adversely affect our business.

The Company is making significant investments in business systems related to our sales processes, including systems to help our sales team more efficiently manage customer relationships and sales opportunities. Implementing new business systems requires a significant investment of time and money, and may divert management's attention from other operational matters. The implementation of new business systems and changes to associated business processes, particularly those that are customer-facing, may result in significant business disruption and negatively impact our customers' experience, resulting in loss of sales. The Company intends to continue to make IT-related investments to improve its management information systems, support new business models, and support the expansion of our business internationally. Any disruption occurring with our business systems may have a material adverse effect on our operating results.

Risks Related to Financial Matters

We are at risk for impairment charges with respect to our investments or acquired intangible assets, which could have a material adverse effect on our operating results.

As of December 31, 2022, we had approximately \$673 million of debt securities in our investment portfolio. These debt securities are reported at fair value, with unrealized gains and losses, net of tax, included in shareholders' equity as other comprehensive income (loss) since these securities are designated as available-for-sale securities. As of December 31, 2022, our portfolio of debt securities had a net unrealized loss of \$26,817,000. Included in this net loss, were gross unrealized losses totaling \$27,560,000, of which \$12,718,000 were in a loss position for less than twelve months and \$14,842,000 were in a loss position for greater than twelve months. Management monitors its debt securities that are in an unrealized loss position to determine whether a loss exists related to the credit quality of the issuer that would be reported in current operations. Management currently intends to hold these securities to full value recovery at maturity. It is our policy to invest in investment-grade debt securities that minimize our exposure to credit losses. No credit losses were recorded in 2022.

As of December 31, 2022, we had approximately \$12 million in acquired intangible assets, consisting primarily of acquired technologies and customer relationships. These assets are susceptible to changes in fair value due to a decrease in the historical or projected cash flows from the use of these assets, which may be negatively impacted by economic trends. We evaluate long-lived assets for impairment annually each fourth quarter and whenever events or changes in circumstances, referred to as "triggering events," indicate the carrying value may not be recoverable. In 2020, deteriorating global economic conditions from the COVID-19 pandemic triggered a review of long-lived assets for potential impairment, which resulted in intangible asset impairment charges totaling \$19,571,000. A further decline in the cash flows generated by these or other intangible assets may result in future impairment charges.

If we determine that any of these investments or intangible assets are impaired, we will be required to take a related charge to earnings that could have a material adverse effect on our operating results.

We may have additional tax liabilities and our effective tax rate may increase or fluctuate, which could adversely affect our operating results and financial condition.

As a multinational corporation, we are subject to income taxes, as well as non-income based taxes, in the United States and numerous foreign jurisdictions. Our effective income tax rate is dependent on the geographic distribution of our worldwide earnings or losses and the tax laws and regulations in each geographic region in which we operate. Significant judgment is required in determining our worldwide provision for income and other taxes. The application of tax laws and regulations is subject to legal and factual interpretation, judgment, and uncertainty, and tax laws themselves are subject to change. For example, many countries have recently adopted, or are considering the adoption of, revisions to their respective tax laws based on the Organization for Economic Co-operation and Development ("OECD")'s Inclusive Framework, which could impact our tax liability due to our organizational structure and significant operations outside of the United States. Furthermore, we are subject to regular review and audit by both domestic and foreign tax authorities and may be assessed additional taxes, penalties, fees, or interest, which could have a material adverse effect on our financial position, liquidity, or results of operations.

Although we believe our tax positions are reasonable, the final determination of tax audits or any related litigation could be different from what is reflected in our financial statements and could have a material adverse effect on our income tax provision, net income, or cash flows in the period in which the determination is made.

Fluctuations in foreign currency exchange rates and the use of derivative instruments to hedge these exposures could adversely affect our reported results, liquidity, and competitive position.

We face exposure to foreign currency exchange rate fluctuations, as a significant portion of our revenues, expenses, assets, and liabilities are denominated in currencies other than the functional currencies of our subsidiaries or the reporting currency of our company, which is the U.S. Dollar. In certain instances, we utilize forward contracts to hedge against foreign currency fluctuations. These contracts are used to minimize foreign currency gains or losses, as the gains or losses on the derivative are intended to offset the losses or gains on the underlying exposure. We do not engage in foreign currency speculation. If the counterparty to any of our hedging arrangements experiences financial difficulties, or is otherwise unable to honor the terms of the contract, we may experience material losses.

The success of our foreign currency risk management program depends on forecasts of transaction activity denominated in various currencies. To the extent that these forecasts are overstated or understated during periods of currency volatility, we could experience unanticipated foreign currency gains or losses that could have a material impact on our results of operations. In addition, our failure to identify new exposures and hedge them in an effective manner may result in material foreign currency gains or losses.

In addition to the U.S. Dollar, a significant portion of our revenues and expenses are denominated in the Euro and Chinese Renminbi, and to a lesser extent the Japanese Yen, Korean Won, and Mexican Peso. We estimate that approximately 52% of our sales in 2022 were invoiced in currencies other than the U.S. Dollar, and we expect sales denominated in foreign currencies to continue to represent a significant portion of our total revenue. While we also have expenses denominated in these same foreign currencies, the impact on revenues has historically been, and is expected to continue to be, greater than the offsetting impact on expenses. Therefore, in times when the U.S. Dollar strengthens in relation to these foreign currencies, we would expect to report a net decrease in operating income. Conversely, in times when the U.S. Dollar weakens in relation to these foreign currencies, we would expect to report a net increase in operating income. Thus, changes in the relative strength of the U.S. Dollar may have a material impact on our operating results.

General Risk Factors

Unfavorable global economic conditions may negatively impact our operating results.

Our revenue levels are impacted by global economic conditions, as we have a significant business presence in many countries throughout the world. Unfavorable economic conditions, such as inflation, slower growth or recession, higher interest rates, tighter credit, and labor shortages may cause companies to delay or reduce spending for automation projects, including those with machine vision, amid weaker general manufacturing confidence and heightened uncertainty around global trade. Further, customer confidence and capital investment can be materially adversely impacted as a result of financial market volatility, negative financial news, declines in income or asset values, energy shortages and cost increases, labor and healthcare costs, and other global economic conditions. When global economic conditions are unfavorable, our revenue and our ability to generate operating profits could be materially adversely affected.

As a result of global economic conditions, our business is subject to the following risks, among others:

- our customers may not have sufficient cash flow or access to financing to purchase our products and services,
- our customers may not pay us within agreed upon terms or may default on their payments altogether,
- our vendors may be unable to fulfill their delivery obligations to us in a timely manner,
- lower demand for our products may result in charges for excess and obsolete inventory if we are unable to sell inventory that is either already on hand or committed to purchase,
- lower cash flows may result in impairment charges for acquired intangible assets or goodwill,
- a decline in our stock price may make stock-based awards a less attractive form of compensation and a less effective form of retention for our employees, and
- the trading price of our common stock may be volatile.

As of December 31, 2022, the Company had approximately \$854 million in cash and investments. In addition, Cognex has no long-term debt. We believe that our strong cash position puts us in a relatively good position to weather economic downturns. Nevertheless, our operating results have been materially adversely affected in the past, and could be materially adversely affected in the future, as a result of unfavorable economic conditions and reduced capital spending by manufacturers and logistics companies worldwide.

Natural disasters, fires, energy shortages, widespread public health issues, or man-made disasters could result in business disruptions that may adversely affect our business and operating results.

Our business, and the businesses of our customers, suppliers, and third-party service providers, could be disrupted by natural disasters, fires, energy shortages, public health crises, such as pandemics and epidemics, man-made disasters, such as cyber-attacks, terrorism or industrial accidents, or other events outside of our control. Certain of our business operations, such as our third-party primary contractor manufacturer in Indonesia, are in locations that may be more prone to earthquakes and other natural disasters, and global climate change may result in certain types of natural disasters occurring more frequently or with more intense effects. Following a business disruption, the Company could be subject to production downtimes, operational delays, substantial recovery time, customer claims, significant expenditures to resume operations, the diversion of management's attention and resources, or loss of business, any of which could have a material adverse effect on our competitive position, operating results, or financial condition. Because the Company relies on single or limited sources for the supply of certain components and manufacture of our products, a business disruption affecting such sources would worsen any adverse consequences to the Company.

While the Company maintains insurance coverage for certain types of losses, such insurance coverage may be insufficient to cover all losses that may arise. The impact of any such business disruption is difficult to predict.

Economic, political, and other risks associated with international sales and operations could adversely affect our business and operating results.

In 2022, approximately 66% of our revenue was derived from customers located outside of the United States. We anticipate that international sales will continue to account for a significant portion of our revenue. In addition, we source components from suppliers located outside of the United States, including China, and utilize third-party contract manufacturers, primarily located in Indonesia, to assemble certain of our products. We intend to continue to expand our sales and operations outside of the United States and expand our presence in international emerging markets. As a result, our business is subject to the risks inherent in international sales and operations, including, among other things:

- various regulatory and statutory requirements,
- difficulties in injecting and repatriating cash,
- export and import restrictions,
- trade tariffs,
- transportation delays,
- product certification requirements,
- employment regulations and local labor conditions,
- difficulties in staffing and managing foreign operations, particularly as we expand our presence globally
- corruption,
- instability in economic or political conditions,
- political or trade sanctions,
- difficulties protecting intellectual property,
- uncertainties surrounding the interpretation and application of regulatory and statutory requirements,
- business systems connectivity issues, and
- potentially adverse tax consequences.

Any of these factors could have a material adverse effect on our operating results.

In recent years, trade tariffs imposed by the United States on certain components imported from Chinese suppliers resulted in higher costs for our products, which, to date, have been immaterial to our total cost of goods. However, cost increases as a result of these or other trade tariffs could be material in the future. Trade tariffs also have had an indirect impact on the economic climate in China, which in turn, has had a negative impact on the Company's revenue from customers based in China who see risk in doing business with a U.S. company. In addition to trade tariffs, United States export controls that place restrictions on the exportation of our products or a subset of our products, including applicable regulations promulgated by the U.S. Commerce Department's Bureau of Industry and Security, have had a negative impact on our revenue from customers based in China. Political uncertainty surrounding trade and other international disputes could have a negative effect on customer confidence and spending, which could adversely affect our business. The imposition of additional tariffs or other trade barriers could increase our costs in certain markets and may cause our customers to find alternative providers of machine vision products and services. To date, the impact of these restrictions has been immaterial to our total revenue and costs; however, if disputes and conflicts continue or further escalate, actions by governments in response could be significantly more severe and restrictive and could materially adversely affect our operating results.

Furthermore, in response to the Russian invasion of Ukraine in February of 2022, the U.S. government and the governments of various jurisdictions in which we operate, including Canada, the United Kingdom, the European Union, and others, have imposed broad economic sanctions and export controls targeting specific industries, entities and individuals in Russia. Ongoing geopolitical tensions related to the Russia and Ukraine conflict, including resulting sanctions and export controls imposed by the U.S. and other countries as well as the impact on the supply of energy resources in Europe, have not materially adversely affected our business to date; however, further escalation of these geopolitical tensions could have a broader impact that expands into other markets where we do business, such as the European Union, which could adversely affect our business and/or our supply chain, distribution and integration partners, or customers in the broader region.

We also are subject to applicable anti-corruption laws, such as the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act, and similar anti-corruption and anti-kickback laws in the jurisdictions in which we operate. These laws generally prohibit offering, promising, giving, or authorizing others to provide anything of value, either directly or indirectly, to a government official or private party in order to influence official action or otherwise gain an unfair business advantage, such as to obtain or retain business. Particularly as a result of our global operations, including in developing countries, and our growing international sales force, our relationships with our customers and resellers could expose us to liability under these laws. Violations of anti-corruption laws may result in severe civil and criminal penalties for noncompliance. Even an unsuccessful challenge or investigation into our practices is costly to defend, and could cause adverse publicity, and thus could have a material adverse effect on our business, financial condition, or operating results.

Expectations relating to environmental, social, and governance considerations expose the Company to potential liabilities, increased costs, reputational harm, and other adverse effects on our business.

Many governments, regulators, investors, employees, customers and other stakeholders are increasingly focused on environmental, social, and governance considerations relating to businesses, including climate change and greenhouse gas emissions, human and civil rights, and diversity, equity, and inclusion. In addition, the Company makes statements about its environmental, social, and governance goals and initiatives through its Sustainability Reports, information provided on its website, and other communications. Responding to these environmental, social, and governance considerations and implementation of these goals and initiatives involves risks and uncertainties, requires investments, and depends in part on third-party performance or data that is outside of the Company's control. The Company cannot guarantee that it will achieve its announced environmental, social, and governance goals and initiatives. In addition, some stakeholders may disagree with the Company's goals and initiatives. Any failure, or perceived failure, by the Company to achieve its goals, further its initiatives, adhere to its public statements, comply with federal, state, or international environmental, social, and governance laws and regulations, or meet evolving and varied stakeholder expectations and standards could result in legal and regulatory proceedings against the Company and adversely affect the Company's business, reputation, results of operations, financial condition, and stock price.

The price of the Company's stock is subject to volatility.

The Company has experienced substantial stock price volatility in the past and may continue to do so in the future. The price of the Company's stock may be affected by factors such as the Company's financial performance, announcements of technological innovations or new products by us or our competitors, market conditions, and other factors. Additionally, the Company, the technology industry, and the overall stock market have, from time to time, experienced extreme stock price and volume fluctuations that have affected stock prices in ways that may have been unrelated to these companies' operating performance. Price volatility may cause the average price at which we repurchase our stock in a given period to exceed the stock's price at a given point in time. We believe the price of our stock should reflect expectations of future growth and profitability. If the Company fails to meet expectations related to future growth, profitability, dividends, share repurchases or other market expectations, the price of the Cognex's stock may decline significantly, which could have a material adverse impact on investor confidence and employee retention.

Our Company may be subject to time-consuming and costly litigation or activist shareholder activities.

From time to time, we may be subject to various claims, demands, and lawsuits by competitors, shareholders, customers, distributors, patent trolls, former employees, or other parties arising in the ordinary course of business, including lawsuits charging patent infringement, or claims and lawsuits instituted by us to protect our intellectual property and confidential information or for other reasons. These matters can be time consuming, divert management's attention and resources, and cause us to incur significant expenses. Furthermore, the results of any of these actions may have a material adverse effect on our operating results.

ITEM 1B: UNRESOLVED STAFF COMMENTS

None

ITEM 2: PROPERTIES

In 1994, Cognex purchased and renovated a 100,000 square-foot building located in Natick, Massachusetts that serves as our corporate headquarters and is occupied by employees primarily in research, development, and engineering, manufacturing and quality assurance, and administration functions. In 1997, Cognex completed construction of a 50,000 square-foot addition to this building.

In 1995, Cognex purchased an 83,000 square-foot office building adjacent to our corporate headquarters that is occupied by employees primarily in research, development, and engineering, sales, marketing, service, finance, and information technology functions.

In 1997, Cognex purchased a three and one-half acre parcel of land adjacent to our corporate headquarters. This land is being held for future expansion and is currently used as an Ultimate Frisbee Field for our Cognoids.

In 2007, Cognex purchased a 19,000 square-foot building adjacent to our corporate headquarters. This facility served as the distribution center for customers in the Americas through the first quarter of 2022. This building is being held for future expansion and is expected to be used as a training center. In December 2021, Cognex entered into a lease for a 65,000 square-foot building in Southborough, Massachusetts for a term of 10 years to serve as a new distribution center for customers in the Americas effective as of the second quarter of 2022.

In 2014, Cognex purchased a 50,000 square-foot building in Cork, Ireland. This facility serves as the distribution center for customers outside of the Americas.

Cognex conducts certain of its operations in other leased facilities, predominantly research, development, and engineering, sales, and administration functions. These lease agreements expire at various dates through 2032. Certain of these leases contain renewal options, retirement obligations, escalation clauses, rent holidays, and leasehold improvement incentives.

ITEM 3: LEGAL PROCEEDINGS

Various claims and legal proceedings generally incidental to the normal course of business are pending or threatened on behalf of or against the Company. While we cannot predict the outcome of these matters, we believe that any liability arising from them will not have a material adverse effect on our financial position, liquidity, or results of operations.

ITEM 4: MINE SAFETY DISCLOSURES

Not applicable.

PART II

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

The Company's common stock is traded on The NASDAQ Stock Market LLC, under the symbol CGNX. As of January 29, 2023, there were approximately 650 shareholders of record of the Company's common stock. The Company believes the number of beneficial owners of the Company's common stock on that date was substantially greater.

In October 2018, the Company's Board of Directors authorized the repurchase of \$200,000,000 of the Company's common stock. Under this October 2018 program, in addition to repurchases made in prior years, the Company repurchased 1,215,000 shares at a cost of \$51,036,000 in 2020, and 957,000 shares at a cost of \$78,652,000 in 2021, which completed purchases under the October 2018 program.

On March 12, 2020, the Company's Board of Directors authorized the repurchase of an additional \$200,000,000 of the Company's common stock. Under this March 2020 program, the Company repurchased 1,060,000 shares, including 5,000 shares that were repurchased in 2021 and settled in 2022, at a cost of \$83,000,000 in 2021, and 1,677,000 shares at a cost of \$117,000,000 in 2022, which completed purchases under the March 2020 program.

On March 3, 2022, the Company's Board of Directors authorized the repurchase of an additional \$500,000,000 of the Company's common stock. Under this March 2022 program, the Company repurchased 1,682,000 shares at a total cost of \$87,314,000 in 2022, leaving a remaining balance of \$412,686,000.

The Company may repurchase shares under this program in future periods depending on a variety of factors, including, among other things, the impact of dilution from employee stock awards, stock price, share availability, and cash requirements. The Company is authorized to make repurchases of its common stock through open market purchases, pursuant to Rule 10b5-1 trading plans, or in privately negotiated transactions.

The following table sets forth information with respect to purchases by the Company of shares of its common stock during each fiscal month of the fourth quarter of 2022:

	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs
October 3 - October 30, 2022	213,000	\$ 43.42	213,000	\$ 429,353,000
October 31 - November 27, 2022	186,000	47.50	186,000	420,557,000
November 28 - December 31, 2022	159,000	49.44	159,000	412,686,000
Total	558,000	\$ 46.49	558,000	\$ 412,686,000

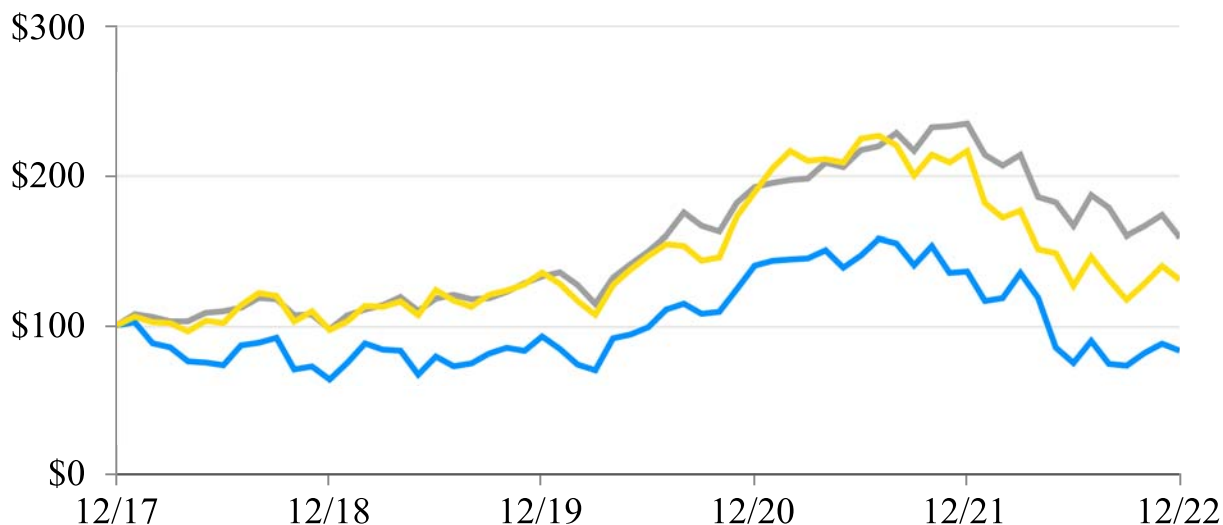
The information required by Item 5 of Form 10-K regarding equity compensation plans is incorporated herein by reference to Item 12 of Part III of this Annual Report.

The Company's Board of Directors declared and paid cash dividends of \$0.055 per share in the first, second, and third quarters of 2020, \$0.060 per share in the fourth quarter of 2020 and in the first, second, and third quarters of 2021, and \$0.065 per share in the fourth quarter of 2021 and in the first, second, and third quarters of 2022. The dividend was increased to \$0.070 per share in the fourth quarter of 2022. Also, in the fourth quarter of 2020, an additional special cash dividend of \$2.00 per share was declared and paid.

Total dividends paid were \$45,921,000 in 2022, \$43,263,000 in 2021, and \$390,508,000 in 2020, which included \$351,428,000 paid for the special cash dividend. Future dividends will be declared at the discretion of the Company's Board of Directors and will depend on such factors as the Board deems relevant, including, among other things, the Company's ability to generate positive cash flow from operations.

Set forth below is a line graph comparing the annual percentage change in the cumulative total shareholder return on the Company's common stock, based on the market price of the Company's common stock, with the total return on companies within the Nasdaq Composite Index and the Research Data Group, Inc. Nasdaq Lab Apparatus & Analytical, Optical, Measuring & Controlling Instrument (SIC 3820-3829 US Companies) Index (the "Nasdaq Lab Apparatus Index"). The performance graph assumes an investment of \$100 in each of the Company and the two indices, and the reinvestment of any dividends. The historical information set forth below is not necessarily indicative of future performance. Data for the Nasdaq Composite Index and the Nasdaq Lab Apparatus Index was provided to the Company by Research Data Group, Inc.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN*



- Cognex Corporation
- NASDAQ Composite
- NASDAQ Stocks (SIC 3820-3829 U.S. Companies) Lab Apparatus & Analyt, Opt, Measuring, and Controlling Instr

*\$100 invested on 12/31/2017 in stock or index, including reinvestment of dividends. Fiscal year ended December 31.

	12/17	12/18	12/19	12/20	12/21	12/22
Cognex Corporation	100.00	63.48	92.40	140.04	136.05	82.85
NASDAQ Composite	100.00	97.16	132.81	192.47	235.15	158.65
NASDAQ Stocks	100.00	96.77	135.41	188.97	216.71	130.52
<i>(SIC 3820-3829 U.S. Companies) Lab Apparatus & Analyt, Opt, Measuring, and Controlling Instrument</i>						

ITEM 6: [RESERVED]

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

FORWARD-LOOKING STATEMENTS

Certain statements made in this report, as well as oral statements made by the Company from time to time, constitute forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Readers can identify these forward-looking statements by our use of the words "expects," "anticipates," "estimates," "potential," "believes," "projects," "intends," "plans," "will," "may," "shall," "could," "should," and similar words and other statements of a similar sense. These statements are based on our current estimates and expectations as to prospective events and circumstances, which may or may not be in our control and as to which there can be no firm assurances given. These forward-looking statements, which include statements regarding business and market trends, future financial performance and financial targets, the expected impact of the fire at our primary contract manufacturer's plant on our assets, business and results of operations and related insurance recoveries, customer demand and order rates and timing of related revenue, managing supply shortages, delivery lead times, future product mix, research and development activities, sales and marketing activities, new product offerings and product development activities, capital expenditures, investments, liquidity, dividends and stock repurchases, strategic and growth plans, and estimated tax benefits and expenses and other tax matters, involve known and unknown risks and uncertainties that could cause actual results to differ materially from those projected. Such risks and uncertainties include: (1) the reliance on key suppliers, such as our primary contract manufacturer, to manufacture and deliver products; (2) the expected impact of the fire at our primary contract manufacturer's plant on our assets, business, and results of operations and related insurance recoveries; (3) delays in the delivery of our products, the failure to meet delivery schedules, and resulting customer dissatisfaction or loss of sales; (4) the inability to obtain, or the delay in obtaining, components for our products at reasonable prices; (5) the failure to effectively manage product transitions or accurately forecast customer demand; (6) the inability to manage disruptions to our distribution centers or to our key suppliers; (7) the inability to design and manufacture high-quality products; (8) the impact, duration, and severity of the COVID-19 pandemic, particularly in China, including the availability and effectiveness of vaccines as well as government lockdowns; (9) the loss of, or curtailment of purchases by, large customers in the logistics, consumer electronics, or automotive industries; (10) information security breaches; (11) the failure to comply with laws or regulations relating to data privacy or data protection; (12) the inability to protect our proprietary technology and intellectual property; (13) the inability to attract and retain skilled employees and maintain our unique corporate culture; (14) the technological obsolescence of current products and the inability to develop new products; (15) the failure to properly manage the distribution of products and services, including the management of lead times and delivery dates; (16) the impact of competitive pressures; (17) the challenges in integrating and achieving expected results from acquired businesses; (18) potential disruptions in our business systems; (19) potential impairment charges with respect to our investments or acquired intangible assets; (20) exposure to additional tax liabilities, increases and fluctuations in our effective tax rate, and other tax matters; (21) fluctuations in foreign currency exchange rates and the use of derivative instruments; (22) unfavorable global economic conditions, including increases in interest rates and high inflation rates; (23) business disruptions from natural or man-made disasters, such as fire, or public health issues; (24) economic, political, and other risks associated with international sales and operations, including the impact of trade disputes on the economic climate in China and the war in Ukraine; (25) exposure to potential liabilities, increased costs, reputational harm, and other adverse effects associated with expectations relating to environmental, social, and governance considerations; (26) stock price volatility; and (27) our involvement in time-consuming and costly litigation or activist shareholder activities. The foregoing list should not be construed as exhaustive and we encourage readers to refer to the detailed discussion of risk factors included in Part I - Item 1A of this Annual Report on Form 10-K. The Company cautions readers not to place undue reliance upon any such forward-looking statements, which speak only as of the date made. The Company disclaims any obligation to subsequently revise forward-looking statements to reflect the occurrence of anticipated or unanticipated events or circumstances after the date such statements are made.

EXECUTIVE OVERVIEW

Cognex Corporation ("the Company") invents and commercializes technologies that address some of the most critical manufacturing and distribution challenges. We are a leading global provider of machine vision products and solutions that seek to improve efficiency and quality in a wide range of businesses across attractive industrial end markets. In addition to product revenue derived from the sale of machine vision products, the Company also

generates revenue by providing maintenance and support, consulting, and training services to its customers; however, service revenue accounted for less than 10% of total revenue for all periods presented.

Machine vision is used in a variety of industries where technology is widely recognized as an important component of automated production, distribution, and quality assurance. Virtually every manufacturer or distributor can achieve better quality and efficiency by using machine vision, leading to applications with a broad base of customers across a variety of industries, including automotive, logistics, consumer electronics, medical-related, semiconductor, consumer products, food and beverage, and others.

Revenue for the year ended December 31, 2022 totaled \$1,006,090,000, representing a decrease of 3% from 2021. The decrease was driven by three primary factors: (i) lower revenue from the logistics industry, our largest market in 2021, as a result of the slowing of large e-commerce customer projects as such customers absorbed excess capacity built up during the pandemic; (ii) the unfavorable impact of foreign currency exchange rate changes on revenue; and (iii) the impact of the June 7, 2022 fire at our primary contract manufacturer's plant in Indonesia, which destroyed a large amount of component inventory limiting our ability to fulfill certain orders in the year. This decrease was partially offset by growth in the broader factory automation market, most notably in the consumer electronics, automotive, and semiconductor industries.

Gross margin as a percentage of revenue was 72% in 2022 compared to 73% in 2021. The decrease resulted primarily from higher inventory costs, due largely to global supply chain constraints and the expedited replenishment of inventories lost in the fire at our primary contract manufacturer's plant on June 7, 2022. These circumstances have resulted in broker-buy purchases for components at higher-than-normal costs. A more favorable revenue mix and the Company's price increases partially offset this decrease in gross margin.

Operating expenses increased by \$30,950,000, or 7%, from 2021. On June 7, 2022, our primary contract manufacturer suffered a fire at its Indonesian plant destroying a large portion of the Company's component inventories. In 2022, the Company recorded a net loss related to the fire of \$20,779,000, consisting primarily of losses from inventories and other assets of \$48,339,000, offset by insurance recoveries of \$27,560,000. Excluding the loss from fire of \$20,779,000 and restructuring charges of \$1,657,000 related to a business acquisition in 2022, operating expenses increased by \$8,514,000, or 2%, as higher personnel-related costs and stock-based compensation expense, were largely offset by decreases in incentive compensation due to weaker business performance and the favorable impact of foreign currency exchange rate changes on expenses.

Operating income decreased to 24% of revenue in 2022 compared to 30% of revenue in 2021. This decrease was driven primarily by the loss from the fire of \$20,779,000 and the decrease in revenue of \$31,008,000. This lower level of operating income resulted in net income of 21% of revenue in 2022 compared to 27% of revenue in 2021, and net income per diluted share of \$1.23 in 2022 compared to \$1.56 in 2021.

The following table sets forth certain consolidated financial data as a percentage of revenue:

	Year Ended December 31,		
	2022 (1)	2021	2020
Revenue	100 %	100 %	100 %
Cost of revenue	28	27	25
Gross margin	72	73	75
Research, development, and engineering expenses	14	13	16
Selling, general, and administrative expenses	31	30	33
Loss from fire	2	—	—
Restructuring charges	—	—	2
Intangible asset impairment charges	—	—	3
Operating income	24	30	21
Non-operating income	—	1	2
Income before income tax expense	25	31	23
Income tax expense	3	4	1
Net income	21 %	27 %	22 %

(1) Amounts may not total properly due to rounding.

RESULTS OF OPERATIONS

As foreign currency exchange rates are a factor in understanding period-to-period comparisons, we believe the presentation of results on a constant-currency basis in addition to reported results helps improve investors' ability to

understand our operating results and evaluate our performance in comparison to prior periods. We also use results on a constant-currency basis as one measure to evaluate our performance. Constant-currency information compares results between periods as if exchange rates had remained constant period-over-period. We generally refer to such amounts calculated on a constant-currency basis as excluding the impact of foreign currency exchange rate changes. Results on a constant-currency basis are not in accordance with accounting principles generally accepted in the United States of America (U.S. GAAP) and should be considered in addition to, and not as a substitute for, results prepared in accordance with U.S. GAAP.

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

Revenue

Revenue for the year ended December 31, 2022 was \$1,006,090,000 compared to \$1,037,098,000 for the prior year, representing a decrease of 3%. Changes in foreign exchange rates resulted in a lower level of reported revenue in 2022 as compared to 2021. Excluding the impact of foreign currency exchange rate changes, revenue increased by 1% compared to 2021.

The fire on June 7, 2022 at our primary contract manufacturer's plant in Indonesia, which destroyed a large amount of component inventory, limited our ability to fulfill certain orders in the year, which resulted in lower revenue. Revenue from the logistics industry, our largest market in 2021, decreased by approximately 25% as a result of the slowing of large e-commerce customer projects as such customers absorbed excess capacity built up during the pandemic. Excluding these decreases in revenue from a few large logistics customers, revenue from the remainder of the logistics industry grew, as the broader base of logistics customers continued to invest in automation. The decline in overall revenue from the logistics industry was partially offset by growth in the broader factory automation market, most notably in the consumer electronics, automotive, and semiconductor industries. Consumer electronics revenue increased by approximately 8%, and 14% on a constant-currency basis, primarily as a result of increased large-customer demand. Revenue from our largest industry in 2022, automotive, increased by 7%, and 13% on a constant-currency basis, primarily as a result of continued investment in electric vehicles.

Changes in revenue from a geographic perspective were as follows:

- Revenue from customers based in the Americas decreased by 10% from the prior year driven primarily by a decrease in revenue from customers in the logistics industry. This decrease was partially offset by an increase in revenue from other industries, led by growth in the automotive and consumer electronics industries.
- Revenue from customers based in Europe decreased by 5% from the prior year. Changes in foreign currency exchange rates resulted in a lower level of reported revenue in 2022, as sales denominated in Euros were translated into U.S. Dollars at a lower rate. Excluding the impact of foreign currency exchange rate changes, revenue from customers based in Europe increased by 5% from the prior year. The increase came from customers in a variety of industries, most notably the automotive and consumer electronics industries, partially offset by a decrease in revenue from customers in the logistics industry.
- Revenue from customers based in Greater China increased by 14% from the prior year. Changes in foreign currency exchange rates resulted in a lower level of reported revenue in 2022, primarily from sales denominated in Chinese Renminbi. Excluding the impact of foreign currency exchange rate changes, revenue from customers based in Greater China increased by 17% from the prior year. The increase was driven primarily by higher revenue in the consumer electronics industry, particularly due to increased large-customer demand, and to a lesser extent, growth in the semiconductor and automotive industries.
- Revenue from other countries in Asia remained flat with the prior year. Changes in foreign currency exchange rates resulted in a lower level of reported revenue in 2022, primarily from sales denominated in Japanese Yen and Korean Won. Excluding the impact of foreign currency exchange rate changes, revenue from these customers in other countries in Asia increased by 8% from the prior year, led by higher revenue in semiconductor and automotive industries, and, to a lesser extent, the logistics industry. These increases were partially offset by a decrease in revenue from the consumer electronic industry.

As of the date of this report, we expect revenue for the first quarter of 2023 to be lower than the revenue reported for the fourth quarter of 2022 of \$239,433,000, primarily due to lower revenue from a few large e-commerce customers and broader macroeconomic softness.

Gross Margin

Gross margin as a percentage of revenue decreased to 72% in 2022 compared to 73% in 2021. The decrease resulted primarily from higher inventory costs, due largely to global supply chain constraints and the expedited replenishment of inventories lost in the fire at our primary contract manufacturer's plant on June 7, 2022. These circumstances have resulted in broker-buy purchases for components at higher-than-normal costs. The decrease in gross margin was also due to an unfavorable impact of foreign currency exchange rate changes.

A more favorable revenue mix partially offset this decrease in gross margin. A lesser percentage of revenue came from the logistics industry, which has relatively lower gross margins, and a greater percentage of revenue came from the consumer electronics industry, which has relatively higher gross margins. Further, the Company has increased prices, which has offset the impact of component cost inflation (not including broker-buy purchases) on our gross margin.

As of the date of this report, we expect gross margin as a percentage of revenue for the first quarter of 2023 to be in the low-70% range, primarily as a result of the significant premiums the Company has paid to replenish inventories lost in the fire at our primary contract manufacturer's plant on June 7, 2022.

Operating Expenses

Research, Development, and Engineering Expenses

Research, development, and engineering (RD&E) expenses in 2022 increased by \$5,761,000, or 4%, from the prior year as detailed in the table below (in thousands).

RD&E expenses in 2021	\$	135,372
Personnel-related costs		8,060
Stock-based compensation		4,761
Foreign currency exchange rate changes		(6,348)
Incentive compensation		(4,453)
Other		3,741
RD&E expenses in 2022	\$	141,133

RD&E expenses increased primarily due to higher personnel-related costs resulting from headcount additions to support new product initiatives and salary increases provided to employees as part of our merit and promotion process. Stock-based compensation expense also increased from the prior year due to a higher level of stock-based grants at a higher average economic value, as well as the impact of a forfeiture rate true-up that resulted in higher expense.

These increases were partially offset by lower incentive compensation expense compared to the prior year due to weaker business performance. Relevant performance goals for incentive compensation plans are set at the beginning of each year, with the ability to earn upside if the goals are exceeded. In contrast to 2022, performance goals set for 2021 incentive bonuses were exceeded, resulting in a higher level of bonus expense recorded in 2021. The impact of foreign currency exchange rate changes further offset the increase to RD&E expenses, as costs denominated in foreign currencies were translated into U.S. Dollars at a lower rate.

RD&E expenses as a percentage of revenue was 14% in 2022 compared to 13% in 2021. We believe that a continued commitment to RD&E activities is essential in order to maintain or achieve product leadership with our existing products and to provide innovative new product offerings, as well as to provide engineering support for large customers. In addition, we consider our ability to accelerate the time to market for new products to be critical to our revenue growth and competitive position. This annual percentage is impacted by revenue levels and investing cycles.

Selling, General, and Administrative Expenses

Selling, general, and administrative (SG&A) expenses increased in 2022 by \$2,753,000, or 1%, from the prior year as detailed in the table below (in thousands).

SG&A expenses in 2021	\$	309,354
Personnel-related costs		24,112
Stock-based compensation		6,436
Travel expenses		5,666
Incentive compensation		(24,476)
Foreign currency exchange rate changes		(14,613)
Other		5,628
SG&A expenses in 2022	\$	<u>312,107</u>

SG&A expenses increased primarily due to higher personnel-related costs resulting from headcount additions, primarily for sales personnel to support the Company's anticipated revenue growth, and salary increases provided to employees as part of our merit and promotion process. In addition to salaries and fringe benefits, these personnel-related costs included sales commissions and travel expenses related to the additional headcount. Stock-based compensation expense also increased from the prior year due to a higher level of stock-based grants at a higher average economic value, as well as the impact of a forfeiture rate true-up that resulted in higher expense. While travel expenses increased due to the number of sales personnel added, expenses also increased due to a higher level of travel activity as restrictions related to COVID-19 continued to ease.

These increases were partially offset by lower incentive compensation expenses than the prior year, which included sales commissions and incentive bonuses, primarily due to weaker business performance. Relevant performance goals for these plans are set at the beginning of each year, with the ability to earn upside if the goals are exceeded. In contrast to 2022, performance goals set for 2021 sales commissions and incentive bonuses were exceeded, resulting in a higher level of incentive compensation expenses recorded in 2021. The impact of foreign currency exchange rate changes further offset the increase to SG&A expenses, as costs denominated in foreign currencies were translated into U.S. Dollars at a lower rate.

Loss from Fire

On June 7, 2022, the Company's primary contract manufacturer experienced a fire at its plant in Indonesia. The fire destroyed a significant amount of Cognex-owned consigned inventories, as well as component inventories owned by the contract manufacturer that were designated for Cognex products. There was no significant damage to the Company's production equipment. Since the date of the fire, the Company has worked with the contract manufacturer to assess the damage, resume production, maintain standards of product quality, and replenish inventories destroyed by the fire. The Company has also been working to ramp up an additional contract manufacturer to further mitigate risk, diversify supply chain, and expand production capacity.

As a result of the fire, the Company recorded \$48,339,000 in gross losses in 2022, related to \$37,663,000 of Cognex-owned inventories, \$8,709,000 of primarily prepayments related to Cognex-designated components that were owned by the contract manufacturer and other assets, and \$1,967,000 related to deleveraging of costs related to our distribution centers.

Gross losses have been reduced by insurance proceeds received from the Company's insurance carrier of \$27,560,000 in the fourth quarter of 2022. Gross losses net of insurance recovery of \$20,779,000 are presented in the caption "Loss from fire" on the Consolidated Statements of Operations.

As of December 31, 2022 and through the date of financial statement issuance, management cannot yet estimate additional recoveries that could be available from the contract manufacturer. Any future, additional recoveries in excess of recognized losses will be treated as gain contingencies and will be recognized when the gain is realized or realizable. There can be no assurance, however, that additional insurance coverage and/or recoveries from the contract manufacturer will be available to cover the net loss from the fire.

Restructuring Charges

On December 7, 2022, the Company acquired all of the outstanding shares of SAC Sirius Advanced Cybernetics GmbH ("SAC"), a leader in computational lighting technology based in Germany. The acquisition of SAC and its technology is expected to expand the Company's capabilities in defect detection, and accelerate our growth trajectory with electric vehicle battery manufacturers. In December 2022, following its acquisition of SAC, the Company performed restructuring activities to align the cost and operating structure of the acquired business with the Company's business strategy. The restructuring activities resulted in charges of \$1,657,000 in 2022. As of December 31, 2022, the majority of these restructuring actions were completed and no additional charges are expected to be incurred in future periods in relation to this restructuring plan.

Non-operating Income (Expense)

The Company recorded foreign currency losses of \$1,837,000 in 2022 and \$2,270,000 in 2021. Foreign currency gains and losses result primarily from the revaluation and settlement of assets and liabilities that are denominated in currencies other than the functional currencies of our subsidiaries or the reporting currency of our company, which is the U.S. Dollar.

Investment income increased by \$55,000, or 1%, from the prior year. The slight increase was due primarily to higher yields on investments, partially offset by lower average investment balances and changes in realized gains and losses.

The Company recorded other expense of \$412,000 in 2022 and \$591,000 in 2021.

Income Tax Expense

The Company's effective tax rate was 14% of pre-tax income in 2022, compared to 12% in 2021.

The increase in effective tax rate in 2022 primarily resulted from the impact of discrete tax items, including a decrease in tax benefits related to stock-based compensation, an increase in certain international tax reserves, and a net expense related to return-to-provision adjustments. These impacts were partially offset by discrete tax benefits related to audit settlements, a release in the valuation allowance, Global Intangible Low-Taxed Income ("GILTI") adjustments, and a rate revaluation on deferred state tax assets.

Excluding the impact of all discrete tax items, the Company's effective tax rate was 16% of pre-tax income for both 2022 and 2021.

Year Ended December 31, 2021 Compared to Year Ended December 31, 2020

Revenue

Revenue for the year ended December 31, 2021 was \$1,037,098,000 compared to \$811,020,000 for the prior year, representing an increase of 28%. Revenue from customers in the logistics industry increased by approximately 65% from the prior year, with the most significant portion of this growth coming from e-commerce and omni-channel retailers. Higher sales from traditional brick-and-mortar retailers also contributed to growth in the logistics industry.

Growth in the automotive, semiconductor, medical-related, and consumer products industries also contributed to the increase in total revenue. After declining for two consecutive years, revenue from customers in the automotive industry grew faster than the company average in 2021, due in part to electric vehicle investments. These increases were partially offset by a decrease in revenue from customers in the consumer electronics industry due to lower investment in smartphone manufacturing and other devices that we believe benefited from remote work conditions in 2020.

From a geographic perspective, revenue from customers based in the Americas increased by 40% from the prior year driven primarily by higher revenue in the logistics industry. Revenue from customers in medical-related industries was also notably higher than the prior year.

Revenue from customers based in Europe increased by 19% from the prior year. Changes in foreign currency exchange rates resulted in a higher level of reported revenue in 2021, as sales denominated in Euros were translated into U.S. Dollars at a higher rate. Excluding the impact of foreign currency exchange rate changes, revenue from customers based in Europe increased by 15% from the prior year. The increase came from customers in a variety of industries, most notably logistics, automotive, and consumer products, partially offset by lower revenue in the consumer electronics industry. The decline in revenue from consumer electronics was partially a result of procurement changes made by certain customers, shifting their purchases to China from Europe.

Revenue from customers based in Greater China increased by 19% from the prior year. Changes in foreign currency exchange rates resulted in a higher level of reported revenue in 2021, as sales denominated in Chinese

Renminbi were translated into U.S. Dollars at a higher rate. Excluding the impact of foreign currency exchange rate changes, revenue from customers based in Greater China increased by 12% from the prior year. The increase was driven primarily by higher revenue in the automotive and semiconductor industries, partially offset by lower revenue in the consumer electronics industry.

Revenue from other countries in Asia increased by 24% from the prior year due primarily to higher revenue in the automotive, semiconductor, and consumer electronics industries.

Gross Margin

Gross margin as a percentage of revenue decreased to 73% in 2021 compared to 75% in 2020. The decrease in gross margin percentage was primarily due to higher prices paid to purchase inventories in 2021, including higher costs for components and freight, due largely to global supply chain constraints. The decrease was also due to a greater percentage of total revenue coming from the logistics industry, which has relatively lower gross margins and included some comparatively lower margins from strategic logistics projects in 2021.

The unfavorable impact of higher inventory purchase prices and a higher percentage of logistics revenue was partially offset by manufacturing efficiencies related to the higher revenue level and lower provisions for excess and obsolete inventories as compared to the prior year. The higher provisions for excess and obsolete inventories in 2020 took into account the global economic conditions resulting from the COVID-19 pandemic.

Operating Expenses

Research, Development, and Engineering Expenses

Research, development, and engineering (RD&E) expenses in 2021 increased by \$4,390,000, or 3%, from the prior year as detailed in the table below (in thousands).

RD&E expenses in 2020	\$	130,982
Foreign currency exchange rate changes		2,919
Outsourced engineering services		1,464
Personnel-related costs		(517)
Other		524
RD&E expenses in 2021	\$	135,372

RD&E expenses increased due to foreign currency exchange rate changes, as costs denominated in foreign currencies were translated into U.S. Dollars at a higher rate. Higher spending on outsourced engineering services due to the timing of product development activities, including engineering prototypes for large sales opportunities, also contributed to the increase. These increases were partially offset by lower personnel-related costs due to a workforce reduction in the second quarter of 2020. Higher costs from annual salary increases and fringe benefits provided to employees, as well as headcount additions to support new product initiatives, partially offset the lower costs from the workforce reduction.

RD&E expenses as a percentage of revenue was 13% in 2021 compared to 16% in 2020. We believe that a continued commitment to RD&E activities is essential in order to maintain or achieve product leadership with our existing products and to provide innovative new product offerings, as well as to provide engineering support for large customers. In addition, we consider our ability to accelerate the time to market for new products to be critical to our revenue growth. This annual percentage is impacted by revenue levels and investing cycles.

Selling, General, and Administrative Expenses

Selling, general, and administrative (SG&A) expenses increased in 2021 by \$41,761,000, or 16%, from the prior year as detailed in the table below (in thousands).

SG&A expenses in 2020	\$ 267,593
Incentive compensation	15,709
Personnel-related costs	6,734
Foreign currency exchange rate changes	6,420
Business system investments	2,798
Marketing programs	2,599
Travel expenses	2,057
Other	5,444
SG&A expenses in 2021	<u>\$ 309,354</u>

SG&A expenses increased due to higher expenses related to annual incentive compensation plans, which include sales commissions and incentive bonuses. Relevant performance goals for these plans, as well as any changes to employee eligibility, are set at the beginning of each year, with the ability to earn upside if the goals are exceeded. Sales commissions were higher than the prior year primarily due to the higher business levels, which resulted in a greater portion of our sales team exceeding the performance goals set in their commission plans in 2021 versus 2020. Likewise, the performance goal set for 2021 incentive bonuses was exceeded based on the Company's operating income margin, with the same being true in 2020. However, incentive bonus accruals in 2021 were higher than the prior year primarily due to the impact of changes to employee eligibility, of which the most significant related to members of the Company's senior leadership team who were not eligible for 2020 incentive bonuses as part of the Company's restructuring plan.

Personnel-related costs increased due to higher costs from annual salary increases and fringe benefits provided to employees, as well as sales headcount additions in strategic growth areas of the business, partially offset by the impact of the workforce reduction that took place in the second quarter of 2020. Changes in foreign currency exchange rates also resulted in a higher level of expenses, as costs denominated in foreign currencies were translated into U.S. Dollars at a higher rate. Expenses were also higher due to investments the Company is making in business systems related to its sales process, including systems to help our sales team more efficiently manage customer relationships and sales opportunities. A portion of these costs was expensed as incurred, while the majority of these investments were accounted for as a capital asset that was placed into service in the first quarter of 2022. The Company also increased spending on marketing programs in an effort to generate future sales opportunities, particularly related to new product introductions, and incurred higher travel expenses as restrictions related to COVID-19 eased in certain regions.

Restructuring and Intangible Asset Impairment Charges

On May 26, 2020, the Company's Board of Directors approved a restructuring plan intended to reduce the Company's operating costs, optimize its business model, and address the impact of the COVID-19 pandemic. The Company recorded restructuring charges of \$15,924,000 in 2020, as a result of actions related to the restructuring plan, which included a global workforce reduction of approximately 8% and office closures. In addition, the adverse impact of the COVID-19 pandemic triggered a review of long-lived assets for potential impairment in the second quarter of 2020. This review resulted in intangible asset impairment charges totaling \$19,571,000 recorded in the second quarter of 2020.

Non-operating Income (Expense)

The Company recorded foreign currency losses of \$2,270,000 in 2021 and foreign currency gains of \$3,697,000 in 2020. Foreign currency gains and losses result primarily from the revaluation and settlement of assets and liabilities that are denominated in currencies other than the functional currencies of our subsidiaries or the reporting currency of our company, which is the U.S. Dollar.

Investment income decreased by \$6,334,000, or 49%, from the prior year. The decrease was due primarily to lower yields on the Company's portfolio of debt securities, partially offset by higher invested balances.

The Company recorded other expense of \$591,000 in 2021 and \$309,000 in 2020. Other income (expense) includes fair value adjustments of contingent consideration liabilities arising from business acquisitions.

Income Tax Expense

The Company's effective tax rate was 12% of pre-tax income in 2021, compared to 6% in 2020.

The increase in effective tax rate in 2021 primarily resulted from the impact of discrete tax items, including a decrease in tax benefits related to stock-based compensation and return-to-provision adjustments. These impacts were partially offset by a decrease in tax expenses for certain international tax reserves.

Excluding the impact of all discrete tax items, the Company's effective tax rate was an expense of 16% of pre-tax income in 2021 and 17% of pre-tax income in 2020. The decrease in the effective tax rate excluding discrete tax items was due to the impact of higher estimated tax credits in 2021, partially offset by more of the Company's profits being earned and taxed in higher tax jurisdictions.

LIQUIDITY AND CAPITAL RESOURCES

The Company has historically been able to generate positive cash flow from operations, which has funded its operating activities and other cash requirements and resulted in an accumulated cash and investment balance of \$854,250,000 as of December 31, 2022. The Company has established guidelines relative to credit ratings, diversification, and maturities of its investments that maintain liquidity.

The Company's cash requirements in 2022 were primarily met with positive cash flows from operations, the sale and maturity of investments, and the proceeds from stock option exercises. Cash requirements consisted of operating activities, the repurchase of common stock, the payment of dividends, capital expenditures, purchases of investments, and payments related to our acquisition of SAC on December 7, 2022. Cash flows from operating activities included the purchase of inventories intended to support higher business levels, secure key strategic components to meet customer demand, carry higher stocking levels to mitigate the Company's exposure to demand changes or supply disruptions, and replenish inventories destroyed by the fire on June 7, 2022 at the Company's primary contract manufacturer. Cash outlays in the first quarter of 2023 are planned to include incentive compensation payments that were earned and accrued in 2022.

Capital expenditures in 2022 totaled \$19,677,000 and consisted primarily of computer hardware and software, manufacturing test equipment related to new product introductions, and improvements made to primarily the Company's distribution center in Southborough, Massachusetts. In 2021, the Company made investments in business systems related to its sales process, the majority of which were accounted for as a capital asset that was placed into service in the first quarter of 2022. Although the Company continues to make investments in its business systems related to its sales process, these investments are not expected to be material over the short or long term.

The Company's material cash requirements include contractual obligations related to inventory purchase commitments and leases. As of December 31, 2022, the Company had inventory purchase commitments of \$50,942,000, with the majority payable within 12 months, and lease payment obligations of \$44,336,000, with \$9,473,000 payable within 12 months.

In addition to the obligations described above, the following items may also result in future material uses of cash:

Stock Repurchases

In October 2018, the Company's Board of Directors authorized the repurchase of \$200,000,000 of the Company's common stock. Under this October 2018 program, in addition to repurchases made in prior years, the Company repurchased 1,215,000 shares at a cost of \$51,036,000 in 2020, and 957,000 shares at a cost of \$78,652,000 in 2021, which completed purchases under the October 2018 program. On March 12, 2020, the Company's Board of Directors authorized the repurchase of an additional \$200,000,000 of the Company's common stock. Under this March 2020 program, the Company repurchased 1,060,000 shares, including 5,000 shares that were repurchased in 2021 and settled in 2022, at a cost of \$83,000,000 in 2021, and 1,677,000 shares at a cost of \$117,000,000 in 2022, which completed purchases under the March 2020 program. On March 3, 2022, the Company's Board of Directors authorized the repurchase of an additional \$500,000,000 of the Company's common stock. Under this March 2022 program, the Company repurchased 1,682,000 shares at a total cost of \$87,314,000 in 2022, leaving a remaining balance of \$412,686,000. The Company may repurchase shares under this program in future periods depending on a variety of factors, including, among other things, the impact of dilution from employee stock awards, stock price, share availability, and cash requirements. The Company is authorized to make repurchases of its common stock through open market purchases, pursuant to Rule 10b5-1 trading plans, or in privately negotiated transactions.

Dividends

The Company's Board of Directors declared and paid cash dividends of \$0.055 per share in the first, second, and third quarters of 2020, \$0.060 per share in the fourth quarter of 2020 and in the first, second, and third quarters of 2021, and \$0.065 per share in the fourth quarter of 2021 and in the first, second, and third quarters of 2022. The dividend was increased to \$0.070 per share in the fourth quarter of 2022. Also, in the fourth quarter of 2020, an additional special cash dividend of \$2.00 per share was declared and paid. Total dividends paid were \$45,921,000 in 2022, \$43,263,000 in 2021, and \$390,508,000 in 2020, which included \$351,428,000 paid for the special cash dividend. Future dividends will be declared at the discretion of the Company's Board of Directors and will depend on

such factors as the Board deems relevant, including, among other things, the Company's ability to generate positive cash flow from operations.

Business Acquisitions

The total consideration for the 2019 acquisition of Sualab Co., Ltd. included deferred payments of \$24,040,000 that may become payable in October 2023, contingent upon the continued employment of key talent.

Income Taxes

The Tax Cuts and Jobs Act of 2017 subjected unrepatriated foreign earnings to a one-time transition tax. During 2022, the Company paid \$6,319,000 related to this one-time transition tax. As of December 31, 2022, the Company had a remaining balance payable of \$44,010,000 and expects to continue making payments through 2024.

The Company believes that its existing cash and investment balances, together with cash flow from operations, will be sufficient to meet its operating, investing, and financing activities for the next twelve months. In addition, the Company has no long-term debt. We believe that our strong cash position has put us in a relatively good position with respect to anticipated longer-term liquidity needs.

The Inflation Reduction Act ("IRA") was enacted into law on August 16, 2022. Included in the IRA was a provision to implement a 15% corporate alternative minimum tax on "adjusted financial statement income" for applicable corporations and a 1% excise tax on repurchases of stock. These provisions are effective for tax years beginning after December 31, 2022. We are in the process of evaluating the provisions of the IRA, but we do not currently believe the IRA will have a material impact on our reported results, cash flows, approach to stock repurchases, or financial position.

CRITICAL ACCOUNTING ESTIMATES

Our discussion and analysis of the Company's financial condition and results of operations are based on the consolidated financial statements included in this Annual Report on Form 10-K, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires management to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue, and expenses, and related disclosure of contingent assets and liabilities. We base our estimates on historical experience and various other assumptions believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Changes in accounting estimates are reasonably likely to occur from period to period. Accordingly, actual results could differ from these estimates under different assumptions or circumstances resulting in charges that could be material in future reporting periods. We believe the following critical accounting policies require the use of significant estimates and judgments in the preparation of our consolidated financial statements.

Revenue Recognition

The Company recognizes revenue in accordance with Accounting Standards Codification (ASC) 606, "Revenue from Contracts with Customers." The core principle of ASC 606 is to recognize revenue in a manner that depicts the transfer of promised goods or services to customers in an amount that reflects the consideration to which the Company expects to be entitled in exchange for those goods or services.

Management uses significant judgment when determining the amount of revenue to be recognized each period for application-specific customer solutions. Accounting for application-specific customer solutions requires management to monitor and evaluate customer contracts to determine the point in time at which the solution is validated. The Company's application-specific customer solutions are comprised of a combination of products and services which are accounted for as one performance obligation to deliver a total solution to the customer. On-site support services that are provided to the customer after the solution is deployed are accounted for as a separate performance obligation. These solutions are provided to customers in a variety of industries, including the consumer electronics and logistics industries.

Revenue for application-specific customer solutions is recognized at the point in time when the solution is validated, which is the point in time when the Company can objectively determine that the agreed-upon specifications in the contract have been met and the customer should reasonably accept the performance obligations in the arrangement. Although the customer may have taken legal title and physical possession of the goods when they arrived at the customer's designated site, the significant risks and rewards of ownership transfer to the customer only upon validation. Revenue for on-site support services related to these solutions is recognized over the time the service is provided.

In certain instances, an arrangement may include customer-specified acceptance provisions or performance guarantees that allow the customer to accept or reject delivered products that do not meet the customer's requirements. If the Company can objectively determine that control of a good or service has been transferred to the customer in accordance with the agreed-upon requirements in the contract, then customer acceptance is a formality. If acceptance provisions are presumed to be substantive, then revenue is deferred until customer acceptance.

Investments

As of December 31, 2022, the Company's investment portfolio of debt securities totaled \$672,876,000. These debt securities are reported at fair value, with unrealized gains and losses, net of tax, included in shareholders' equity as other comprehensive income (loss) since these securities are designated as available-for-sale securities. As of December 31, 2022, the Company's portfolio of debt securities had a net unrealized loss of \$26,817,000. Included in this net loss, were gross unrealized losses totaling \$27,560,000, of which \$12,718,000 were in a loss position for less than twelve months and \$14,842,000 were in a loss position for greater than twelve months. Management currently intends to hold these securities to full value recovery at maturity.

Management monitors its debt securities that are in an unrealized loss position to determine whether a loss exists related to the credit quality of the issuer. When developing an estimate of expected credit losses, management considers all relevant information including historical experience, current conditions, and reasonable forecasts of expected future cash flows. Credit losses on debt securities were not material in 2022, 2021, or 2020.

Stock-Based Compensation

The Company recognizes compensation expense for grants of stock options and restricted stock units ("RSUs"), including performance restricted stock units ("PRSUs"). Management is responsible for determining the appropriate valuation model and estimating the fair value of stock-based awards, and in doing so, considers a number of factors, including information provided by an outside valuation advisor and the observable market price of the Company's common stock on the grant date. The fair value of RSUs is determined based on the observable market price of the Company's common stock on the grant date less the present value of expected future dividends. The fair value of PRSUs where the performance goal includes service and market conditions is calculated using a Monte Carlo simulation model to estimate the probability of satisfying the service and market conditions stipulated in the award grant.

The use of valuation models requires us to make estimates of key assumptions such as expected volatility, expected term, risk-free interest rate, expected dividend yield, forfeiture rate and others. The estimate of these key assumptions is based on historical information and judgment regarding market factors and trends. As a result, if factors change and different assumptions are used, future stock-based compensation expense could be significantly different from what the Company recorded in the current period.

Income Taxes

Significant judgment is required in determining worldwide income tax expense based on tax laws in the various jurisdictions in which the Company operates. The Company has established reserves for income taxes by applying the "more likely than not" criteria, under which the recognition threshold is met when an entity concludes that a tax position, based solely on its technical merits, is more likely than not to be sustained upon examination by the relevant tax authority. All tax positions are analyzed periodically and adjustments are made as events occur that warrant modification, such as the completion of audits or the expiration of statutes of limitations, which may result in future charges or credits to income tax expense. We classify interest and penalties related to uncertain tax positions in "Income tax expense" on the Consolidated Statements of Operations.

As part of the process of preparing consolidated financial statements, management is required to estimate income taxes in each of the jurisdictions in which the Company operates. These estimates occur in the calculation of income tax credits, benefits, and deductions, and in the calculation of certain tax assets and liabilities, which arise from differences in the timing of the recognition of certain expenses for tax and financial statement purposes. We assess the likelihood of the realization of deferred tax assets and record a corresponding valuation allowance as necessary if we determine those deferred tax assets may not be realized due to the uncertainty of the timing and amount to be realized of certain federal, state, and international tax credit carryovers.

The Tax Cuts and Jobs Act of 2017 imposed a minimum tax on foreign earnings related to intangible assets, known as the Global Intangible Low-Taxed Income (GILTI) tax. In 2019, the Company elected to account for the impact of the GILTI minimum tax in deferred taxes, a change from the Company's initial election made in 2018 whereby the GILTI minimum tax was included in income tax expense as incurred on an annual basis. Management has

determined that this change is considered preferable, based on the conclusion that it appropriately matches the Company's current and deferred income tax implications related to the change in tax structure noted below.

In 2019, the Company made changes to its international tax structure as a result of tax reform legislation enacted by the European Union that resulted in an intercompany sale of intellectual property based on the fair value of this intellectual property. Also in 2019, in connection with the acquisition of Sualab Co. Ltd., the Company migrated acquired intellectual property to certain subsidiaries to align with its corporate tax structure. Significant judgment was required to estimate the fair value of the migrated intellectual property, including management estimates related to forecasted future cash flows and discount rates.

NEW PRONOUNCEMENTS

Refer to Part II, Item 8 - Note 2 within this Form 10-K, for a full description of recently issued accounting pronouncements including the expected dates of adoption and expected impact on the financial position and results of operations of the Company.

ITEM 7A: QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The Company is exposed to certain risks relating to its ongoing business operations, including foreign currency exchange rate risk and interest rate risk. The Company currently mitigates certain foreign currency exchange rate risks with derivative instruments. The Company does not currently manage its interest rate risk with derivative instruments.

Foreign Currency Risk

The Company faces exposure to foreign currency exchange rate fluctuations, as a significant portion of its revenues, expenses, assets, and liabilities are denominated in currencies other than the functional currencies of the Company's subsidiaries or the reporting currency of the Company, which is the U.S. Dollar. In certain instances, we utilize forward contracts to hedge against foreign currency fluctuations. These contracts are used to minimize foreign currency gains or losses, as the gains or losses on the derivative are intended to offset the losses or gains on the underlying exposure. We do not engage in foreign currency speculation.

The Company enters into economic hedges utilizing foreign currency forward contracts with maturities of up to 3 months to manage the exposure to fluctuations in foreign currency exchange rates arising primarily from foreign-denominated receivables and payables.

The Company had the following outstanding forward contracts (in thousands):

Currency	December 31, 2022				December 31, 2021			
	Notional Value	USD Equivalent	High Rate	Low Rate	Notional Value	USD Equivalent	High Rate	Low Rate
<i>Derivatives Not Designated as Hedging Instruments:</i>								
Euro	60,000	\$ 64,174	0.9350	0.9350	65,000	\$ 73,748	0.8814	0.8814
Mexican Peso	185,000	9,480	19.51	19.51	140,000	6,842	20.46	20.46
Chinese Renminbi	55,000	7,619	7.22	7.22	54,374	8,500	6.40	6.40
Japanese Yen	700,000	5,281	132.56	132.56	600,000	5,213	115.10	115.10
Hungarian Forint	1,590,000	4,238	375.19	375.19	1,355,000	4,155	326.11	326.11
British Pound	3,445	4,161	0.8279	0.8279	3,370	4,552	0.7403	0.7403
Canadian Dollar	1,730	1,278	1.35	1.35	1,480	1,167	1.27	1.27
Swiss Franc	1,120	1,218	0.92	0.92	—	—	—	—

A change in foreign currency exchange rates could materially impact the fair value of these contracts; however, if this occurred, the fair value of the underlying exposures hedged by the contracts would change by a similar amount. Accordingly, management does not believe that a material change in foreign currency exchange rates used in the fair value of our derivative instruments would materially impact operations or cash flows.

The success of our foreign currency risk management program depends on forecasts of transaction activity denominated in various currencies. To the extent that these forecasts are overstated or understated during periods of currency volatility, we could experience unanticipated foreign currency gains or losses that could have a material impact on our results of operations. Furthermore, our failure to identify new exposures and hedge them in an effective manner may result in material foreign currency gains or losses.

The Company's functional currency/reporting currency exchange rate exposures result from revenues and expenses that are denominated in currencies other than the U.S. Dollar. In addition to the U.S. Dollar, a significant portion of our revenues and expenses are denominated in the Euro and Chinese Renminbi, and to a lesser extent the Japanese Yen, Korean Won, and Mexican Peso. We estimate that approximately 52% of our sales in 2022 were invoiced in currencies other than the U.S. Dollar, and we expect sales denominated in foreign currencies to continue to represent a significant portion of our total revenue. While we also have expenses denominated in these same foreign currencies, the impact on revenues has historically been, and is expected to continue to be, greater than the offsetting impact on expenses. Therefore, in times when the U.S. Dollar strengthens in relation to these foreign currencies, we would expect to report a net decrease in operating income. Conversely, in times when the U.S. Dollar weakens in relation to these foreign currencies, we would expect to report a net increase in operating income. Thus, changes in the relative strength of the U.S. Dollar may have a material impact on our operating results.

Interest Rate Risk

The Company's investment portfolio of debt securities includes corporate bonds, asset-backed securities, treasury bills, agency bonds, sovereign bonds, and municipal bonds. Debt securities with original maturities greater than three months are designated as available-for-sale and are reported at fair value. As of December 31, 2022, the fair value of the Company's portfolio of debt securities amounted to \$672,876,000 with amortized cost amounts totaling \$699,693,000, maturities that do not exceed six years, and a yield to maturity of 1.94%. Differences between the fair value and principal amounts of the Company's portfolio of debt securities are primarily attributable to discounts and premiums arising at the acquisition date, as well as unrealized gains and losses as of the balance sheet date. Management currently intends to hold these securities to full value recovery at maturity.

The Company's investment policy allows investment in debt securities with effective maturities up to ten years, however as of December 31, 2022, 77% of the investment portfolio has effective maturity dates of less than three years. Given the relatively short maturities and investment-grade quality of the Company's portfolio of debt securities as of December 31, 2022, a sharp rise in interest rates should not have a material adverse effect on the fair value of these instruments. As a result, the Company does not currently hedge these interest rate exposures.

The following table presents the hypothetical change in the fair value of the Company's portfolio of debt securities arising from selected potential changes in interest rates (in thousands). This modeling technique measures the change in fair value that would result from a parallel shift in the yield curve plus or minus 50 and 100 basis points (BP) over a twelve-month time horizon.

Type of security	Valuation of securities given an interest rate decrease		No change in interest rates	Valuation of securities given an interest rate increase	
	(100 BP)	(50 BP)		50 BP	100 BP
Corporate bonds	\$ 547,596	\$ 543,045	\$ 538,495	\$ 533,945	\$ 529,394
Asset-backed securities	61,450	60,939	60,429	59,918	59,407
Treasury bills	56,485	56,016	55,546	55,077	54,608
Agency bonds	16,126	15,992	15,858	15,724	15,590
Sovereign bonds	1,956	1,940	1,924	1,907	1,891
Municipal bonds	635	630	624	619	614
	\$ 684,248	\$ 678,562	\$ 672,876	\$ 667,190	\$ 661,504

ITEM 8: FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

INDEX TO FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Consolidated Financial Statements:

<u>Report of Independent Registered Public Accounting Firm (PCAOB ID Number 248)</u>	<u>33</u>
<u>Consolidated Statements of Operations for the Years Ended December 31, 2022, 2021, and 2020</u>	<u>35</u>
<u>Consolidated Statements of Comprehensive Income for the Years Ended December 31, 2022, 2021, and 2020</u>	<u>36</u>
<u>Consolidated Balance Sheets as of December 31, 2022 and 2021</u>	<u>37</u>
<u>Consolidated Statements of Cash Flows for the Years Ended December 31, 2022, 2021, and 2020</u>	<u>38</u>
<u>Consolidated Statements of Shareholders' Equity for the Years Ended December 31, 2022, 2021, and 2020</u>	<u>39</u>
<u>Notes to the Consolidated Financial Statements</u>	<u>40</u>

Financial Statement Schedule:

<u>Schedule II – Valuation and Qualifying Accounts for the Years Ended December 31, 2022, 2021, and 2020</u>	<u>70</u>
--	-----------

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Shareholders
Cognex Corporation

Opinion on the financial statements

We have audited the accompanying consolidated balance sheets of Cognex Corporation (a Massachusetts corporation) and subsidiaries (the “Company”) as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive income, shareholders’ equity, and cash flows for each of the three years in the period ended December 31, 2022, and the related notes and financial statement schedule included under Item 15(a) (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, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022, in conformity with accounting principles generally accepted in the United States of America.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (“PCAOB”), the Company’s internal control over financial reporting as of December 31, 2022, based on criteria established in the 2013 *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”), and our report dated February 16, 2023 expressed an unqualified opinion.

Basis for opinion

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

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

Critical audit matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relate 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.

Revenue Recognition – Application-Specific Customer Solutions

As described further in Notes 1 and 14 to the consolidated financial statements, the Company recognizes revenue from application-specific customer solutions. For these transactions, revenue is recognized at the point in time when the solution is validated, which is when the Company can objectively determine that the agreed-upon specifications in the contract have been met and the customer will accept the performance obligation in the contract. We identified revenue recognition related to application-specific customer solutions as a critical audit matter.

The principal considerations for our determination that revenue recognition related to application-specific customer solutions is a critical audit matter are that evaluating the performance obligations and determining the timing of validation and that the agreed-upon specifications in the contract have been met relies on the use of management judgments and requires a higher degree of auditor judgment in designing, executing and evaluating the results of audit procedures. Accounting for application-specific customer solutions requires the Company to monitor and

evaluate customer contracts on an ongoing basis to determine the point in time at which the solution is validated, the agreed-upon specifications in the contract have been met and revenue can be recognized.

Our audit procedures related to the revenue recognition of application-specific customer solutions included the following, among others.

- We tested the design and operating effectiveness of internal controls related to the monitoring of application-specific customer solutions contracts, determination of validation and the timing of revenue recognition.
- We evaluated management's significant accounting policies related to these customer contracts, including the determination of the performance obligation, for appropriate revenue recognition based on key terms and provisions.
- For a sample of contracts, we inspected source documents, including the customer contract or purchase order, third-party shipping information, invoice, and evidence of validation or acceptance to evaluate the identification of performance obligations and timing of revenue recognition.

/s/ GRANT THORNTON LLP

We have served as the Company's auditor since 2007.

Boston, Massachusetts

February 16, 2023

COGNEX CORPORATION – CONSOLIDATED STATEMENTS OF OPERATIONS

	Year Ended December 31,		
	2022	2021	2020
	(In thousands, except per share amounts)		
Revenue	\$ 1,006,090	\$ 1,037,098	\$ 811,020
Cost of revenue	284,185	277,271	206,421
Gross margin	721,905	759,827	604,599
Research, development, and engineering expenses	141,133	135,372	130,982
Selling, general, and administrative expenses	312,107	309,354	267,593
Loss from fire (Note 22)	20,779	—	—
Restructuring charges (Note 23)	1,657	—	15,924
Intangible asset impairment charges (Note 9)	—	—	19,571
Operating income	246,229	315,101	170,529
Foreign currency gain (loss)	(1,837)	(2,270)	3,697
Investment income	6,715	6,660	12,994
Other income (expense)	(412)	(591)	(309)
Income before income tax expense	250,695	318,900	186,911
Income tax expense	35,170	39,019	10,725
Net income	<u>\$ 215,525</u>	<u>\$ 279,881</u>	<u>\$ 176,186</u>
Net Income per weighted-average common and common-equivalent share:			
Basic	<u>\$ 1.24</u>	<u>\$ 1.59</u>	<u>\$ 1.02</u>
Diluted	<u>\$ 1.23</u>	<u>\$ 1.56</u>	<u>\$ 1.00</u>
Weighted-average common and common-equivalent shares outstanding:			
Basic	<u>173,407</u>	<u>176,463</u>	<u>173,489</u>
Diluted	<u>174,869</u>	<u>179,916</u>	<u>176,592</u>
Cash dividends per common share	<u>\$ 0.265</u>	<u>\$ 0.245</u>	<u>\$ 2.225</u>

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

COGNEX CORPORATION – CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	Year Ended December 31,		
	2022	2021	2020
	(In thousands)		
Net income	\$ 215,525	\$ 279,881	\$ 176,186
Other comprehensive income (loss), net of tax:			
Available-for-sale investments:			
Net unrealized gain (loss), net of tax of \$(5,943), \$(2,206), and \$981 in 2022, 2021, and 2020, respectively	(17,152)	(7,152)	6,478
Reclassification of net realized (gain) loss into current operations	182	(236)	(4,119)
Net change related to available-for-sale investments	(16,970)	(7,388)	2,359
Foreign currency translation adjustments:			
Foreign currency translation gain (loss)	(4,385)	(6,753)	1,115
Net change related to foreign currency translation adjustments	(4,385)	(6,753)	1,115
Other comprehensive income (loss), net of tax	(21,355)	(14,141)	3,474
Total comprehensive income	<u>\$ 194,170</u>	<u>\$ 265,740</u>	<u>\$ 179,660</u>

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

COGNEX CORPORATION – CONSOLIDATED BALANCE SHEETS

	December 31,	
	2022	2021
	(In thousands)	
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 181,374	\$ 186,161
Current investments, amortized cost of \$223,545 and \$137,124 in 2022 and 2021, respectively, allowance for credit losses of \$0 in 2022 and 2021	218,759	137,455
Accounts receivable, allowance for credit losses of \$730 and \$776 in 2022 and 2021, respectively	125,417	130,348
Unbilled revenue	2,179	3,990
Inventories	122,480	113,102
Prepaid expenses and other current assets	67,490	68,742
Total current assets	<u>717,699</u>	<u>639,798</u>
Non-current investments, amortized cost of \$476,148 and \$587,981 in 2022 and 2021, respectively, allowance for credit losses of \$0 in 2022 and 2021	454,117	583,748
Property, plant, and equipment, net	79,714	77,546
Operating lease assets	37,682	23,157
Goodwill	242,630	241,713
Intangible assets, net	12,414	11,888
Deferred income taxes	407,241	418,570
Other assets	6,643	7,242
Total assets	<u>\$ 1,958,140</u>	<u>\$ 2,003,662</u>
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 27,103	\$ 44,051
Accrued expenses	93,235	92,432
Accrued income taxes	18,129	8,577
Deferred revenue and customer deposits	40,787	35,743
Operating lease liabilities	8,454	7,786
Total current liabilities	<u>187,708</u>	<u>188,589</u>
Non-current operating lease liabilities	31,298	17,795
Deferred income taxes	249,961	293,769
Reserve for income taxes	15,866	14,780
Non-current accrued income taxes	33,008	43,160
Other liabilities	1,905	15,476
Total liabilities	<u>519,746</u>	<u>573,569</u>
Commitments and contingencies (Note 11)		
Shareholders' equity:		
Preferred stock, \$0.01 par value - Authorized: 400 shares in 2022 and 2021, respectively, no shares issued and outstanding	—	—
Common stock, \$0.002 par value – Authorized: 300,000 shares in 2022 and 2021, respectively, issued and outstanding: 172,631 and 175,481 shares in 2022 and 2021, respectively	345	351
Additional paid-in capital	979,167	914,802
Retained earnings	528,179	562,882
Accumulated other comprehensive loss, net of tax	(69,297)	(47,942)
Total shareholders' equity	<u>1,438,394</u>	<u>1,430,093</u>
Total liabilities and shareholders' equity	<u>\$ 1,958,140</u>	<u>\$ 2,003,662</u>

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

COGNEX CORPORATION – CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended December 31,		
	2022	2021	2020
	(In thousands)		
Cash flows from operating activities:			
Net income	\$ 215,525	\$ 279,881	\$ 176,186
Adjustments to reconcile net income to net cash provided by operating activities:			
Stock-based compensation expense	54,505	43,774	42,661
Depreciation of property, plant, and equipment	16,347	16,616	22,139
Loss (gain) on disposal of property, plant, and equipment	19	33	1,817
Amortization of intangible assets	3,274	3,667	4,364
Intangible asset impairment charges	—	—	19,571
Non-cash impact of charges related to fire (Note 22)	46,372	—	—
Excess and obsolete inventory charges	3,084	2,573	9,908
Operating lease asset impairment charges	—	—	3,427
Amortization of discounts or premiums on investments	4,968	4,887	1,274
Realized (gain) loss on sale of investments	182	(236)	(4,119)
Revaluation of contingent consideration	—	—	(114)
Change in deferred income taxes	(27,338)	(3,118)	(3,353)
Changes in operating assets and liabilities:			
Accounts receivable	3,454	(4,503)	(21,285)
Unbilled revenue	1,806	1,637	(848)
Inventories	(48,934)	(54,920)	(10,319)
Prepaid expenses and other current assets	(6,998)	(32,342)	(9,909)
Accounts payable	(17,277)	27,828	(1,688)
Accrued expenses	2,056	16,861	24,542
Accrued income taxes	(444)	(6,401)	(22,973)
Deferred revenue and customer deposits	4,886	14,417	6,571
Other	(12,081)	3,411	4,548
Net cash provided by operating activities	<u>243,406</u>	<u>314,065</u>	<u>242,400</u>
Cash flows from investing activities:			
Purchases of investments	(233,720)	(668,053)	(922,867)
Maturities and sales of investments	253,983	430,969	1,104,605
Purchases of property, plant, and equipment	(19,667)	(15,455)	(13,303)
Net payments related to business acquisitions	(5,050)	—	1,004
Net cash provided by (used in) investing activities	<u>(4,454)</u>	<u>(252,539)</u>	<u>169,439</u>
Cash flows from financing activities:			
Net payments from issuance of common stock under stock plans	9,861	63,292	125,715
Repurchase of common stock	(204,314)	(161,652)	(51,036)
Payment of dividends	(45,921)	(43,263)	(390,508)
Payment of contingent consideration	—	—	(1,039)
Net cash used in financing activities	<u>(240,374)</u>	<u>(141,623)</u>	<u>(316,868)</u>
Effect of foreign exchange rate changes on cash and cash equivalents	(3,365)	(2,815)	2,671
Net change in cash and cash equivalents	<u>(4,787)</u>	<u>(82,912)</u>	<u>97,642</u>
Cash and cash equivalents at beginning of year	186,161	269,073	171,431
Cash and cash equivalents at end of year	<u>\$ 181,374</u>	<u>\$ 186,161</u>	<u>\$ 269,073</u>

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

COGNEX CORPORATION – CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

(In thousands)	Common Stock		Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Total Shareholders' Equity
	Shares	Par Value				
Balance as of December 31, 2019	172,440	\$ 345	\$ 639,372	\$ 753,268	\$ (37,275)	\$ 1,355,710
Net issuance of common stock under stock plans	4,565	9	125,706	—	—	125,715
Repurchase of common stock	(1,215)	(2)	—	(51,034)	—	(51,036)
Stock-based compensation expense	—	—	42,661	—	—	42,661
Payment of dividends (\$2.225 per common share)	—	—	—	(390,508)	—	(390,508)
Net income	—	—	—	176,186	—	176,186
Net unrealized gain (loss) on available-for-sale investments, net of tax of \$981	—	—	—	—	6,478	6,478
Reclassification of net realized (gain) loss on the sale of available-for-sale investments	—	—	—	—	(4,119)	(4,119)
Foreign currency translation adjustment, net of tax of \$0	—	—	—	—	1,115	1,115
Balance as of December 31, 2020	175,790	\$ 352	\$ 807,739	\$ 487,912	\$ (33,801)	\$ 1,262,202
Net issuance of common stock under stock plans	1,703	3	63,289	—	—	63,292
Repurchase of common stock	(2,012)	(4)	—	(161,648)	—	(161,652)
Stock-based compensation expense	—	—	43,774	—	—	43,774
Payment of dividends (\$0.245 per common share)	—	—	—	(43,263)	—	(43,263)
Net income	—	—	—	279,881	—	279,881
Net unrealized gain (loss) on available-for-sale investments, net of tax of (\$2,206)	—	—	—	—	(7,152)	(7,152)
Reclassification of net realized (gain) loss on the sale of available-for-sale investments	—	—	—	—	(236)	(236)
Foreign currency translation adjustment, net of tax of \$0	—	—	—	—	(6,753)	(6,753)
Balance as of December 31, 2021	175,481	\$ 351	\$ 914,802	\$ 562,882	\$ (47,942)	\$ 1,430,093
Net issuance of common stock under stock plans	514	1	9,860	—	—	9,861
Repurchase of common stock	(3,364)	(7)	—	(204,307)	—	(204,314)
Stock-based compensation expense	—	—	54,505	—	—	54,505
Payment of dividends (\$0.265 per common share)	—	—	—	(45,921)	—	(45,921)
Net income	—	—	—	215,525	—	215,525
Net unrealized gain (loss) on available-for-sale investments, net of tax of \$(5,943)	—	—	—	—	(17,152)	(17,152)
Reclassification of net realized (gain) loss on the sale of available-for-sale investments	—	—	—	—	182	182
Foreign currency translation adjustment, net of tax of \$0	—	—	—	—	(4,385)	(4,385)
Balance as of December 31, 2022	172,631	\$ 345	\$ 979,167	\$ 528,179	\$ (69,297)	\$ 1,438,394

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

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1: Summary of Significant Accounting Policies

The accompanying consolidated financial statements reflect the application of the significant accounting policies described below.

Nature of Operations

Cognex Corporation ("the Company" or "Cognex") is a leading global provider of machine vision products and solutions that improve efficiency and quality and address some of the most critical manufacturing and distribution challenges.

Use of Estimates in the Preparation of Financial Statements

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America (U.S. GAAP) requires management to make estimates and judgments that affect the reported amounts of assets and liabilities and the disclosure of contingent liabilities as of the balance sheet date, and the reported amounts of revenues and expenses during the year. Actual results could differ from those estimates. Significant estimates and judgments include those related to revenue recognition, investments, stock-based compensation, and income taxes.

Basis of Consolidation

The consolidated financial statements include the accounts of Cognex Corporation and its subsidiaries, all of which are wholly-owned. All intercompany accounts and transactions have been eliminated.

Foreign Currency Translation

The financial statements of the Company's foreign subsidiaries, where the local currency is the functional currency, are translated using exchange rates in effect at the end of the year for assets and liabilities and average exchange rates during the year for results of operations. The resulting foreign currency translation adjustment, net of tax, is included in shareholders' equity as accumulated other comprehensive loss.

Fair Value Measurements

The Company applies a three-level valuation hierarchy for fair value measurements. The categorization of assets and liabilities within the valuation hierarchy is based on the lowest level of input that is significant to the measurement of fair value. Level 1 inputs to the valuation methodology utilize unadjusted quoted market prices in active markets for identical assets and liabilities. Level 2 inputs to the valuation methodology are other observable inputs, including quoted market prices for similar assets and liabilities, quoted prices for identical and similar assets and liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data. Level 3 inputs to the valuation methodology are unobservable inputs based on management's best estimate of the inputs that market participants would use in pricing the asset or liability at the measurement date, including assumptions about risk. A change to the level of an asset or liability within the fair value hierarchy is determined at the end of a reporting period.

Cash, Cash Equivalents, and Investments

Money market instruments, as well as debt securities with original maturities of three months or less, are classified as cash equivalents and are stated at amortized cost. Debt securities with original maturities greater than three months and remaining maturities of one year or less are classified as current investments. Debt securities with remaining maturities greater than one year are classified as non-current investments. It is the Company's policy to invest in investment-grade debt securities with effective maturities that do not exceed ten years.

Debt securities with original maturities greater than three months are designated as available-for-sale and are reported at fair value, with unrealized gains and losses, net of tax, included in shareholders' equity as accumulated other comprehensive loss. Realized gains and losses are calculated using the specific identification method. Realized gains and losses, interest income, and the amortization of the discount or premium on debt securities arising at acquisition, are included in "Investment income" on the Consolidated Statements of Operations.

Management monitors its debt securities to determine whether a loss exists related to the credit quality of the issuer. If the present value of the cash flows expected to be collected from the security is less than the amortized cost basis of the security, then a credit loss exists and an allowance against the security for credit losses is recorded. The allowance is limited to the amount by which fair value is below amortized cost, recognizing that the investment could be sold at fair value. Credit losses continue to be remeasured in subsequent reporting periods. Credit losses and

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

recoveries related to debt securities are included in "Other income (expense)" on the Consolidated Statements of Operations. When developing an estimate of expected credit losses, management considers all relevant information including historical experience, current conditions, and reasonable forecasts of expected future cash flows.

Accounts Receivable

The Company extends credit with various payment terms to customers based on an evaluation of their financial condition. Accounts that are outstanding longer than the payment terms are considered to be past due. The Company establishes an allowance against accounts receivable for credit losses when it determines receivables are at risk for collection based on the length of time the receivable has been outstanding, the customer's current ability to pay its obligations to the Company, and general economic and industry conditions, as well as various other factors. Receivables are written off against this allowance in the period they are determined to be uncollectible and payments subsequently received on previously written-off receivables are recorded as a recovery of the credit loss. Credit losses and recoveries related to accounts receivable are included in "Selling, general, and administrative expenses" on the Consolidated Statements of Operations.

Inventories

Inventories are stated at the lower of cost and net realizable value. Cost is determined using standard costs, which approximates actual costs under the first-in, first-out (FIFO) method. Net realizable value is the estimated selling price in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation.

Purchase price variances are incurred when actual costs are different than standard costs due to favorable or unfavorable market prices. Management applies judgment to recognize purchase price variances in the same period that the associated standard costs of the finished goods that consume these components are sold.

The Company's inventory is subject to technological change or obsolescence. The Company reviews inventory quantities on hand and estimates excess and obsolescence exposures based on assumptions about future demand, product transitions, general economic and industry conditions, and other circumstances, and records reserves to reduce the carrying value of inventories to their net realizable value. If actual future demand is less than estimated, additional inventory write-downs would be required.

The Company generally disposes of obsolete inventory upon determination of obsolescence. The Company does not dispose of excess inventory immediately, due to the possibility that some of this inventory could be sold to customers as a result of differences between actual and forecasted demand. When inventory has been written down below cost, such reduced amount is considered the new cost basis for subsequent accounting purposes. As a result, the Company could recognize a higher than normal gross margin if the reserved inventory were subsequently sold.

Property, Plant, and Equipment

Property, plant, and equipment are stated at cost and depreciated using the straight-line method over the assets' estimated useful lives. Buildings' useful lives are 39 years, building improvements' useful lives are ten years, and the useful lives of computer hardware and software, manufacturing test equipment, and furniture and fixtures range from two to ten years. Leasehold improvements are depreciated over the shorter of the estimated useful lives or the remaining terms of the leases. Maintenance and repairs are expensed when incurred; additions and improvements are capitalized. Upon retirement or disposition, the cost and related accumulated depreciation of the disposed assets are removed from the accounts, with any resulting gain or loss included in current operations.

Internal-use Software

Internal-use software is software acquired, internally developed, or modified solely to meet the Company's internal needs, and during the software's development, no substantive plan exists to sell the software. The accounting treatment for computer software developed for internal use depends on the nature of activities performed at each stage of development. The preliminary project stage includes conceptual formulation of design alternatives, determination of system requirements, vendor demonstrations, and final selection of vendors, and during this stage costs are expensed as incurred. The application development stage includes software configuration, coding, hardware installation, and testing. During this stage, certain costs are capitalized, including external direct costs of materials and services, as well as payroll and payroll-related costs for employees who are directly associated with the project, while certain costs are expensed as incurred, including training and data conversion costs. The post-implementation stage includes support and maintenance, and during this stage costs are expensed as incurred.

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Capitalization begins when both the preliminary project stage is completed and management commits to funding the project. Capitalization ceases at the point the project is substantially complete and ready for its intended use, that is, after all substantial testing is completed. Costs of specified upgrades and enhancements to internal-use software are capitalized if it is probable that those expenditures result in additional functionality. Capitalized costs are amortized on a straight-line basis over the estimated useful life.

Leases

At inception of a contract, the Company determines whether that contract is or contains a lease by assessing whether there is an identified asset and whether the contract conveys the right to control the use of the identified asset for a period of time in exchange for consideration. The Company has control of the asset if it has the right to direct the use of the asset and obtains substantially all of the economic benefits from the use of the asset throughout the period of use.

As a practical expedient, the Company does not recognize a lease asset or lease liability for leases with a lease term of 12 months or less. In the determination of the lease term, the Company considers the existence of extension or termination options and the probability of those options being exercised.

Lease contracts may include fixed lease components and non-lease components, such as common area maintenance and utilities for property leases. As a practical expedient, the Company accounts for the non-lease components together with the lease components as a single lease component for all of its leases.

The Company classifies a lease as a finance lease when it meets any of the following criteria at the lease commencement date: (1) the lease transfers ownership of the underlying asset to the Company by the end of the lease term; (2) the lease grants the Company an option to purchase the underlying asset that the Company is reasonably certain to exercise; (3) the lease term is for the major part of the remaining economic life of the underlying asset (the Company considers a major part to be 75% or more of the remaining economic life of the underlying asset); (4) the present value of the sum of the lease payments and any residual value guaranteed by the Company equals or exceeds substantially all of the fair value of the underlying asset (the Company considers substantially all the fair value to be 90% or more of the fair value of the underlying asset amount); or (5) the underlying asset is of such a specialized nature that it is expected to have no alternative use to the lessor at the end of the lease term. When none of the criteria above are met, the Company classifies the lease as an operating lease.

On the lease commencement date, the Company records a lease asset and lease liability on the balance sheet. The lease asset consists of: (1) the amount of the initial lease liability; (2) any lease payments made to the lessor at or before the lease commencement date, minus any lease incentives received; and (3) any initial direct cost incurred by the Company. Initial direct costs are incremental costs of a lease that would not have been incurred if the lease had not been obtained and are capitalized as part of the lease asset. The lease liability equals the present value of the future cash payments discounted using the Company's incremental borrowing rate. The Company's incremental borrowing rate is the rate of interest that the Company would have to pay to borrow an amount equal to the lease payments over a similar term, which, through year ended December 31, 2022, was estimated using the three-month London Interbank Offered Rate (LIBOR) plus a 2% credit risk spread.

Operating lease expense equals the total cash payments recognized on a straight-line basis over the lease term. The amortization of the lease asset is calculated as the straight-line lease expense less the accretion of the interest on the lease liability each period. The lease liability is reduced by the cash payment less the interest each period.

Goodwill

Goodwill is stated at cost. The Company evaluates the potential impairment of goodwill annually each fourth quarter and whenever events or circumstances indicate the carrying value of the goodwill may not be recoverable. The Company performs a qualitative assessment of goodwill to determine whether further impairment testing is necessary. Factors that management considers in this assessment include general economic and industry conditions, overall financial performance (both current and projected), changes in strategy, changes in the composition or carrying amount of net assets, and market capitalization. If this qualitative assessment indicates that it is more likely than not that the fair value of a reporting unit is less than its carrying value, the Company would proceed to perform a quantitative impairment test. Under this quantitative analysis, the fair value of the reporting unit is compared with its carrying value, including goodwill. If the carrying value exceeds the fair value of the reporting unit, the Company recognizes an impairment charge. The Company estimates the fair value of its reporting unit using the income approach based on a discounted cash flow model. In addition, the Company uses the market approach, which compares the reporting unit to publicly-traded companies and transactions involving

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

similar businesses, to support the conclusions based on the income approach.

Intangible Assets

Intangible assets are stated at cost and amortized over the assets' estimated useful lives. Intangible assets are either amortized in relation to the relative cash flows anticipated from the intangible asset or using the straight-line method, depending on facts and circumstances. The useful lives of distribution networks range from eleven to twelve years, completed technologies from five to eight years, customer relationships from five to eight years, non-compete agreements from three to seven years, and trademarks two years. In-process technology is an indefinite-lived intangible asset until the technology is completed, at which point it is amortized over its estimated useful life.

The Company evaluates the potential impairment of intangible assets whenever events or circumstances indicate the carrying value of the assets may not be recoverable. For finite-lived intangible assets that are subject to amortization, the Company follows a two-step process for impairment testing. In step one, known as the recoverability test, the carrying value of the asset is compared to the sum of the undiscounted cash flows expected to result from the use and eventual disposition of the asset. If the sum of the undiscounted future cash flows is less than the carrying value, the asset is not recoverable and step two is performed. In step two, the impairment charge is measured as the amount by which the carrying value of the asset exceeds its fair value. For indefinite-lived intangible assets that are not subject to amortization, the fair value of the asset is measured and an impairment charge is recorded as the amount by which the carrying value of the asset exceeds its fair value.

Warranty Obligations

The Company warrants its products to be free from defects in material and workmanship for periods primarily ranging from one to three years from the time of sale based on the product being purchased and the terms of the customer arrangement. Warranty obligations are evaluated and recorded at the time of sale since it is probable that customers will make claims under warranties related to products that have been sold and the amount of these claims can be reasonably estimated based on historical costs to fulfill claims. Obligations may also be recorded subsequent to the time of sale whenever specific events or circumstances impacting product quality become known that would not have been taken into account using historical data.

Contingencies

Loss contingencies are accrued if the loss is probable and the amount of the loss can be reasonably estimated. Legal costs associated with potential loss contingencies are expensed as incurred.

Derivative Instruments

Derivative instruments are recorded on the Consolidated Balance Sheets at fair value. Changes in the fair value of the Company's economic hedges utilizing foreign currency forward contracts are included in "Foreign currency gain (loss)" on the Consolidated Statements of Operations. The Company recognizes all derivative instruments as either current assets or current liabilities at fair value on the Consolidated Balance Sheets. When the Company is engaged in more than one outstanding derivative contract with the same counterparty and also has a legally enforceable master netting agreement with that counterparty, the "net" mark-to-market exposure represents the netting of the positive and negative exposures with that counterparty. The cash flows from derivative instruments are presented in the same category on the Consolidated Statements of Cash Flows as the category for the cash flows from the hedged item. Generally, this accounting policy election results in cash flows related to derivative instruments being classified as an operating activity on the Consolidated Statements of Cash Flows.

Revenue Recognition

The Company recognizes revenue in accordance with Accounting Standards Codification (ASC) 606, "Revenue from Contracts with Customers." The core principle of ASC 606 is to recognize revenue in a manner that depicts the transfer of promised goods or services to customers in an amount that reflects the consideration to which the Company expects to be entitled in exchange for those goods or services. The framework in support of this core principle includes: (1) identifying the contract with the customer; (2) identifying the performance obligations in the contract; (3) determining the transaction price; (4) allocating the transaction price to the performance obligations; and (5) recognizing revenue when (or as) the performance obligations are satisfied.

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Identifying the Contract with the Customer

The Company identifies contracts with customers as agreements that create enforceable rights and obligations, which typically take the form of customer contracts or purchase orders. The Company accounts for a contract when it has approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance, and collectability of consideration is probable.

Identifying the Performance Obligations in the Contract

The Company identifies performance obligations as promises in contracts to transfer distinct goods or services. Standard products and services that the Company regularly sells separately, which customers can benefit from either on their own or with other readily available resources and are distinct within the context of the customer contract, are accounted for as distinct performance obligations. Application-specific customer solutions that are comprised of a combination of products and services are accounted for as one performance obligation to deliver a total solution to the customer. On-site support services that are provided to the customer after the solution is deployed are accounted for as a separate performance obligation. These solutions are provided to customers in a variety of industries, including the consumer electronics and logistics industries.

Shipping and handling activities for which the Company is responsible under the terms and conditions of the sale are not accounted for as performance obligations but as fulfillment costs. These activities are required to fulfill the Company's promise to transfer the goods and are expensed when revenue is recognized.

The Company does not assess whether promised goods or services are performance obligations if they are immaterial in the context of the contract. If revenue is recognized before immaterial promises have been completed, then the costs related to such immaterial promises are accrued at the time of sale.

Determining the Transaction Price

The Company determines the transaction price as the amount of consideration it expects to receive in exchange for transferring promised goods or services to the customer. Amounts collected from customers for sales taxes are excluded from the transaction price.

If a contract includes a variable amount, such as a rebate, then the Company estimates the transaction price using either the expected value or the most likely amount of consideration to be received, depending on the specific facts and circumstances. The Company includes estimated variable consideration in the transaction price only to the extent it is probable that a significant reversal of revenue will not occur when the uncertainty is resolved. The Company updates its estimate of variable consideration at the end of each reporting period to reflect changes in facts and circumstances.

The Company typically does not grant customers the explicit right to return product. However, from time to time, the Company may allow a customer to return a product. As a practical expedient, the Company estimates the transaction price using the expected value based on its history of return experience using a portfolio approach in which the Company's total revenue is reduced by an estimate of total customer returns. Management reasonably expects that the effect of applying a portfolio approach to a group of contracts would not differ materially from considering each contract separately.

Allocating the Transaction Price to the Performance Obligations

The Company allocates the transaction price to each performance obligation at contract inception based on a relative stand-alone selling price basis, or the price at which the Company would sell the good or service separately to similar customers in similar circumstances.

Recognizing Revenue When (or As) the Performance Obligations are Satisfied

The Company recognizes revenue when it transfers the promised goods or services to the customer. Revenue for standard products is recognized at the point in time when the customer obtains control of the goods, which is typically upon delivery when the customer has legal title, physical possession, the risks and rewards of ownership, and an enforceable obligation to pay for the products. Revenue for services, which are not material, is typically recognized over the time the service is provided.

Revenue for application-specific customer solutions is recognized at the point in time when the solution is validated, which is the point in time when the Company can objectively determine that the agreed-upon specifications in the contract have been met and the customer should reasonably accept the performance obligations in the arrangement. Although the customer may have taken legal title and physical possession of the goods when they arrived at the customer's designated site, the significant risks and rewards of ownership transfer to the customer

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

only upon validation. Revenue for on-site support services related to these solutions is recognized over the time the service is provided.

In certain instances, an arrangement may include customer-specified acceptance provisions or performance guarantees that allow the customer to accept or reject delivered products that do not meet the customer's requirements. If the Company can objectively determine that control of a good or service has been transferred to the customer in accordance with the agreed-upon requirements in the contract, then customer acceptance is a formality. If acceptance provisions are presumed to be substantive, then revenue is deferred until customer acceptance.

For the Company's standard products and services, revenue recognition and billing typically occur at the same time. For application-specific customer solutions, however, the agreement with the customer may provide for billing terms which differ from revenue recognition criteria, resulting in either deferred revenue or unbilled revenue. Credit assessments are performed to determine payment terms, which vary by region, industry, and customer. Prepayment terms result in contract liabilities for customer deposits. When credit is granted to customers, payment is typically due 30 to 90 days from billing. The Company's contracts have an original expected duration of less than one year, and therefore as a practical expedient, the Company has elected to ignore the impact of the time value of money on a contract and to expense sales commissions. The Company recognizes an asset for costs to fulfill a contract if the costs relate directly to the contract and to future performance, and the costs are expected to be recovered.

Management exercises judgment when determining the amount of revenue to be recognized each period. Such judgments include, but are not limited to, assessing the customer's ability and intention to pay substantially all of the contract consideration when due, determining when two or more contracts should be combined and accounted for as a single contract, determining whether a contract modification has occurred, assessing whether promises are immaterial in the context of the contract, determining whether material promises in a contract represent distinct performance obligations, estimating the transaction price for a contract that contains variable consideration, determining the stand-alone selling price of each performance obligation, determining whether control is transferred over time or at a point in time for performance obligations, and assessing whether formal customer acceptance provisions are substantive.

Research and Development

Research and development costs primarily include costs related to personnel, prototyping materials and equipment, and outside services. Research and development costs are expensed when incurred until technological feasibility has been established for the product. Thereafter, all software costs may be capitalized until the product is available for general release to customers. The Company determines technological feasibility at the time the product reaches beta in its stage of development. Historically, the time incurred between beta and general release to customers has been short, and therefore, the costs have been insignificant.

Advertising Costs

Advertising costs are expensed as incurred and totaled \$1,257,000 in 2022, \$1,965,000 in 2021, and \$1,443,000 in 2020.

Stock-Based Compensation

The Company's stock-based awards that result in compensation expense consist of stock options and restricted stock units ("RSUs"), including performance restricted stock units ("PRSUs"). The Company has reserved a specific number of shares of its authorized but unissued shares for issuance upon the exercise of stock options or the settlement of RSUs. When a stock option is exercised or an RSU is settled, the Company issues new shares from this pool. Management is responsible for determining the appropriate valuation model and estimating the fair value of stock-based awards, and in doing so, considers a number of factors, including information provided by an outside valuation advisor and the observable market price of the Company's common stock on the grant date. The fair value of RSUs is determined based on the observable market price of the Company's common stock on the grant date less the present value of expected future dividends. The fair value of PRSUs where the performance goal includes service and market conditions is calculated using a Monte Carlo simulation model to estimate the probability of satisfying the service and market conditions stipulated in the award grant. When determining the grant-date fair value of stock-based awards, management further considers whether an adjustment is required to the observable market price or volatility of the Company's common stock that is used in the valuation as a result of material non-public information, if that information is expected to result in a material increase in share price.

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The Company recognizes compensation expense related to stock-based awards using the graded attribution method, in which expense is recognized on a straight-line basis over the service period for each separately vesting portion of the stock option or RSU as if the award was, in substance, multiple awards. The amount of compensation expense recognized at the end of the vesting period is based on the number of awards for which the requisite service has been completed. No compensation expense is recognized for awards that are forfeited for which the employee does not render the requisite service. The term “forfeitures” is distinct from “expirations” and represents only the unvested portion of the surrendered award. The Company applies estimated forfeiture rates to its unvested awards to arrive at the amount of compensation expense that is expected to be recognized over the requisite service period. At the end of each separately vesting portion of an award, the expense that was recognized by applying the estimated forfeiture rate is compared to the expense that should be recognized based on the employee’s service, and an increase or decrease to compensation expense is recorded to true up the final expense.

Taxes

The Company recognizes a tax position in its financial statements when that tax position, based solely upon its technical merits, is more likely than not to be sustained upon examination by the relevant taxing authority. Those tax positions failing to qualify for initial recognition are recognized in the first interim period in which they meet the more likely than not standard, or are resolved through negotiation or litigation with the taxing authority, or upon expiration of the statutes of limitations. Derecognition of a tax position that was previously recognized occurs when an entity subsequently determines that a tax position no longer meets the more likely than not threshold of being sustained.

Only the portion of the liability that is expected to be paid within one year is classified as a current liability. As a result, liabilities expected to be resolved without the payment of cash (e.g., resolution due to the expiration of the statutes of limitations) or are not expected to be paid within one year are not classified as current. It is the Company’s policy to record estimated interest and penalties as income tax expense and tax credits as a reduction in income tax expense.

Deferred tax assets and liabilities are determined based on the differences between the financial statement and tax bases of assets and liabilities as measured by the enacted tax rates that will be in effect when these differences reverse. Valuation allowances are provided if, based on the weight of available evidence, it is more likely than not that some or all of the deferred tax assets will not be realized.

The Tax Cuts and Jobs Act of 2017 imposed a minimum tax on foreign earnings related to intangible assets, known as the Global Intangible Low-Taxed Income (GILTI) tax. In 2019, the Company elected to account for the impact of the GILTI minimum tax in deferred taxes, a change from the Company’s initial election made in 2018 whereby the GILTI minimum tax was included in income tax expense as incurred on an annual basis. The change is considered preferable, as it appropriately matches the Company’s current and deferred income tax implications.

Sales tax in the United States and similar taxes in other jurisdictions that are collected from customers and remitted to government authorities are presented on a gross basis (i.e., a receivable from the customer with a corresponding payable to the government). Amounts collected from customers and retained by the Company during tax holidays are recognized as non-operating income when earned.

Net Income Per Share

Basic net income per share is computed by dividing net income available to common shareholders by the weighted-average number of common shares outstanding for the period. Diluted net income per share is computed by dividing net income available to common shareholders by the weighted-average number of common shares outstanding for the period plus potential dilutive common shares. Dilutive common equivalent shares consist of stock options and restricted stock units and are calculated using the treasury stock method. Common equivalent shares do not qualify as participating securities. In periods where the Company records a net loss, potential common stock equivalents are not included in the calculation of diluted net loss per share as their effect would be anti-dilutive.

Comprehensive Income

Comprehensive income is defined as the change in equity of a company during a period from transactions and other events and circumstances, excluding transactions resulting from investments by owners and distributions to owners. Accumulated other comprehensive loss, net of tax, consists of foreign currency translation adjustment losses of \$48,050,000 and \$43,665,000, as of December 31, 2022 and December 31, 2021, respectively; net unrealized losses on available-for-sale investments of \$19,976,000 and \$3,006,000 as of December 31, 2022 and December 31, 2021, respectively; and losses on currency swaps, net of gains on long-term intercompany loans of \$1,271,000

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

at each year end.

Amounts reclassified from accumulated other comprehensive loss, net of tax, to investment income on the Consolidated Statements of Operations were net realized gains (losses) of \$(182,000), \$236,000, and \$4,119,000 for 2022, 2021, and 2020, respectively.

Concentrations of Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist primarily of cash, cash equivalents, investments, and accounts receivable. The Company has certain domestic and foreign cash balances that exceed the insured limits set by the Federal Deposit Insurance Corporation (FDIC) in the United States and equivalent regulatory agencies in foreign countries. The Company primarily invests in investment-grade debt securities and has established guidelines relative to credit ratings, diversification, and maturities of its debt securities that maintain safety and liquidity. The Company has historically not experienced any significant realized losses on its debt securities.

The Company has two large customers that each represented 11% of total revenue in 2022. These two customers combined represented 17% of total accounts receivable as of December 31, 2022. The Company performs ongoing credit evaluations of its customers and maintains allowances for potential credit losses. The Company has historically not experienced any significant losses related to the collection of its accounts receivable.

A significant portion of the Company's products is presently manufactured by a third-party contractor located in Indonesia. This contract manufacturer has agreed to provide the Company with termination notification periods and last-time-buy rights, if and when that may be applicable. Our contract manufacturer's challenges in obtaining components and maintaining production have resulted in delays, and may continue to result in delays, in meeting our delivery schedules that, as a result, delay deliveries to our customers past their requested delivery date. On June 7, 2022, this contract manufacturer suffered a fire at its Indonesian plant destroying a large portion of the Company's component inventories. In 2022, the Company recorded a net loss related to the fire of \$20,779,000, consisting primarily of losses from inventories and other assets of \$48,339,000, offset by insurance recoveries of \$27,560,000. Refer to Note 22 for further information on this event and the charges recorded in "Loss from Fire" Consolidated Statements of Operations.

Certain key electronic and mechanical components, such as integrated circuit chips, are fundamental to the design of Cognex products. Due to the impact of global supply chain challenges or other factors, we have experienced, and may continue to experience, disruptions to the supply of components for our products that have resulted, and may continue to result, in higher purchase costs, delivery costs, and manufacturing delays.

The Company sources components from preferred vendors that are selected based on price and performance considerations. In the event of a supply disruption from a preferred vendor, these components may typically be purchased from alternative vendors, which may result in higher purchase costs and manufacturing delays based on the time required to identify and obtain sufficient quantities from an alternative source. Certain of the Company's products utilize components that are available from only one source. If we are unable to secure adequate supply from these sources, we may have to redesign our products, which may lead to higher costs, delays in manufacturing, and possible loss of sales.

Business Acquisitions

The Company determines whether a transaction qualifies as a business combination by applying the definition of a business, which requires the assets acquired and liabilities assumed to be inputs and processes that have the ability to contribute to the creation of outputs. The Company accounts for business combinations under the acquisition method of accounting, which requires the following steps: (1) identifying the acquirer, (2) determining the acquisition date, (3) recognizing and measuring the identifiable assets acquired and the liabilities assumed, and (4) recognizing and measuring goodwill. The Company measures the identifiable assets acquired and liabilities assumed at their estimated fair values as of the acquisition date. Management is responsible for determining the appropriate valuation model and estimated fair values, and in doing so, considers a number of factors, including information provided by an outside valuation advisor. Management primarily establishes fair value using the income approach based on a discounted cash flow model. The income approach requires the use of many assumptions and estimates including future revenues and expenses, as well as discount factors. Contingent consideration liabilities are reported at their estimated fair values based on probability-adjusted present values of the consideration expected to be paid, using significant inputs and estimates. Key assumptions used in these estimates include probability assessments with respect to the likelihood of achieving certain milestones and discount rates consistent with the level of risk of achievement. The fair values of these contingent consideration liabilities are remeasured

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

each reporting period with changes in fair value included in "Other income (expense)" on the Consolidated Statements of Operations. Goodwill is recognized as of the acquisition date as the excess of the consideration transferred over the net amount of assets acquired and liabilities assumed. Transaction costs are expensed as incurred.

Restructuring Charges

One-time employee termination benefits associated with restructuring activities exist at the date the plan of termination has been communicated to employees (the "communication date") and all of the following criteria are met: (1) management, having the authority to approve the action, has committed to the plan of termination, (2) the plan identifies the number of employees to be terminated, their job classifications or functions and their locations, and the expected completion date, (3) the plan establishes the terms of the benefit arrangement in sufficient detail, and (4) actions required to complete the plan indicate it is unlikely that significant changes to the plan will be made. If employees are not required to render service until they are terminated in order to receive the termination benefits or will not be retained to render service beyond a minimum retention period, a liability for the termination benefits is recognized and measured at fair value at the communication date. Otherwise, a liability is measured initially at the communication date based on the fair value of the liability as of the termination date and recognized ratably over the future service period. Changes to the fair value of the liability are recorded as restructuring adjustments.

Closures of leased offices as part of a restructuring activity prior to the end of the contractual lease term are treated as abandoned right-to-use assets when the Company ceases to use the property for economic benefit and lacks either the intent or ability to sublease. The lease asset is written down to zero as of the abandonment date. Estimates of contract termination costs assume the Company will be obligated to pay the remaining rent over the contract period, and the lease liability continues to be recorded on the balance sheet. Subsequent negotiations that result in early contract terminations are recorded as favorable restructuring adjustments.

Other associated costs as part of a restructuring activity include costs to consolidate facilities, costs to relocate employees, and legal fees incurred to research local statutory requirements and prepare termination agreements. These costs are recognized in the period in which the liability is incurred, which generally corresponds to the period in which the services are rendered.

NOTE 2: New Pronouncements

Accounting Standards Update (ASU) 2020-04, "Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting", (ASU) 2021-01, "Reference Rate Reform (Topic 848): Scope", and Accounting Standards Update (ASU) 2022-06, "Reference Rate Reform (Topic 848): Deferral of the Sunset Date of Topic 848"

The amendments in these ASUs apply to all entities that have contracts, hedging relationships, and other transactions that reference LIBOR or another reference rate expected to be discontinued because of reference rate reform. Together, the ASUs provide optional expedients and exceptions for applying generally accepted accounting principles (GAAP) to contracts, hedging relationships, and other transactions affected by reference rate reform if certain criteria are met. The expedients and exceptions provided by the amendments do not apply to contract modifications made and hedging relationships entered into or evaluated after December 31, 2024, except for hedging relationships existing as of December 31, 2024 that an entity has elected certain optional expedients for and that are retained through the end of the hedging relationship. The amendments in these ASUs are effective for all entities as of March 12, 2020 through December 31, 2024. Management adopted Topic 848 on January 1, 2023, and now uses the Secured Overnight Financing Rate (SOFR). The adoption did not have a material impact on the Company's financial statements and disclosures.

Accounting Standards Update (ASU) 2021-08, "Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers"

The amendments in this ASU primarily address the accounting for contract assets and contract liabilities related to revenue contracts with customers in a business combination. The ASU clarifies that an acquirer should account for the related revenue contracts in accordance with Accounting Standards Codification 606 as if the acquirer had originated the contracts. The amendments in this ASU are effective for fiscal years beginning after December 15, 2022, including interim periods within those fiscal years, although early adoption is permitted. The amendments in the ASU should be applied prospectively to business combinations occurring on or after the effective date of the amendments. Management adopted this ASU on December 1, 2022 and the adoption did not have a material impact on the Company's financial statements and disclosures.

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 3: Fair Value Measurements

Financial Assets and Liabilities that are Measured at Fair Value on a Recurring Basis

The following table summarizes the financial assets and liabilities measured at fair value on a recurring basis as of December 31, 2022 (in thousands):

	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Unobservable Inputs (Level 3)
Assets:			
Money market instruments	\$ 415	\$ —	\$ —
Corporate bonds	—	538,495	—
Asset-backed securities	—	60,429	—
Treasury bills	—	55,546	—
Agency bonds	—	15,858	—
Sovereign bonds	—	1,924	—
Municipal bonds	—	624	—
Economic hedge forward contracts	—	27	—
Liabilities:			
Economic hedge forward contracts	—	479	—

The Company's money market instruments are reported at fair value based on the daily market price for identical assets in active markets, and are therefore classified as Level 1.

The Company's debt securities and forward contracts are reported at fair value based on model-driven valuations in which all significant inputs are observable or can be derived from or corroborated by observable market data for substantially the full term of the asset or liability, and are therefore classified as Level 2. Management is responsible for estimating the fair value of these financial assets and liabilities, and in doing so, considers valuations provided by a large, third-party pricing service. For debt securities, this service maintains regular contact with market makers, brokers, dealers, and analysts to gather information on market movement, direction, trends, and other specific data. They use this information to structure yield curves for various types of debt securities and arrive at the daily valuations. The Company's forward contracts are typically traded or executed in over-the-counter markets with a high degree of pricing transparency. The market participants are generally large commercial banks.

The Company's contingent consideration liabilities are reported at fair value based on probability-adjusted present values of the consideration expected to be paid using significant inputs that are not observable in the market, and are therefore classified as Level 3. The fair value of the contingent consideration liability related to the Company's acquisition of GVi Ventures, Inc. in 2017 was written down to zero in 2019 resulting from a lower level of revenue in the Americas' automotive industry. The balance remained at zero through the remainder of the five-year assessment period which concluded during the second quarter of 2022.

Non-financial Assets that are Measured at Fair Value on a Non-recurring Basis

Non-financial assets, such as property, plant and equipment, operating lease assets, goodwill, and intangible assets, are required to be measured at fair value only when an impairment loss is recognized. The Company evaluates these long-lived assets for impairment whenever events or changes in circumstances, referred to as "triggering events," indicate the carrying value may not be recoverable. The adverse impact of the COVID-19 pandemic on our business in 2020 triggered a review of long-lived assets for potential impairment as of May 26, 2020, which resulted in operating lease asset impairment charges of \$3,427,000 (refer to Notes 7 and 23) that were included in "Restructuring charges" on the Consolidated Statements of Operations, and intangible asset impairment charges of \$19,571,000 (refer to Note 9) in the second quarter of 2020. These fair value measurements were based on the present values of future cash flows using significant inputs that are not observable in the market, and were therefore classified as Level 3. The Company did not record impairment charges related to non-financial assets in 2022 or 2021.

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 4: Cash, Cash Equivalents, and Investments

Cash, cash equivalents, and investments consisted of the following (in thousands):

	December 31,	
	2022	2021
Cash	\$ 180,959	\$ 185,624
Money market instruments	415	537
Cash and cash equivalents	<u>181,374</u>	<u>186,161</u>
Corporate bonds	164,055	73,088
Asset-backed securities	26,890	37,655
Agency bonds	15,858	2,802
Treasury bills	11,332	18,912
Municipal bonds	624	4,998
Current investments	<u>218,759</u>	<u>137,455</u>
Corporate bonds	374,440	481,218
Treasury bills	44,214	39,753
Asset-backed securities	33,539	43,940
Sovereign bonds	1,924	2,119
Agency bonds	—	16,077
Municipal bonds	—	641
Non-current investments	<u>454,117</u>	<u>583,748</u>
	<u>\$ 854,250</u>	<u>\$ 907,364</u>

The Company's cash balance included foreign bank balances totaling \$160,611,000 and \$142,009,000 as of December 31, 2022 and 2021, respectively.

Corporate bonds consist of debt securities issued by both domestic and foreign companies; asset-backed securities consist of debt securities collateralized by pools of receivables or loans with credit enhancement; agency bonds consist of domestic or foreign obligations of government agencies and government-sponsored enterprises that have government backing; treasury bills consist of debt securities issued by the U.S. government; municipal bonds consist of debt securities issued by state and local government entities; and sovereign bonds consist of direct debt issued by foreign governments. All of the Company's securities as of December 31, 2022 and 2021 were denominated in U.S. Dollars.

Accrued interest receivable is included in "Prepaid expenses and other current assets" on the Consolidated Balance Sheets and amounted to \$3,620,000 and \$3,037,000 as of December 31, 2022 and 2021, respectively.

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The following table summarizes the Company's available-for-sale investments as of December 31, 2022 (in thousands):

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Current:				
Corporate bonds	\$ 167,558	\$ —	\$ (3,503)	\$ 164,055
Asset-backed securities	27,607	—	(717)	26,890
Agency bonds	16,143	—	(285)	15,858
Treasury bills	11,602	—	(270)	11,332
Municipal bonds	635	—	(11)	624
Non-current:				
Corporate bonds	394,576	561	(20,697)	374,440
Treasury bills	44,333	79	(198)	44,214
Asset-backed securities	35,144	103	(1,708)	33,539
Sovereign bonds	2,095	—	(171)	1,924
	\$ 699,693	\$ 743	\$ (27,560)	\$ 672,876

The following table summarizes the Company's gross unrealized losses and fair values for available-for-sale investments in an unrealized loss position as of December 31, 2022 (in thousands):

	Unrealized Loss Position For Less than 12 Months		Unrealized Loss Position For Greater than 12 Months		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
Corporate bonds	\$ 285,087	\$ (9,591)	\$ 187,153	\$ (14,609)	\$ 472,240	\$ (24,200)
Asset-backed securities	47,582	(2,299)	2,495	(126)	50,077	(2,425)
Treasury bills	32,614	(465)	102	(3)	32,716	(468)
Agency Bonds	15,858	(285)	—	—	15,858	(285)
Sovereign bonds	967	(67)	957	(104)	1,924	(171)
Municipal bonds	624	(11)	—	—	624	(11)
	\$ 382,732	\$ (12,718)	\$ 190,707	\$ (14,842)	\$ 573,439	\$ (27,560)

Management monitors debt securities that are in an unrealized loss position to determine whether a loss exists related to the credit quality of the issuer. When developing an estimate of expected credit losses, management considers all relevant information including historical experience, current conditions, and reasonable forecasts of expected future cash flows. Based on this evaluation, no allowance for credit losses on debt securities was recorded as of December 31, 2022, 2021 or 2020. Management currently intends to hold these securities to full value recovery at maturity.

The Company recorded gross realized gains on the sale of debt securities totaling \$133,000 in 2022, \$246,000 in 2021, and \$4,283,000 in 2020, and gross realized losses on the sale of debt securities totaling \$315,000 in 2022, \$10,000 in 2021, and \$164,000 in 2020. Realized gains and losses are included in "Investment income" on the Consolidated Statements of Operations. Prior to the sale of these securities, unrealized gains and losses for these debt securities, net of tax, were recorded in shareholders' equity as accumulated other comprehensive loss.

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The following table summarizes the effective maturity dates of the Company's available-for-sale investments as of December 31, 2022 (in thousands):

	<1 Year	1-2 Years	2-3 Years	3-4 Years	4-5 Years	5-7 Years	Total
Corporate bonds	\$ 164,055	\$ 167,661	\$ 94,417	\$ 63,101	\$ 48,796	\$ 465	\$ 538,495
Asset-backed securities	26,890	12,755	12,587	8,197	—	—	60,429
Treasury bills	11,332	2,429	6,384	17,758	17,643	—	55,546
Agency bonds	15,858	—	—	—	—	—	15,858
Sovereign bonds	—	967	957	—	—	—	1,924
Municipal bonds	624	—	—	—	—	—	624
	<u>\$ 218,759</u>	<u>\$ 183,812</u>	<u>\$114,345</u>	<u>\$ 89,056</u>	<u>\$ 66,439</u>	<u>\$ 465</u>	<u>\$ 672,876</u>

NOTE 5: Inventories

Inventories consisted of the following (in thousands):

	December 31,	
	2022	2021
Raw materials	\$ 71,720	\$ 50,452
Work-in-process	906	5,293
Finished goods	49,854	57,357
	<u>\$ 122,480</u>	<u>\$ 113,102</u>

The Company recorded provisions for excess and obsolete inventories of \$3,084,000 and \$2,573,000 in 2022 and 2021, respectively, which reduced the carrying value of the inventories to their net realizable value.

Refer to Note 22 for information regarding losses incurred from the fire at the Company's primary contract manufacturer's plant in Indonesia on June 7, 2022, including the impact on inventories and incremental provisions for excess and obsolete inventories recorded as a result of this fire.

NOTE 6: Property, Plant, and Equipment

Property, plant, and equipment consisted of the following (in thousands):

	December 31,	
	2022	2021
Land	\$ 3,951	\$ 3,951
Buildings	24,533	24,533
Building improvements	45,003	47,886
Leasehold improvements	14,491	10,436
Computer hardware and software	53,663	50,748
Manufacturing test equipment	27,176	30,562
Furniture and fixtures	6,378	6,449
	<u>175,195</u>	<u>174,565</u>
Less: accumulated depreciation	<u>(95,481)</u>	<u>(97,019)</u>
	<u>\$ 79,714</u>	<u>\$ 77,546</u>

The Company disposed of property, plant, and equipment with a cost basis of \$17,358,000 and accumulated depreciation of \$16,604,000 in 2022, resulting in a loss of \$754,000. Of this loss, \$735,000 relates to production equipment destroyed as a result of the fire at the Company's primary contract manufacturer's plant in Indonesia on June 7, 2022 (refer to Note 22) and is included in "Non-cash impact of charges related to fire (Note 22)" on the Consolidated Statements of Cash Flows. The Company disposed of property, plant, and equipment with a cost basis of \$20,647,000 and accumulated depreciation of \$20,614,000 in 2021, resulting in a loss of \$33,000.

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 7: Leases

The Company's leases are primarily leased properties across different worldwide locations where the Company conducts its operations. All of these leases are classified as operating leases. Certain leases may contain options to extend or terminate the lease at the Company's sole discretion. As of December 31, 2022, there were two options to terminate and fifteen options to extend that were accounted for in the determination of the lease term for the Company's outstanding leases. Certain leases contain leasehold improvement incentives, retirement obligations, escalating clauses, rent holidays, and variable payments tied to a consumer price index. There were no restrictions or covenants for the outstanding leases as of December 31, 2022. The Company did not have any leases that had not yet commenced but that created significant rights and/or obligations as of December 31, 2022.

The total operating lease expense was \$8,939,000 in 2022, and \$8,180,000 in both 2021 and 2020. The total operating lease cash payments were \$8,548,000, \$8,225,000, and \$8,009,000 in 2022, 2021, and 2020, respectively. The total lease expense for leases with a term of twelve months or less for which the Company elected not to recognize a lease asset or lease liability was \$144,000, \$154,000, and \$123,000 in 2022, 2021, and 2020, respectively.

Future operating lease cash payments are as follows (in thousands):

<u>Year Ended December 31,</u>	<u>Amount</u>
2023	\$ 9,473
2024	6,935
2025	4,975
2026	3,791
2027	3,353
Thereafter	15,809
	<u>\$ 44,336</u>

The discounted present value of the future lease cash payments resulted in a lease liability of \$39,752,000 and \$25,581,000 as of December 31, 2022 and 2021, respectively.

In December 2021, the Company entered into a lease for a 65,000 square-foot building in Southborough, Massachusetts for a term of ten years to serve as a new distribution center for customers in the Americas. The Company has the right and option to extend the term of this lease for an additional period of five years, commencing upon the expiration of the original ten-year term. This lease commenced during the first quarter of 2022, and therefore the Company recorded approximately \$9,271,000 within "Operating lease assets" and "Operating lease liabilities" on the Consolidated Balance Sheets on the commencement date.

The weighted-average discount rate was 3.3% and 3.4% for the leases outstanding as of December 31, 2022 and December 31, 2021, respectively. The weighted-average remaining lease term was 7.8 years and 5.1 years for the leases outstanding as of December 31, 2022 and 2021, respectively.

Management closed eleven leased offices in 2020, prior to the end of their lease terms, as a part of a restructuring plan (refer to Note 23). The carrying value of the lease assets associated with these offices was reduced to zero, resulting in operating lease asset impairment charges of \$3,427,000 in 2020 that are included in "Restructuring charges" on the Consolidated Statements of Operations. Remaining lease liability obligations associated with the early contract terminations totaled \$765,000 and \$1,717,000 as of December 31, 2022 and 2021, respectively, and are included in "Operating lease liabilities" on the Consolidated Balance Sheets. The Company did not record impairment charges related to operating lease assets in 2022 or 2021.

The Company owns a building adjacent to its corporate headquarters that was partially occupied by a tenant during a portion of 2020. This lease terminated prior to the end of its lease term during the second quarter of 2020, and the Company is now fully occupying this building for its operations. Annual rental income related to this lease totaled \$77,000 in 2020.

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 8: Goodwill

The changes in the carrying value of goodwill were as follows (in thousands):

	Amount
Balance as of December 31, 2020	\$ 244,078
Foreign exchange rate changes	(2,365)
Balance as of December 31, 2021	241,713
Acquisition of SAC Sirius Advanced Cybernetics GmbH (refer to Note 21)	2,359
Foreign exchange rate changes	(1,442)
Balance as of December 31, 2022	<u>\$ 242,630</u>

For its 2022 annual analysis of goodwill, management elected to perform a qualitative assessment. Based on this assessment, management believes it is more likely than not that the fair value of the reporting unit exceeds its carrying value. The Company did not record impairment charges related to goodwill in 2022, 2021, or 2020.

NOTE 9: Intangible Assets

Intangible assets consisted of the following (in thousands):

	Gross Carrying Value	Accumulated Amortization	Net Carrying Value
Completed technologies	\$ 28,017	\$ (17,744)	\$ 10,273
Customer relationships	5,838	(3,860)	1,978
Non-compete agreements	340	(177)	163
Balance as of December 31, 2022	<u>\$ 34,195</u>	<u>\$ (21,781)</u>	<u>\$ 12,414</u>

	Gross Carrying Value	Accumulated Amortization	Net Carrying Value
Completed technologies	\$ 24,217	\$ (15,234)	\$ 8,983
Customer relationships	10,578	(7,891)	2,687
Non-compete agreements	710	(492)	218
Distribution networks	38,060	(38,060)	—
Trademarks	110	(110)	—
Balance as of December 31, 2021	<u>\$ 73,675</u>	<u>\$ (61,787)</u>	<u>\$ 11,888</u>

In connection with the acquisition of SAC Sirius Advanced Cybernetics GmbH ("SAC") in the fourth quarter of 2022 (refer to Note 21), the Company acquired completed technologies valued at \$3,800,000 with an estimated useful life of 7 years.

In 2022, the Company retired approximately \$43,280,000 of intangible assets primarily related to distribution networks and customer relationships that were fully amortized and had a net carrying value of zero on the Consolidated Balance Sheets.

The adverse impact of the COVID-19 pandemic on our business in 2020 triggered a review of long-lived assets, including intangible assets, for potential impairment during the second quarter of 2020. Based on this assessment, management concluded that certain of the Company's finite-lived intangible assets failed the recoverability test, and recorded impairment charges for these assets equal to the amount by which their carrying value exceeded their fair value. The Company also measured the fair value and recorded an impairment charge for its indefinite-lived intangible asset related to in-process technologies. The fair values were established, with the assistance of an outside valuation advisor, using the income approach based on a discounted cash flow model that estimated future revenue streams and expenses attributable to those revenue streams provided by management.

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

This review resulted in intangible asset impairment charges totaling \$19,571,000 in the second quarter of 2020, primarily related to lower projected cash flows from the technologies and customer relationships acquired from Sualab Co. Ltd. ("Sualab") as a result of the deteriorating global economic conditions from the COVID-19 pandemic. Completed technologies, in-process technologies, and customer relationships acquired from Sualab were impaired in the amounts of \$10,070,000, \$5,900,000, and \$3,382,000, respectively. In addition, customer relationships acquired from EnShape GmbH that had a gross carrying value of \$447,000 and accumulated amortization of \$228,000 on the measurement date were reduced to zero, resulting in an impairment charge of \$219,000. The Company did not record impairment charges related to intangible assets in 2022 or 2021.

Estimated amortization expense for each of the five succeeding fiscal years and thereafter is as follows (in thousands):

Year Ended December 31,	Amount
2023	\$ 3,137
2024	2,623
2025	2,300
2026	1,995
2027	1,273
Thereafter	1,086
	<u>\$ 12,414</u>

NOTE 10: Accrued Expenses

Accrued expenses consisted of the following (in thousands):

	December 31,	
	2022	2021
Deferred payments related to Sualab Co., Ltd. acquisition (1)	\$ 19,282	\$ —
Incentive compensation	18,554	37,917
Salaries and payroll taxes	8,121	8,519
Foreign retirement obligations	7,191	7,572
Vacation	5,847	4,686
Warranty obligations	4,375	5,427
Other	29,865	28,311
	<u>\$ 93,235</u>	<u>\$ 92,432</u>

(1) The total consideration for the Company's 2019 acquisition of Sualab Co., Ltd. included deferred payments of \$24,040,000 that may become payable in October 2023, contingent upon the continued employment of key talent. The deferred payments are being recorded as compensation expense over the four-year period, and the accrued balance was reclassified from "Other Liabilities" to "Accrued expenses" on the Consolidated Balance Sheets in the fourth quarter of 2022 when the liability became current.

The changes in the warranty obligation were as follows (in thousands):

Balance as of December 31, 2020	\$ 5,406
Provisions for warranties issued during the period	3,256
Fulfillment of warranty obligations	(3,235)
Balance as of December 31, 2021	5,427
Provisions for warranties issued during the period	1,876
Fulfillment of warranty obligations	(2,928)
Balance as of December 31, 2022	<u>\$ 4,375</u>

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 11: Commitments and Contingencies

As of December 31, 2022, the Company had outstanding purchase orders totaling \$50,942,000 to procure inventory from various vendors, due in part to higher inventory purchases in response to global supply chain constraints. Certain of these purchase orders may be canceled by the Company, subject to cancellation penalties. These purchase commitments relate primarily to expected sales in 2023.

A significant portion of the Company's outstanding inventory purchase orders as of December 31, 2022, as well as additional preauthorized commitments to procure strategic components based on the Company's expected customer demand, are placed with the Company's primary contract manufacturer for the Company's assembled products. The Company purchased \$5,269,000, \$547,000, and \$1,311,000 in 2022, 2021, and 2020, respectively, of inventories as a result of the Company's obligation to purchase any non-cancelable and non-returnable components that have been purchased by the contract manufacturer with the Company's preauthorization, when these components have not been consumed within the period defined in the terms of the Company's agreement with this contract manufacturer. While the Company typically expects such purchased components to be used in future production of Cognex finished goods, these components are considered in the Company's reserve estimate for excess and obsolete inventory. Furthermore, the Company accrues for losses on commitments for the future purchase of non-cancelable and non-returnable components from this contract manufacturer at the time that circumstances, such as changes in demand, indicate that the value of the components may not be recoverable, the loss is probable, and management has the ability to reasonably estimate the amount of the loss.

Various claims and legal proceedings generally incidental to the normal course of business are pending or threatened on behalf of or against the Company. While we cannot predict the outcome of these matters, we believe that any liability arising from them will not have a material adverse effect on our financial position, liquidity, or results of operations.

NOTE 12: Indemnification Provisions

Except as limited by Massachusetts law, the by-laws of the Company require it to indemnify certain current or former directors, officers, and employees of the Company against expenses incurred by them in connection with each proceeding in which he or she is involved as a result of serving or having served in certain capacities. Indemnification is not available with respect to a proceeding as to which it has been adjudicated that the person did not act in good faith in the reasonable belief that the action was in the best interests of the Company. The maximum potential amount of future payments the Company could be required to make under these provisions is unlimited. The Company has never incurred significant costs related to these indemnification provisions. As a result, the Company believes the estimated fair value of these provisions is not material.

In the ordinary course of business, the Company may accept standard limited indemnification provisions in connection with the sale of its products, whereby it indemnifies its customers for certain direct damages incurred in connection with third-party patent or other intellectual property infringement claims with respect to the use of the Company's products. The maximum potential amount of future payments the Company could be required to make under these provisions is, in many, but not all instances, subject to fixed monetary limits. The Company has never incurred significant costs to defend lawsuits or settle claims related to these indemnification provisions. As a result, the Company believes the estimated fair value of these provisions is not material.

In the ordinary course of business, the Company also accepts limited indemnification provisions from time to time, whereby it indemnifies customers for certain direct damages incurred in connection with bodily injury and property damage arising from the use of the Company's products. Future payments the Company could be required to make under these provisions is generally recoverable under the Company's insurance policies. As a result of this coverage, and the fact that the Company has never incurred significant costs to defend lawsuits or settle claims related to these indemnification provisions, the Company believes the estimated fair value of these provisions is not material.

NOTE 13: Derivative Instruments

The Company's foreign currency risk management strategy is principally designed to mitigate the potential financial impact of changes in the value of transactions and balances denominated in foreign currencies resulting from changes in foreign currency exchange rates. The Company enters into economic hedges utilizing foreign currency forward contracts with maturities that do not exceed approximately three months to manage the exposure to fluctuations in foreign currency exchange rates arising primarily from foreign-denominated receivables and payables. The gains and losses on these derivatives are intended to be offset by the changes in the fair value of the

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

assets and liabilities being hedged. These economic hedges are not designated as hedging instruments for hedge accounting treatment.

The Company had the following outstanding forward contracts (in thousands):

Currency	December 31, 2022		December 31, 2021	
	Notional Value	USD Equivalent	Notional Value	USD Equivalent
<i>Derivatives Not Designated as Hedging Instruments:</i>				
Euro	60,000	\$ 64,174	65,000	\$ 73,748
Mexican Peso	185,000	9,480	140,000	6,842
Chinese Renminbi	55,000	7,619	54,374	8,500
Japanese Yen	700,000	5,281	600,000	5,213
Hungarian Forint	1,590,000	4,238	1,355,000	4,155
British Pound	3,445	4,161	3,370	4,552
Canadian Dollar	1,730	1,278	1,480	1,167
Swiss Franc	1,120	1,218	—	—

Information regarding the fair value of the outstanding forward contracts was as follows (in thousands):

	Asset Derivatives			Liability Derivatives		
	Balance Sheet Location	Fair Value		Balance Sheet Location	Fair Value	
		December 31, 2022	December 31, 2021		December 31, 2022	December 31, 2021

Derivatives Not Designated as Hedging Instruments:

Economic hedge forward contracts	Prepaid expenses and other current assets	\$ 27	\$ 39	Accrued expenses	\$ 479	\$ 230
----------------------------------	---	-------	-------	------------------	--------	--------

The following table summarizes the gross activity for all derivative assets and liabilities which were presented on a net basis on the Consolidated Balance Sheets due to the right of offset with each counterparty (in thousands):

	Asset Derivatives		Liability Derivatives	
	December 31, 2022	December 31, 2021	December 31, 2022	December 31, 2021
Gross amounts of recognized assets	\$ 27	\$ 39	Gross amounts of recognized liabilities	\$ 479 \$ 230
Gross amounts offset	—	—	Gross amounts offset	— —
Net amount of assets presented	<u>\$ 27</u>	<u>\$ 39</u>	Net amount of liabilities presented	<u>\$ 479</u> <u>\$ 230</u>

Information regarding the effect of derivative instruments, net of the underlying exposure, on the consolidated financial statements was as follows (in thousands):

Location in Financial Statements	Year Ended December 31,			
	2022	2021	2020	
<i>Derivatives Not Designated as Hedging Instruments:</i>				
Gains (losses) recognized in current operations	Foreign currency gain (loss)	\$ 9,823	\$ 4,262	\$ (12,308)

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 14: Revenue Recognition

The following table summarizes disaggregated revenue information by geographic area based on the customer's country of domicile (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Americas	\$ 390,573	\$ 435,220	\$ 310,027
Europe	234,643	247,744	208,787
Greater China	227,447	200,135	168,287
Other Asia	153,427	153,999	123,919
	<u>\$ 1,006,090</u>	<u>\$ 1,037,098</u>	<u>\$ 811,020</u>

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

	Year Ended December 31,		
	2022	2021	2020
Standard products and services	\$ 848,153	\$ 889,253	\$ 674,830
Application-specific customer solutions	157,937	147,845	136,190
	<u>\$ 1,006,090</u>	<u>\$ 1,037,098</u>	<u>\$ 811,020</u>

Costs to Fulfill a Contract

Costs to fulfill a contract are included in "Prepaid expenses and other current assets" on the Consolidated Balance Sheets and amounted to \$14,578,000 and \$10,854,000 as of December 31, 2022 and 2021, respectively.

Accounts Receivable, Contract Assets, and Contract Liabilities

Accounts receivable represent amounts billed and currently due from customers which are reported at their net estimated realizable value. The Company maintains an allowance against its accounts receivable for credit losses. Contract assets consist of unbilled revenue which arises when revenue is recognized in advance of billing for primarily certain application-specific customer solutions contracts. Contract liabilities consist of deferred revenue and customer deposits which arise when amounts are billed to or collected from customers in advance of revenue recognition.

The following table summarizes changes in the allowance for credit losses (in thousands):

	Amount
Balance as of December 31, 2020	\$ 831
Increases to the allowance for credit losses	—
Write-offs, net of recoveries	(55)
Foreign exchange rate changes	—
Balance as of December 31, 2021	<u>776</u>
Increases to the allowance for credit losses	191
Write-offs, net of recoveries	(237)
Foreign exchange rate changes	—
Balance as of December 31, 2022	<u>\$ 730</u>

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The following table summarizes the deferred revenue and customer deposits activity (in thousands):

	Amount
Balance as of December 31, 2020	\$ 21,274
Deferral of revenue billed in the current period, net of recognition	31,907
Recognition of revenue deferred in prior period	(17,403)
Foreign exchange rate changes	(35)
Balance as of December 31, 2021	35,743
Deferral of revenue billed in the current period, net of recognition	39,076
Recognition of revenue deferred in prior period	(31,520)
Foreign exchange rate changes	(2,512)
Balance as of December 31, 2022	<u>\$ 40,787</u>

As a practical expedient, the Company has elected not to disclose the aggregate amount of the transaction price allocated to unsatisfied performance obligations, as our contracts have an original expected duration of less than one year.

NOTE 15: Shareholders' Equity

Preferred Stock

The Company has 400,000 shares of authorized but unissued \$.01 par value preferred stock.

Common Stock

On April 25, 2018, the Company's shareholders approved an amendment to the Company's Articles of Organization to increase the authorized number of shares of \$.002 par value common stock from 200,000,000 to 300,000,000. In addition, on April 25, 2018, the Company's shareholders approved an amendment and restatement of the Company's 2001 General Stock Option Plan which provides for an increase in the number of available shares by 10,000,000.

Each outstanding share of common stock entitles the record holder to one vote on all matters submitted to a vote of the Company's shareholders. Common shareholders are also entitled to dividends when and if declared by the Company's Board of Directors.

Stock Repurchases

In October 2018, the Company's Board of Directors authorized the repurchase of \$200,000,000 of the Company's common stock. Under this October 2018 program, in addition to repurchases made in prior years, the Company repurchased 1,215,000 shares at a cost of \$51,036,000 in 2020, and 957,000 shares at a cost of \$78,652,000 in 2021, which completed purchases under the October 2018 program.

On March 12, 2020, the Company's Board of Directors authorized the repurchase of an additional \$200,000,000 of the Company's common stock. Under this March 2020 program, the Company repurchased 1,060,000 shares, including 5,000 shares that were repurchased in 2021 and settled in 2022, at a cost of \$83,000,000 in 2021, and 1,677,000 shares at a cost of \$117,000,000 in 2022, which completed purchases under the March 2020 program.

On March 3, 2022, the Company's Board of Directors authorized the repurchase of an additional \$500,000,000 of the Company's common stock. Under this March 2022 program, the Company repurchased 1,682,000 shares at a total cost of \$87,314,000 in 2022, leaving a remaining balance of \$412,686,000. The Company may repurchase shares under this program in future periods depending on a variety of factors, including, among other things, the impact of dilution from employee stock awards, stock price, share availability, and cash requirements. The Company is authorized to make repurchases of its common stock through open market purchases, pursuant to Rule 10b5-1 trading plans, or in privately negotiated transactions.

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Dividends

The Company's Board of Directors declared and paid cash dividends of \$0.055 per share in the first, second, and third quarters of 2020, \$0.060 per share in the fourth quarter of 2020 and in the first, second, and third quarters of 2021, and \$0.065 per share in the fourth quarter of 2021 and in the first, second, and third quarters of 2022. The dividend was increased to \$0.070 per share in the fourth quarter of 2022. Also, in the fourth quarter of 2020, an additional special cash dividend of \$2.00 per share was declared and paid.

Total dividends paid were \$45,921,000 in 2022, \$43,263,000 in 2021, and \$390,508,000 in 2020, which included \$351,428,000 paid for the special cash dividend. Future dividends will be declared at the discretion of the Company's Board of Directors and will depend on such factors as the Board deems relevant, including, among other things, the Company's ability to generate positive cash flow from operations.

NOTE 16: Stock-Based Compensation

Stock Plans

The Company's stock-based awards that result in compensation expense consist of stock options, restricted stock units ("RSUs"), and performance restricted stock units ("PRSUs"). As of December 31, 2022, the Company had 13,746,000 shares available for grant under its stock plans. Stock options are granted with an exercise price equal to the market value of the Company's common stock at the grant date and generally vest over four or five years based on continuous employment and expire ten years from the grant date. RSUs generally vest upon three or four years of continuous employment or incrementally over such three or four year periods. PRSUs generally vest upon three years of continuous employment and achievement of performance criteria established by the Compensation Committee of our Board of Directors on or prior to the grant date. Participants are not entitled to dividends on stock options, RSUs, or PRSUs.

Stock Options

The following table summarizes the Company's stock option activity:

	Shares (in thousands)	Weighted- Average Exercise Price	Weighted- Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding as of December 31, 2021	7,610	\$ 49.38		
Granted	1,418	59.63		
Exercised	(365)	33.58		
Forfeited or expired	(196)	58.90		
Outstanding as of December 31, 2022	8,467	\$ 51.56	6.13	\$ 31,327
Exercisable as of December 31, 2022	4,596	\$ 44.71	4.94	\$ 31,025
Options vested or expected to vest as of December 31, 2022 (1)	8,038	\$ 51.10	6.01	\$ 31,224

(1) In addition to the vested options, the Company expects a portion of the unvested options to vest at some point in the future. Options expected to vest are calculated by applying an estimated forfeiture rate to the unvested options.

The fair values of stock options granted in each period presented were estimated using the following weighted-average assumptions:

	Year Ended December 31,		
	2022	2021	2020
Risk-free rate	2.2 %	1.3 %	1.4 %
Expected dividend yield	0.44 %	0.27 %	0.41 %
Expected volatility	37 %	39 %	37 %
Expected term (in years)	5.5	6.0	6.0

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Risk-free rate

The risk-free rate was based on a treasury instrument whose term was consistent with the contractual term of the option.

Expected dividend yield

Generally, the current dividend yield is calculated by annualizing the cash dividend declared by the Company's Board of Directors and dividing that result by the closing stock price on the grant date.

Expected volatility

The expected volatility was based on a combination of historical volatility of the Company's common stock over the contractual term of the option and implied volatility for traded options of the Company's stock.

Expected term

The expected term was derived from the binomial lattice model from the impact of events that trigger exercises over time.

The weighted-average grant-date fair value of stock options granted was \$21.39 in 2022, \$33.79 in 2021, and \$19.62 in 2020.

The total intrinsic value of stock options exercised was \$8,424,000 in 2022, \$80,369,000 in 2021, and \$166,796,000 in 2020. The total fair value of stock options vested was \$41,497,000 in 2022, \$45,328,000 in 2021, and \$45,998,000 in 2020.

Restricted Stock Units (RSUs)

The following table summarizes the Company's RSUs activity:

	Shares (in thousands)	Weighted-Average Grant Date Fair Value
Nonvested as of December 31, 2021	823	\$ 65.26
Granted	715	58.06
Vested	(192)	61.96
Forfeited or expired	(77)	64.65
Nonvested as of December 31, 2022	1,269	\$ 61.74

The fair value of RSUs is determined based on the observable market price of the Company's stock on the grant date less the present value of expected future dividends. The weighted-average grant-date fair value of RSUs granted was \$58.06 in 2022, \$87.03 in 2021, and \$52.09 in 2020. There were 192,000 RSUs that vested in 2022, 16,000 RSUs that vested in 2021, and no RSUs that vested in 2020.

Performance Restricted Stock Units (PRSUs)

The following table summarizes the Company's PRSUs activity:

	Shares (in thousands)	Weighted-Average Grant Date Fair Value
Nonvested as of December 31, 2021	—	\$ —
Granted	33	62.49
Vested	—	—
Forfeited or expired	—	—
Nonvested as of December 31, 2022	33	\$ 62.49

No PRSUs were granted or vested during the years ended December 31, 2021 and December 31, 2020.

The fair value of PRSUs is calculated using a Monte Carlo simulation model to estimate the probability of satisfying the service and market conditions stipulated in the award grant.

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Stock-Based Compensation Expense

The Company stratifies its employee population into two groups: one consisting of senior management and another consisting of all other employees. The Company currently applies an estimated annual forfeiture rate of 7% to stock-based awards for senior management and a rate of 12% for all other employees. Each year during the first quarter, the Company revises its forfeiture rate based on updated estimates of employee turnover. This resulted in an increase to compensation expense of \$1,536,000 in 2022, a decrease to compensation expense of \$255,000 in 2021, and an increase to compensation expense of \$1,787,000 in 2020.

As of December 31, 2022, total unrecognized compensation expense, net of estimated forfeitures, related to non-vested stock-based awards, including stock options, RSUs, and PRSUs, was \$56,694,000, which is expected to be recognized over a weighted-average period of 1.51 years.

The total stock-based compensation expense and the related income tax benefit recognized was \$54,505,000 and \$9,540,000, respectively, in 2022, \$43,774,000 and \$6,764,000, respectively, in 2021, and \$42,661,000 and \$6,569,000, respectively, in 2020. Stock-based compensation expense recognized in 2020 included credits of \$1,401,000 relating to grants cancelled as a result of the Company's workforce reduction in the second quarter of 2020. No compensation expense was capitalized in 2022, 2021, or 2020.

The following table presents the stock-based compensation expense by caption for each period presented on the Consolidated Statements of Operations (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Cost of revenue	\$ 2,016	\$ 1,345	\$ 1,365
Research, development, and engineering	17,693	13,535	13,387
Selling, general, and administrative	34,796	28,894	27,909
	<u>\$ 54,505</u>	<u>\$ 43,774</u>	<u>\$ 42,661</u>

NOTE 17: Employee Savings Plan

Under the Company's Employee Savings Plan, a defined contribution plan, all U.S. employees who have attained age 21 may contribute up to 100% of their pay on a pre-tax basis under the Company's Employee Savings Plan, subject to the annual dollar limitations established by the Internal Revenue Service ("IRS"). The Company matches 50% of the first 6% of pay an employee contributes. Company contributions vest 25%, 50%, 75%, and 100% after one, two, three, and four years of continuous employment with the Company, respectively. Company contributions totaled \$3,284,000 in 2022, \$2,898,000 in 2021, and \$2,636,000 in 2020. Cognex stock is not an investment alternative and Company contributions are not made in the form of Cognex stock.

NOTE 18: Income Taxes

Domestic income before taxes was \$48,546,000 in 2022, \$121,729,000 in 2021, and \$39,425,000 in 2020. Foreign income before taxes was \$202,149,000 in 2022, \$197,171,000 in 2021, and \$147,486,000 in 2020.

Income tax expense consisted of the following (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Current:			
Federal	\$ 48,355	\$ 27,870	\$ 160
State	5,689	5,372	921
Foreign	10,243	8,406	13,197
	<u>64,287</u>	<u>41,648</u>	<u>14,278</u>
Deferred:			
Federal	(40,772)	(19,266)	(18,266)
State	(8,354)	(769)	(556)
Foreign	20,009	17,406	15,269
	<u>(29,117)</u>	<u>(2,629)</u>	<u>(3,553)</u>
	<u>\$ 35,170</u>	<u>\$ 39,019</u>	<u>\$ 10,725</u>

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

A reconciliation of the U.S. federal statutory corporate tax rate to the Company's income tax expense, or effective tax rate, was as follows:

	Year Ended December 31,		
	2022	2021	2020
Income tax expense at U.S. federal statutory corporate tax rate	21 %	21 %	21 %
State income taxes, net of federal benefit	2	1	1
Foreign tax rate differential	(7)	(5)	(6)
Tax credit	(1)	(2)	(1)
Discrete tax benefit related to employee stock options	—	(3)	(7)
Discrete tax expense related to tax return filings	2	(1)	(5)
Discrete tax benefit related to a rate revaluation on state tax assets	(2)	—	—
Discrete tax benefit related to GILTI adjustments	(3)	—	—
Discrete tax expense related to international tax reserves	1	—	1
Discrete tax benefit for audit settlements	(1)	—	—
Discrete tax benefit for release of valuation allowance	(1)	—	—
Limitation on executive compensation	1	—	1
Other	2	1	1
Income tax expense	<u>14 %</u>	<u>12 %</u>	<u>6 %</u>

Tax Reserves

The changes in the reserve for income taxes, excluding gross interest and penalties, were as follows (in thousands):

Balance of reserve for income taxes as of December 31, 2020	\$	13,952
Gross amounts of decreases in unrecognized tax benefits as a result of tax positions taken in prior periods		(280)
Gross amounts of increases in unrecognized tax benefits as a result of tax positions taken in prior periods		100
Gross amounts of increases in unrecognized tax benefits as a result of tax positions taken in the current period		525
Gross amounts of decreases in unrecognized tax benefits as a result of the expiration of the applicable statutes of limitations		(485)
Balance of reserve for income taxes as of December 31, 2021		<u>13,812</u>
Gross amounts of decreases in unrecognized tax benefits as a result of tax positions taken in prior periods		(119)
Gross amounts of increases in unrecognized tax benefits as a result of tax positions taken in prior periods		2,850
Gross amounts of increases in unrecognized tax benefits as a result of tax positions taken in the current period		505
Gross amounts of decreases in unrecognized tax benefits relating to settlements with taxing authorities		(2,329)
Gross amounts of decreases in unrecognized tax benefits as a result of the expiration of the applicable statutes of limitations		(1,072)
Balance of reserve for income taxes as of December 31, 2022	<u>\$</u>	<u>13,647</u>

The Company's reserve for income taxes, including gross interest and penalties, was \$15,866,000 and as of December 31, 2022, which is classified as a non-current liability. The Company's reserve for income taxes, including interest and penalties, was \$15,808,000 as of December 31, 2021, which included \$14,780,000 classified as a non-current liability and \$1,028,000 recorded as a reduction to non-current deferred tax assets. The amount of gross interest and penalties included in these balances was \$2,219,000 and \$1,996,000 as of December 31, 2022 and 2021, respectively. If the Company's tax positions were sustained or the statutes of limitations related to certain positions expired, these reserves would be released and income tax expense would be reduced in a future period. As a result of the expiration of certain statutes of limitations, there is a potential that a portion of these reserves could be released, which would decrease income tax expense by approximately \$1,000,000 to \$1,500,000 over the next twelve months.

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The Company has defined its major tax jurisdictions as the United States, Ireland, China, and Korea and within the United States, Massachusetts. The statutory tax rate is 12.5% in Ireland, 25% in China, and 21.5% in Korea, compared to the U.S. federal statutory corporate tax rate of 21%. These differences resulted in a favorable impact to the effective tax rate of 7 percentage points for 2022, 5 percentage points for 2021, and 6 percentage points for 2020. Management has determined that earnings from its legal entity in China will be indefinitely reinvested to provide local funding for growth, and that earnings from all other jurisdictions will not be indefinitely reinvested.

Within the United States, the tax years 2019 through 2021 remain open to examination by the Internal Revenue Service ("IRS") and various state taxing authorities. The tax years 2017 through 2021 remain open to examination by various taxing authorities in other jurisdictions in which the Company operates. During 2022 the Company settled IRS audits for the tax years 2017 and 2018 which resulted in a net discrete tax benefit. Additionally, the Company is under audit by the Commonwealth of Massachusetts for the amended returns filed for tax years 2017 and 2018. Management believes the Company is adequately reserved for these audits. The final determination of tax audits could result in favorable or unfavorable changes in our estimates. Any reserves associated with this audit period will not be released until the issue is settled or the audit is concluded.

Interest and penalties included in income tax expense were \$229,000, \$281,000, and \$340,000 in 2022, 2021, and 2020, respectively.

Cash paid for income taxes totaled \$57,016,000 in 2022, \$49,435,000 in 2021, and \$33,695,000 in 2020.

Deferred Tax Assets and Liabilities

The tax effects of temporary differences and attributes that give rise to deferred income tax assets and liabilities as of December 31, 2022 and December 31, 2021 were as follows (in thousands):

	December 31,	
	2022	2021
Deferred tax assets:		
Intangible asset in connection with change in tax structure	386,221	\$ 404,526
Stock-based compensation expense	21,962	15,279
Federal and state tax credit carryforwards	8,284	11,051
Inventory and revenue related	8,117	7,426
Bonuses, commissions, and other compensation	5,116	7,263
Depreciation	2,119	5,395
Foreign net operating losses	53	751
Capitalization of R&D expenses	16,889	—
Other	15,102	9,023
Total deferred tax assets	463,863	460,714
Valuation allowance	(7,661)	(8,188)
	\$ 456,202	\$ 452,526
Deferred tax liabilities:		
GILTI tax basis differences in connection with change in tax structure	\$ (298,922)	\$ (327,725)
Net deferred taxes	\$ 157,280	\$ 124,801

Change in Tax Structure and Global Intangible Low-Taxed Income Tax

In 2019, the Company made changes to its international tax structure due to legislation by the European Union regarding low tax structures that resulted in an intercompany sale of intellectual property. As a result, the Company recorded an associated deferred tax asset of \$437,500,000 in Ireland based on the fair value of the intellectual property that is being realized over 15 years as future tax deductions. From a United States perspective, the sale was disregarded, and any future deductions claimed in Ireland are added back to taxable income as part of Global Intangible Low-Taxed Income ("GILTI") minimum tax. The Company recorded an associated deferred tax liability of \$350,000,000, representing the GILTI minimum tax related to the fair value of the intellectual property. Management

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

expects an immaterial impact on its current effective tax rate excluding discrete items in future years as a result of this change.

Other Deferred Tax Assets and Liabilities

At December 31, 2022, the Company recorded a deferred tax asset resulting from the capitalization of research and development expenditures. Beginning in 2022, the Tax Cuts and Jobs Act eliminates the option to currently deduct research and development expenditures in the period incurred and requires taxpayers to capitalize and amortize such expenditures over five or fifteen years, as applicable, pursuant to Section 174 of the Internal Revenue Code.

At December 31, 2022, the Company had foreign net operating loss carryforwards of \$180,000, state tax credit carryforwards of \$6,050,000, and foreign tax credit carryforwards of \$2,234,000.

At December 31, 2022, the Company had a valuation allowance for state research and development tax credits of \$6,869,000 that was not considered to be realizable. Should these credits be utilized in a future period, the reserve associated with these credits would be reversed in the period when it is determined that the credits can be utilized to offset future state income tax liabilities. As of December 31, 2022, the Company had state research and development tax credit carryforwards of \$7,658,000, which will begin to expire for the 2032 tax return.

While the deferred tax assets, net of valuation allowance, are not assured of realization, management has evaluated the realizability of these deferred tax assets and has determined that it is more likely than not that these assets will be realized. In reaching this conclusion, we have evaluated certain relevant criteria including the Company's historical profitability, current projections of future profitability, and the lives of tax credits, net operating losses, and other carryforwards. Should the Company fail to generate sufficient pre-tax profits in future periods, we may be required to establish valuation allowances against these deferred tax assets, resulting in a charge to current operations in the period of determination.

NOTE 19: Weighted Average Shares

Weighted-average shares were calculated as follows (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Basic weighted-average common shares outstanding	173,407	176,463	173,489
Effect of dilutive stock awards	1,462	3,453	3,103
Diluted weighted-average common and common-equivalent shares outstanding	174,869	179,916	176,592

Stock options to purchase 4,715,104, 497,504, and 4,371,194 shares of common stock, on a weighted-average basis, were outstanding in 2022, 2021, and 2020, respectively, but were not included in the calculation of dilutive net income per share because they were anti-dilutive. Restricted stock units totaling 26,079, 605, and 3,826 shares of common stock, on a weighted-average basis, were outstanding in 2022, 2021, and 2020, respectively, but were not included in the calculation of dilutive net income per share because they were anti-dilutive. No PRSUs were excluded in the calculation of dilutive net income per share in 2022, 2021, and 2020 as PRSUs were not anti-dilutive on a weighted-average basis.

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 20: Segment and Geographic Information

The Company operates in one segment, machine vision technology. The Company has a single, company-wide management team that administers operations as a whole rather than as discrete operating segments. The Company's chief operating decision maker is the chief executive officer, who makes decisions to allocate resources and assesses performance at the corporate level, without regard to geography, legal entity, or end market. The Company offers a variety of machine vision products that have similar economic characteristics, have the same production processes, and are distributed by the same sales channels to the same types of customers.

The following table summarizes information about geographic areas (in thousands):

	United States	Europe	Greater China	Other	Total
Year Ended December 31, 2022					
Revenue	\$ 343,835	\$ 234,643	\$ 227,447	\$ 200,165	\$ 1,006,090
Long-lived assets	66,928	14,725	1,334	3,370	\$ 86,357
Year Ended December 31, 2021					
Revenue	\$ 393,690	\$ 247,744	\$ 200,135	\$ 195,529	\$ 1,037,098
Long-lived assets	63,141	16,982	960	3,705	\$ 84,788
Year Ended December 31, 2020					
Revenue	\$ 280,205	\$ 208,787	\$ 168,287	\$ 153,741	\$ 811,020
Long-lived assets	60,911	20,014	1,278	4,764	\$ 86,967

Revenue is presented geographically based on the customer's country of domicile.

Revenue from a single customer accounted for 11%, 17%, and 14% of total revenue in 2022, 2021, and 2020, respectively. Accounts receivable from this same customer accounted for 15% of total accounts receivable as of December 31, 2021. Accounts receivable from this customer was not greater than 10% of total accounts receivable as of December 31, 2022.

Revenue from a second customer accounted for 11% and 13% of total revenue in 2022 and 2020. Revenue from this customer was not greater than 10% of total revenue in 2021. Accounts receivable from this same customer accounted for 11% of total accounts receivable as of December 31, 2021. Accounts receivable from this customer was not greater than 10% of total accounts receivable as of December 31, 2022.

NOTE 21: Business Acquisitions

SAC Sirius Advanced Cybernetics GmbH

On December 7, 2022, the Company acquired all of the outstanding shares of SAC Sirius Advanced Cybernetics GmbH ("SAC"), a leader in computational lighting technology based in Germany. The acquisition of SAC and its technology is expected to expand the Company's capabilities in defect detection, and accelerate its growth trajectory with electric vehicle battery manufacturers. The purchase price of the acquisition was not material to the Company's consolidated financial statements.

Sualab Co., Ltd.

On October 16, 2019, the Company acquired all the outstanding shares of Sualab Co., Ltd. ("Sualab"), a provider of deep learning-based vision software for industrial image analysis based in Korea. The total consideration of \$193,638,000 included cash payments of \$170,602,000 upon closing. In the fourth quarter of 2020, the Company recorded a credit to goodwill in the amount of \$1,004,000 representing a purchase price adjustment. The remaining consideration consists of deferred payments of \$24,040,000 that may become payable in October 2023, contingent upon the continued employment of key talent, and is being recorded as compensation expense over the four-year period.

Deteriorating global economic conditions from the COVID-19 pandemic triggered a review of long-lived assets for potential impairment in the second quarter of 2020. This review resulted in intangible asset impairment charges totaling \$19,571,000 in the second quarter of 2020, primarily related to lower projected cash flows from the technologies and customer relationships acquired from Sualab. Completed technologies, in-process technologies, and customer relationships acquired from Sualab were impaired in the amounts of \$10,070,000, \$5,900,000, and \$3,382,000, respectively.

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 22: Loss from Fire

On June 7, 2022, the Company's primary contract manufacturer experienced a fire at its plant in Indonesia. The fire destroyed a significant amount of Cognex-owned consigned inventories, as well as component inventories owned by the contract manufacturer that were designated for Cognex products. There was no significant damage to the Company's production equipment. Since the date of the fire, the Company has worked with the contract manufacturer to assess the damage, resume production, maintain standards of product quality, and replenish inventories destroyed by the fire. The Company has also been working to ramp up an additional contract manufacturer to further mitigate risk, diversify supply chain, and expand production capacity.

As a result of the fire, the Company recorded \$48,339,000 in gross losses in 2022, related to \$37,663,000 of primarily Cognex-owned inventory that was destroyed or deemed to have a net realizable value of zero, \$8,709,000 of primarily prepayments related to Cognex-designated components that were owned by the contract manufacturer and other assets, and \$1,967,000 related to deleveraging of costs related to our distribution centers.

Gross losses have been reduced by insurance proceeds received from the Company's insurance carrier of \$27,560,000 in the fourth quarter of 2022. Gross losses net of insurance recovery of \$20,779,000 are presented in the caption "Loss from fire" on the Consolidated Statements of Operations.

As of December 31, 2022 and through the date of financial statement issuance, management cannot yet estimate additional recoveries that could be available from the contract manufacturer. Any future, additional recoveries in excess of recognized losses will be treated as gain contingencies and will be recognized when the gain is realized or realizable. There can be no assurance, however, that additional insurance coverage and/or recoveries from the contract manufacturer will be available to cover the net loss from the fire.

After considering all the relevant events and circumstances resulting from the fire, management does not believe that the carrying value of the Company exceeds its fair value, or that the carrying amount of the Company's intangible assets may not be recoverable. As such, no goodwill or intangible asset impairment charges were recorded during 2022 as a result of the fire.

NOTE 23: Restructuring Charges

December 2022 Restructuring

In December 2022, following its acquisition of SAC (refer to Note 21), the Company performed restructuring activities to align the cost and operating structure of the acquired business with the Company's business strategy. The restructuring activities included a workforce reduction of 18 employees and the termination of certain operating lease contracts, and resulted in charges of \$1,657,000 in 2022. These charges are included in "Restructuring charges" on the Consolidated Statements of Operations. As of December 31, 2022, the majority of these restructuring actions were completed and no additional charges are expected to be incurred in future periods in relation to this restructuring plan.

The following table summarizes the restructuring charges for the year ended December 31, 2022 (in thousands):

	Amount	
One-time termination benefits	\$	1,584
Contract termination costs		73
	\$	1,657

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The following table summarizes the activity in the Company's restructuring reserve related to the December 2022 Restructuring, which is included in "Accrued expenses" on the Consolidated Balance Sheets (in thousands):

	One-time Termination Benefits	Contract Termination Costs	Total
Balance as of December 31, 2021	\$ —	\$ —	\$ —
Restructuring charges	1,584	73	1,657
Cash payments	(646)	—	(646)
Foreign exchange rate changes	26	2	28
Balance as of December 31, 2022	<u>\$ 964</u>	<u>\$ 75</u>	<u>\$ 1,039</u>

May 2020 Restructuring

On May 26, 2020, the Company's Board of Directors approved a restructuring plan intended to reduce the Company's operating costs, optimize its business model, and address the impact of the COVID-19 pandemic. The restructuring plan included a global workforce reduction of approximately 8% and office closures. The Company recorded restructuring charges from these actions totaling \$15,924,000 in 2020 which are included in "Restructuring charges" on the Consolidated Statements of Operations. As of December 31, 2020, the majority of these actions were completed and no additional charges are expected to be incurred in future periods in relation to this restructuring plan. There were no restructuring charges recognized in 2022 or 2021 related to this restructuring plan.

The following table summarizes the restructuring charges for the year ended December 31, 2020 (in thousands):

	Amount
One-time termination benefits	\$ 10,159
Contract termination costs	5,207
Other associated costs	558
	<u>\$ 15,924</u>

One-time termination benefits included severance, health insurance, and outplacement services for 181 employees who were either terminated during the second quarter of 2020, or were notified during the second quarter of 2020 that they would be terminated at a future date. For employees not required to render service beyond a minimum retention period, the one-time termination benefits were recognized in the second quarter of 2020. Otherwise, these benefits, including retention bonuses for selected employees, were recognized over the remaining service period which was completed by December 31, 2020.

Contract termination costs included operating lease asset impairment charges for eleven offices closed prior to the end of the contractual lease term. These costs also included the write-off of leasehold improvements and other equipment related to these abandoned offices that had no alternative use, as well as other associated operating costs, such as utilities, that the Company is obligated to pay for the remainder of the lease term. These contract termination costs were primarily recognized in the second quarter of 2020 when the Company ceased using the property for economic benefit.

Other associated costs primarily included legal fees related to the employee termination actions, which were recognized when the services were performed.

COGNEX CORPORATION - NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The following table summarizes the activity in the Company's restructuring reserve related to the May 2020 Restructuring, which is included in "Accrued expenses" on the Consolidated Balance Sheets (in thousands):

	One-time Termination Benefits	Contract Termination Costs	Other Associated Costs	Total
Balance as of December 31, 2020	\$ 1,624	\$ 750	\$ 15	\$ 2,389
Cash payments	(1,142)	(227)	(15)	(1,384)
Foreign exchange rate changes	—	(7)	—	(7)
Balance as of December 31, 2021	482	516	—	998
Cash payments	(482)	(265)	—	(747)
Foreign exchange rate changes	—	(6)	—	(6)
Balance as of December 31, 2022	\$ —	\$ 245	\$ —	\$ 245

NOTE 24: Subsequent Events

On February 16, 2023, the Company's Board of Directors declared a cash dividend of \$0.070 per share. The dividend is payable March 17, 2023 to all shareholders of record as of the close of business on March 3, 2023.

COGNEX CORPORATION – SCHEDULE II – VALUATION AND QUALIFYING ACCOUNTS

Description	Balance at Beginning of Period	Additions		Deductions	Other	Balance at End of Period
		Charged to Costs and Expenses	Charged to Other Accounts			
(In thousands)						
Allowance for Credit Losses on Accounts Receivable:						
2022	\$ 776	\$ 191	\$ —	\$ (237)	(1) \$ —	(2) \$ 730
2021	\$ 831	\$ —	\$ —	\$ (55)	(1) \$ —	(2) \$ 776
2020	\$ 530	\$ 600	\$ —	\$ (300)	(1) \$ 1	(2) \$ 831
Reserve for Sales Returns:						
2022	\$ 1,518	\$ —	\$ —	\$ —	(1) \$ —	(2) \$ 1,518
2021	\$ 1,291	\$ —	\$ 227	\$ —	(1) \$ —	(2) \$ 1,518
2020	\$ 1,291	\$ —	\$ —	\$ —	(1) \$ —	(2) \$ 1,291
Deferred Tax Valuation Allowance:						
2022	\$ 8,188	\$ 2,234	\$ 3,889	\$ (6,650)	\$ —	\$ 7,661
2021	\$ 8,568	\$ 1,420	\$ —	\$ (1,800)	\$ —	\$ 8,188
2020	\$ 7,312	\$ 1,256	\$ —	\$ —	\$ —	\$ 8,568

- (1) Specific write-offs
- (2) Foreign currency exchange rate changes

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

There were no disagreements with accountants on accounting or financial disclosure during 2022 or 2021.

ITEM 9A: CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

As required by Rules 13a-15 and 15d-15 of the Securities Exchange Act of 1934, the Company has evaluated, with the participation of management, including the Chief Executive Officer and the Chief Financial Officer, the effectiveness of its disclosure controls and procedures (as defined in such rules) as of the end of the period covered by this report. Based on such evaluation, the Chief Executive Officer and Chief Financial Officer concluded that such disclosure controls and procedures were effective as of that date.

Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting. Management has evaluated the effectiveness of the Company's internal control over financial reporting based on the framework in Internal Control – Integrated Framework issued in 2013 by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

Based on our evaluation, management has concluded that the Company's internal control over financial reporting was effective as of December 31, 2022.

Attestation Report of the Registered Public Accounting Firm on Internal Control over Financial Reporting

The Company's internal control over financial reporting as of December 31, 2022 has been audited by Grant Thornton LLP, an independent registered public accounting firm, as stated in their report which is included herein.

Changes in Internal Control over Financial Reporting

There have been no changes in the Company's internal control over financial reporting that occurred during the fourth quarter of the year ended December 31, 2022 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting. The Company continues to review its disclosure controls and procedures, including its internal control over financial reporting, and may from time to time make changes aimed at enhancing their effectiveness and to ensure that the Company's systems evolve with its business.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Shareholders
Cognex Corporation

Opinion on internal control over financial reporting

We have audited the internal control over financial reporting of Cognex Corporation (a Massachusetts corporation) and subsidiaries (the “Company”) as of December 31, 2022, based on criteria established in the 2013 *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on criteria established in the 2013 *Internal Control—Integrated Framework* issued by COSO.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (“PCAOB”), the consolidated financial statements of the Company as of and for the year ended December 31, 2022, and our report dated February 16, 2023, expressed an unqualified opinion on those financial statements.

Basis for opinion

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

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and limitations of internal control over financial reporting

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the financial statements.

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

/s/ GRANT THORNTON LLP

Boston, Massachusetts

February 16, 2023

ITEM 9B: OTHER INFORMATION

None

ITEM 9C: DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not Applicable

PART III

ITEM 10: DIRECTORS, EXECUTIVE OFFICERS, AND CORPORATE GOVERNANCE

Information with respect to Directors and Executive Officers of the Company and the other matters required by Item 10 shall be included in the Company's definitive Proxy Statement for the Annual Meeting of Shareholders to be held on May 3, 2023 and is incorporated herein by reference.

The Company has adopted a Code of Business Conduct and Ethics covering all employees, which is available, free of charge, on the Company's website, www.cognex.com under "Company-Investor Information-Governance Documents". The Company intends to disclose on its website any amendments to or waivers of the Code of Business Conduct and Ethics on behalf of the Company's directors and executive officers that would otherwise be required to be disclosed under the rules of the SEC or The NASDAQ Stock Market LLC.

ITEM 11: EXECUTIVE COMPENSATION

Information with respect to executive compensation and the other matters required by Item 11 shall be included in the Company's definitive Proxy Statement for the Annual Meeting of Shareholders to be held on May 3, 2023 and is incorporated herein by reference.

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

Information with respect to security ownership and the other matters required by Item 12 shall be included in the Company's definitive Proxy Statement for the Annual Meeting of Shareholders to be held on May 3, 2023 and is incorporated herein by reference.

The following table provides information as of December 31, 2022 regarding shares of common stock that may be issued under the Company's existing equity compensation plans:

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights, and vesting of restricted stock units	Weighted-average exercise price of outstanding options, restricted stock units, warrants, and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
	(a)		
Equity compensation plans approved by shareholders (4)	9,768,759 (1) \$	44.69	13,746,000 (2)
Equity compensation plans not approved by shareholders (4)	— (3)	—	—
	<u>9,768,759</u>	<u>\$ 44.69</u>	<u>13,746,000</u>

- (1) Includes shares to be issued upon exercise of outstanding options under the Company's 2007 Stock Option and Incentive Plan, and subsequent to shareholder approval, the 2001 General Stock Option Plan, as amended and restated.
- (2) Includes shares remaining available for future issuance under the Company's 2007 Stock Option and Incentive Plan and 2001 General Stock Option Plan, as amended and restated.
- (3) Includes shares to be issued upon the exercise of outstanding options granted prior to shareholder approval under the 2001 General Stock Option Plan, as amended and restated.
- (4) All references made to share or per share amounts have been adjusted to reflect the two-for-one stock split which occurred in the fourth quarter of 2017.

The 2001 General Stock Option Plan was originally adopted by the Board of Directors in December 2001 without shareholder approval. In December 2011, this plan received shareholder approval for an amendment and restatement of the plan. This plan provides for the granting of nonqualified stock options and incentive stock options to any employee who is actively employed by the Company and is not an officer or director of the Company. The maximum number of shares of common stock available for grant under this plan is 38,440,000 shares. All option grants must have an exercise price per share that is no less than the fair market value per share of the Company's common stock on the grant date and must have a term that is no longer than ten years from the grant date. 31,852,747 stock options have been granted under the 2001 General Stock Option Plan.

ITEM 13: CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Information with respect to certain relationships and related transactions and the other matters required by Item 13 shall be included in the Company's definitive Proxy Statement for the Annual Meeting of Shareholders to be held on May 3, 2023 and is incorporated herein by reference.

ITEM 14: PRINCIPAL ACCOUNTING FEES AND SERVICES

Information with respect to principal accounting fees and services and the other matters required by Item 14 shall be included in the Company's definitive Proxy Statement for the Annual Meeting of Shareholders to be held on May 3, 2023 and is incorporated herein by reference.

PART IV

ITEM 15: EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(1) Financial Statements

The financial statements are included in Part II – Item 8 of this Annual Report on Form 10-K.

(2) Financial Statement Schedule

Financial Statement Schedule II is included in Part II – Item 8 of this Annual Report on Form 10-K.

Other schedules are omitted because of the absence of conditions under which they are required or because the required information is provided in the consolidated financial statements or notes thereto.

(3) Exhibits

The Exhibits filed as part of this Annual Report on Form 10-K are listed in the Exhibit Index, immediately preceding the signature page hereto.

ITEM 16: FORM 10-K SUMMARY

Not applicable

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on the 16th day of February 2023.

COGNEX CORPORATION

By: /s/ Robert J. Willett
Robert J. Willett
President and Chief Executive Officer

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

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Robert J. Willett</u> Robert J. Willett	President, Chief Executive Officer, and Director (principal executive officer)	February 16, 2023
<u>/s/ Paul D. Todgham</u> Paul D. Todgham	Senior Vice President of Finance and Chief Financial Officer (principal financial and accounting officer)	February 16, 2023
<u>/s/ Patrick Alias</u> Patrick Alias	Director	February 16, 2023
<u>/s/ Theodor Krantz</u> Theodor Krantz	Director	February 16, 2023
<u>/s/ Sachin Lawande</u> Sachin Lawande	Director	February 16, 2023
<u>/s/ John Lee</u> John Lee	Director	February 16, 2023
<u>/s/ Dianne Parrotte</u> Dianne Parrotte	Director	February 16, 2023
<u>/s/ Marjorie Sennett</u> Marjorie Sennett	Director	February 16, 2023
<u>/s/ Anthony Sun</u> Anthony Sun	Director	February 16, 2023