UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

☑ ANNUAL REPORT PURSUANT TO SE	CCTION 13 OR 15(d) OF THE For the fiscal year ended December OR	SECURITIES EXCHANGE ACT OF 1934 : 31, 2022	
	O SECTION 13 OR 15(d) OF The For the transition period from COMMISSION FILE NUMBER 0-25	THE SECURITIES EXCHANGE ACT OF to 9440	1934
(Exac	IDENTIV, INC		
Delaware (State or other jurisdiction of Incorporation or organization)		77-0444317 (I.R.S. Employer Identification Number)	
2201 Walnut Avenue, Suite 100, Fremont, Ca (Address of Principal Executive Office		94538 (Zip Code)	
`	trant's telephone number, including a	` • /	
Securities	(949) 250-8888 S Registered Pursuant to Section 12(l	b) of the Act:	
<u>Title of each class</u> Common Stock, \$0.001 par value per share	Trading Symbol(s) INVE	Name of exchange on which registered The Nasdaq Stock Market LLC	
Securities	s Registered Pursuant to Section 12(s bl par value, and associated Preferre (Title of Class)	g) of the Act:	
Indicate by check mark if the registrant is a well-kn	nown seasoned issuer, as defined in Ru	le 405 of the Securities Act. Yes □ No ☑	
Indicated by check mark if the registrant is not requ	· · · · · · · · · · · · · · · · · · ·		
, , ,	as filed all reports required to be filed	by Section 13 or 15(d) of the Securities Exchange Act	of iling
Indicate by check mark whether the registrant has s Regulation S-T (§ 232.405 of this chapter) during the prec Yes \square No \square	submitted electronically every Interacti eding 12 months (or for such shorter p	ve Data File required to be submitted pursuant to Rule eriod that the registrant was required to submit such fi	405 of les).
Indicate by check mark whether the registrant is a l an emerging growth company. See the definitions of "large company" in Rule 12b-2 of the Exchange Act.	arge accelerated filer, an accelerated fi e accelerated filer," "accelerated filer,"	iler, a non-accelerated filer, a smaller reporting compan ""smaller reporting company," and "emerging growth	ny, or
Large accelerated filer □		Accelerated filer	\checkmark
Non-accelerated filer □		Smaller reporting company	
Emerging growth company			
new or revised financial accounting standards provided pu	rsuant to Section 13(a) of the Exchang iled a report on and attestation to its m	anagement's assessment of the effectiveness of its inte	ernal
If securities are registered pursuant to Section 12(b) the filing reflect the correction of an error to previously iss		hether the financial statements of the registrant include	ed in
Indicate by check mark whether any of those error received by any of the registrant's executive officers durin		red a recovery analysis of incentive-based compensation to $\$240.10D-1(b)$. \square	n
Indicate by check mark whether the registrant is a s Based on the closing sale price of the Registrant's of the Registrant's most recently completed second fiscal qua \$228,257,711.	Common Stock on the Nasdaq Nationa	l Market System on June 30, 2022, the last business da	
At March 2, 2023, the Registrant had outstanding 2	2,674,362 shares of Common Stock, e	excluding 1,567,676 shares held in treasury.	
		FERENCE the Registrant's fiscal year end of December 31, 2022	are

Auditor Firm Id: 207

Auditor Name:

BPM LLP

Auditor Location:

San Jose, California

Identiv, Inc. Form 10-K For the Fiscal Year Ended December 31, 2022

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PART I

ITEM 1. BUSINESS

Statement Regarding Forward Looking Statements

This Annual Report on Form 10-K ("Annual Report") contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. For example, other than statements of historical facts, statements regarding our strategy, future operations and growth, financial position, expected financial or business results, projected costs, prospects, plans, market trends, potential market size, product attributes and benefits, growth drivers, competition and competitive advantages, objectives of management, management judgements and estimates, and the expected impact of changes in laws or accounting pronouncements constitute forward-looking statements. In some cases, you can identify forward-looking statements by terms such as "will," "believe," "could," "should," "would," "may," "anticipate," "intend," "plan," "estimate," "expect," "project" or the negative of these terms or other similar expressions. Although we believe that our expectations reflected in or suggested by the forward-looking statements that we make in this Annual Report are reasonable, we cannot guarantee future results, performance or achievements. You should not place undue reliance on these forward-looking statements. All forward-looking statements speak only as of the date of this Annual Report. While we may elect to update forward-looking statements at some point in the future, we specifically disclaim any obligation to do so, even if our expectations change, whether as a result of new information, future events or otherwise. We also caution you that such forward-looking statements are subject to risks, uncertainties and other factors, not all of which are known to us or within our control, and that actual events or results may differ materially from those indicated by these forward-looking statements. Factors that could cause our actual results to differ materially from our expectations include, but are not limited to our ability to successfully execute our business plan and sell our products; continued market acceptance and growth or expansion in our target markets; our ability to successfully compete; our history of losses; the effects of product and component shortages; our ability to obtain additional capital; the benefits and attributes of our products and services; the level of customer orders; the ability of our products to perform as expected; risks related to the COVID-19 pandemic; fluctuations in net cash provided and used by operating, financing and investing activities; sources and uses of our cash, and expense levels; the loss of significant customers or types of business; the impact of macroeconomic conditions, including inflation, on our business; and the risks discussed elsewhere in this Annual Report under the heading "Risk Factors". These cautionary statements qualify all of the forward-looking statements included in this Annual Report.

Identiv and the Identiv logo are trademarks of Identiv, Inc., registered in many jurisdictions worldwide. Certain product and service brands are also trademarks or registered trademarks of the Company, including HIRSCH, ScramblePad, TouchSecure, Velocity, Velocity Vision, Velocity AI, Bitse.io, Freedom, Enterphone MESH, 3VR, VisionPoint, Thursby Software, and Thursby SubRosa. Other product and brand names not belonging to Identiv that appear in this Annual Report may be trademarks or registered trademarks of their respective owners.

Each of the terms the "Company," "Identiv," "we," "us" and "our" as used herein refers collectively to Identiv, Inc. and its wholly-owned subsidiaries, unless otherwise stated.

Overview

Our mission is to software-enable the entire physical world.

Our radio-frequency identification ("RFID") Internet of Things ("IoT") devices and IoT software platform are designed to digitally enable and secure any physical item. Our products enable unique and secure digital interaction with the physical world while simultaneously managing data flows from each physical object, thereby creating a software-enabled experience for the user that goes beyond a purely physical interaction.

Our physical security systems secure virtually every aspect of places and our interaction with them. Our systems provide customers with identification, access control, video surveillance and analytics. The result is a secure and responsive experience between the user and the place they are accessing. We believe our systems are built to meet the needs of various stakeholders, from engineers, systems designers, installers, and administrators to systems managers and individual users.

By digitally enabling physical "things," we make them more secure, responsive, feature-rich, interactive and customer-connected. RFID powers a wide range of IoT applications, including customer engagement, product authenticity, enhanced consumer experiences, instrumentation and sensor enabling, brand protection, product tracking, and tamper detection.

We execute our strategy of securing every place and thing through our two business segments: Identity segment for IoT and RFID-enabled solutions, and Premises segment for our physical security and access control.

- Identity: Our Identity business is focused on digitally enabling and securing every physical <u>thing</u>. Our designs and products include RFID-enabled IoT solutions to make digital and physical devices secure, responsive, and meaningful for the end user. Our RFID units have been integrated into more than a billion and a half IoT items around the world.
- Premises: Our Premises business is focused on securing every physical <u>place</u>. We offer what we believe to be one
 of the most comprehensive, end-to-end systems available from a single service provider in the physical security
 market. Our product portfolio includes identity credentials, access readers, access control systems, video
 management systems, and video analytics, deployed in a hyper-converged platform or a cloud-based architecture.
 Our platform is deployed across buildings worldwide, including sensitive government facilities, schools, utilities,
 hospitals, stores, and apartment buildings.

Market Drivers

Identity Segment:

In our Identity segment, the emerging RFID market is driven by pervasive use cases to the extent they are adopted by companies and consumers. For example, RFID devices can verify whether a syringe dispenses the exact right amount of a patient's medication. Mobile phone accessories can work together intelligently with a person's handset to create novel experiences and applications. Temperature-sensitive products can be tracked to ensure the shipment has stayed within its safety parameters and remains unspoiled. RFID-enabled smart packaging products, like those being evaluated in the cannabis industry, allow service operators to remain in compliance with government regulations and, potentially, tax authorities.

These examples demonstrate the scale of the RFID market opportunity of hundreds of billions of units over time. As technology improves and costs drop, we believe competitive pressures will drive adoption across each sector until virtually all physical items have a sensor-augmented, integrated, digital existence – a vision we share with leading semiconductor manufacturers. Identive enables tiny, low-cost RFID chips with highly tuned and optimized antennas, systems, software and security to become embedded in a wide range of products, providing a digital identity to almost any object on the planet.

Premises Segment:

Within our Premises segment, we believe the physical security market is undergoing a generational, technology-driven transformation. Fully integrated, software-defined, video, access and identity systems are being deployed to address evolving security threats that prior generations of security systems can no longer adequately secure. Lower cost of ownership, lower cost of administration, higher security and lower cost of upgrades and enhancements are the internal drivers of this technological transformation. Cyber attacks, identity cloning and user expectations are some of the external forces also driving this generational turnover of systems and expansion of their reach. Our physical security platforms enable this transformation by encompassing each of the major components that work together to create a secure yet frictionless experience, tailored to the requirements of each customer and all stakeholders within each customer.

Competitive Advantages

Identity Segment:

In the Identity segment, we believe our core differentiation is our best-in-class designs, technologies, and intellectual property ("IP") that enable the secure digital capabilities of RFID chips to work within the analog world of antennas, power harvesting, data conversion and security. Our devices can be attached to a prescription bottle, affixed to a shipment pallet, or embedded in an athletic jersey; they must then communicate through radio frequency (RF) and harvest power from the radio signal of a phone or reader in order to run the chip. Furthermore, the device must perform reliably in real-world environments. We design the systems, the antennas, software, security and physical form that connects the chips, accesses their capabilities, manages RF communications and power conversion, and creates the platform for the digital experience, all harmoniously integrated with the physical experience of the product.

We make this happen with our library of designs, patented technologies like tag-on-metal, and IP we have developed working with early adopters of RFID in multiple customer verticals including mobility and healthcare. We believe we deepen our value and competitive advantage by providing both the devices themselves in high volume, as well as the readers and programmers to personalize and read the RFID devices. Our RFID readers are among the most widely deployed for NFC (near-field communication) and high-frequency RFID programming and reading, which we believe gives us both credibility with our customers' engineering

teams and the flexibility to add software value. We then work closely with our customers to build the complicated analog bridge and system to make the device function across radio frequencies. The result for the end user is an engaged, dynamic interaction with very high reliability, high data security and optimized power transfer.

Our vertical integration allows us to go directly from prototypes to pilot runs to volume production and deliver a high-quality product, even for the most complicated devices. Oftentimes, the customers' engineers want to improve the product, making adjustments from lessons learned or because our chip suppliers release new chips, new features, and new price points. We would then typically run another rapid cycle of re-design, re-prototype, re-pilot, and re-production processes. We believe the design-through-production platform incentivizes our customers to continue working with us as they drive increasing functionality and better performance into the experiences for their customers. We anticipate this dynamic will accelerate, driven by improving semiconductor performance as outlined in industry-recognized Moore's Law, and by competitive forces created when any digitally-enabled product is launched, pressuring others to catch up or lose the market opportunity.

Premises Segment:

In the Premises segment, we believe our competitive advantages are our technical depth and ability to offer a comprehensive, end-to-end product line with customization that meets the varying needs of our customers' key stakeholders. Our platform encompasses the total digitization of physical places; it spans access control, video, analytics, access card readers, credentials, and hyperconverged appliances, with the ability to manage the system using on-premises, hybrid or cloud architectures, using hardware and software that are either enterprise-grade or small-business optimized. Our Premises products are developed and produced for high security applications and have met the requirements and are deployed in some of the most secure government facilities in the United States. We believe that a high-security foundation creates a solid base for all systems, whatever security level is needed.

Our Premises products are built on Identiv-designed and built hardware that reduces component vulnerabilities. We believe this purpose-built solution is more secure than comparable systems, and provides customers with higher performance, while retaining the ability to improve and quickly integrate new security features. We also embed cybersecure technology into all our access control, credentials, and door readers. From CAC/PIV credentials for US government customers to FICAM architecture that we helped to define, we believe our strong reputation in the physical security industry is a competitive advantage.

Growth Strategy

Identity Segment:

Our Identity segment growth strategy is focused on pervasive deployment of high-end, sensor-enabled RFID devices in every physical thing. We are engaged with technology early adopters, built on our reputation as the go-to partner for technologically complex advanced RFID devices. We believe there are three growth drivers in RFID: customer launches, design wins and technology expansion.

Use Case Examples

- Mobile Accessories: Our RFID devices embedded in mobile phone accessories enable rich, extensible experiences on a mobile device with an RFID-enabled accessory.
- <u>Medical Devices</u>: It is critical that a patient's medication be dispensed at the right dosage and temperature. Our RFID devices, when attached to a syringe, can enable doctors and their patients to monitor medical compliance.
- <u>Supply Chain Tracking</u>: Our RFID devices, when attached to a shipment palette, enable a company to track the ambient conditions of goods in their supply chain, ensuring cold items remain cold and are delivered to the appropriate location.

Design Wins

Design wins are the key to our leadership in the market as it expands. We believe our technical expertise, leadership, IP, active customer engagements and reputation across all facets of RFID provide a pipeline of design win opportunities. We also engage in non-recurring engineering ("NRE") projects with strategic customers, with the expectation that many of these projects evolve into design wins.

Technology Expansion

Our ability to secure additional design wins and successful customer launches relies upon our best-in-class engineering team and production capabilities, as well as new technologies that we design and incorporate as new capabilities for our customers.

Premises Segment:

In our Premises segment, our platform has the capability to secure virtually every place on the planet. Our platform is anchored by the reliability and robustness of our complete security solution. This includes our Velocity single-pane solution and software, our line of controllers and IoT gateways including Mx, our EG Edge controller, our TouchSecure access sensors, our Velocity Vision video and our VisionAI machine-learning based analytics platform, our TS Cards credentials as well as our mobile credentials, and a wide range of integrations.

We build our Premises solution to meet the stringent requirements of the most high-security facilities in the world and offer a complete security solution that includes hardware, software, and professional services. Our broad product portfolio allows us to provide customers a complete deployment, allowing them to consolidate vendors, minimizing execution risk. This also leverages our channel strength as well as the engineering and product investments the company has made. A key focus area for us is growing sales of our software licenses and related maintenance services.

We sell our current high-security solution to customers within the U.S. government. Since we offer a fully featured product portfolio that meets the needs of many end users, we aim to drive sales of our solution to quasi-governmental customers like airports and commercial customers in verticals such as retail, medical, and education. We also expect to drive sales of our enterprise-level solution into the SMB markets that also have high-security needs, thereby expanding the market for our solution. Additionally, we have partnerships with original equipment manufacturers (OEMs) that make our products available to their respective sales teams, leveraging our engineering investment.

- Premises Software: Our software platform for premises digitization enables centralized management of a physical place, including control of doors, cameras, gates, elevators and other building equipment, monitoring users as they move around a facility, preventing unwanted access, maintaining compliance and providing a continuous audit trail. Our platforms are IT-centric and highly scalable from small businesses through global organizations, multi-tenant, special-purpose campuses such as schools, military bases, utilities and others. Our platforms are available as local software or cloud based, accessible through browser, mobile and desktop interfaces. We leverage data infrastructures across LAN's, Wifi, Bluetooth, mobile, RFID and emerging communication standards such as 5G and UWB (ultra wide-band). As communications infrastructure becomes fully wireless, low-power and high-security, our software is architected to support seamless migration to fully software-defined systems, compatible with pervasive RFID devices to enable a frictionless, convenient and secure experience in almost any physical location.
- Access Readers & Sensors: As most of the physical infrastructure becomes wireless, virtual and software-defined, the remaining device will be the sensors at the door. As platforms for local presence confirmation, video and audio interaction, and to signal a door to open, we believe our family of TouchSecure (TS) sensors will continue to play a key physical role in providing security and convenience at the door.
- <u>Video Analytics</u>: We have integrated a wide set of machine learning analytics into our Velocity Vision system. Integrated with our Velocity access management platform, we are bringing intelligence to physical security and the entire experience as people interact with buildings and other facilities around them.

Sales & Marketing Strategy

Our go-to-market strategy is consistent across our business. We believe our competitive advantage is our technical expertise, technology and know-how which covers both the user side and the programmer/reader/infrastructure side. With this depth of technology across the overall system we develop and prove our best-in-class use cases with our customers.

- <u>Use-case Proliferation</u>: We apply our digital marketing platforms, sales teams and channel partners to proliferate each use case as best-in-class. We target product engineers or other decision makers to build awareness of a proven solution. We drive our marketing message in terms that engineers value because we have established the benefits from comparable use cases. As a company adopts RFID and delivers superior product experiences, we believe that drives faster adoption by others, until a use-case becomes pervasive.
- Trusted advisor: Reducing adoption cost and risk: We have built a reputation as the trusted advisor to our customers by sharing benefits and pitfalls, risks and tradeoffs, as well as ways to mitigate them. We also communicate the risk of inaction, as others come to market with new capabilities. By highlighting risks of inaction, making customers aware of upcoming competitive threats and sharing insights into how they can confidently build competitive capabilities themselves, we believe we become their trusted advisor early in their learning and decision cycle. Then, because we help with the designs, provide devices as well as reader/programmers, and complete solutions or best-of-breed components, we often become a long-term partner, reducing their risks and efforts and improving their competitive advantages. Throughout this process, confidentiality is paramount. A capability developed uniquely with and for a customer is not shared with another. That is fundamental to our culture and to our business practices.
- <u>Industry Leader and Facilitator</u>: As we develop general use-case capabilities and insights, we share and leverage those cross-industry, adding value and building our competitive advantage. Specific differentiation established with a customer is protected. With this key guideline, we optimize our value across each use case, to each individual customer, and to the industry overall.

Research and Development

In RFID, we are a leader in a wide range of chip use cases, antenna designs across HF, UHF and LF (low frequency) as well as sensors, materials and form factors. We encompass both sides of the underlying technology platforms, the devices themselves as well as the programmers, testers, configurators and readers. We believe this provides credibility with customers, demonstrating an understanding of all components of the devices, because our devices are programming, configuring, testing and validating them at the time of production, as well as in use among customers. Similarly with our physical security IoT platforms, we encompass the total solution. We believe our technology and products span a far greater range of the platform solution than most of our competitors, encompassing readers, controllers, video, cards and software across local, cloud, mobile, and hybrid modes.

Our research and development ("R&D") investment is highly leveraged because we optimally access expertise wherever we believe it is most advanced and most efficient. We maintain RFID R&D in Germany, in the region where the initial NFC and smart card technologies developed, and in Singapore/Southeast Asia, where the most advanced and flexible RFID production is centered. We also deploy Premises software and systems teams in India, Vietnam, Mexico and the U.S.

Proprietary Technology and Intellectual Property

We currently rely on a combination of patent, copyright and trademark laws, trade secrets, confidentiality agreements and contractual provisions to protect our proprietary rights. Although we may seek to protect our proprietary technology through patents, it is possible that no new patents will be issued, that our proprietary products or technologies are not patentable, and that any issued patent will fail to provide us with any competitive advantages. The core of our proprietary technology is the combination of our advanced technical expertise combined with our intimate customer knowledge, enabling us to develop bring to market and sometimes patent products uniquely positioned to deliver benefits to customers. We have a portfolio of approximately 36 patent families (designs, patents, utility models, patents pending and exclusive licenses) in individual or regional filings, covering products, electrical and mechanical designs, software systems and methods and manufacturing process ideas for our various businesses. Additionally, we leverage our own ASIC designs for smart card interface in some of our reader devices. Our issued patents expire between 2023 and 2034.

Manufacturing and Sources of Supply

We utilize a combination of our own manufacturing facilities and the services of contract manufactures in various countries around the world to manufacture our products and components. Our RFID devices are predominantly manufactured and assembled by our own internal manufacturing teams in Singapore primarily using locally sourced components and are certified to the ISO 9001:2015 and ISO 14001:2015 quality manufacturing standard. Our premises sensors readers, controllers and software are manufactured primarily in California. Our video appliances are manufactured primarily in Wisconsin and Arizona. The majority of our smart card reader products and components are manufactured in Singapore, Cambodia and South Korea. We have implemented formal quality control programs to satisfy customer requirements for high quality and reliable products. To ensure that products manufactured by third parties are consistent with internal standards, our quality control programs include management of all key aspects of the production process, including establishing product specifications, selecting the components to be used to produce

products, selecting the suppliers of these components and negotiating the prices for certain of these components. In addition, we may work with suppliers to improve process control and product design.

For the majority of our product manufacturing, we utilize a global sourcing strategy that serves all business solution areas within the company, which allows us to achieve economies of scale and uniform quality standards for our products. On an ongoing basis, we analyze the need to add alternative sources for both our products and components. For example, we currently utilize the foundry services of external suppliers to produce our ASICs for smart cards readers and RFID devices, and we use chips and antenna components from third-party suppliers. Wherever possible, we have qualified additional sources of supply for components.

Government Regulation

Our business is subject to government regulation as discussed in the Risk Factors.

Human Capital

Our key human capital management objectives are to attract, retain and develop the highest quality talent. To support these objectives, our human resources program is designed to develop talent to prepare them for critical roles and leadership positions for the future; reward and support employees through competitive pay and benefits; enhance our culture through efforts aimed at making the workplace more engaging and inclusive; acquire talent and facilitate internal talent mobility to create a high-performing and diverse workforce. As of December 31, 2022, we had 343 employees, of which 73 were in research and development, 92 were in sales and marketing, 145 were in manufacturing and 33 were in general and administrative. We are not subject to any collective bargaining agreements and, to our knowledge, none of our employees are currently represented by a labor union. To date, we have experienced no work stoppages and believe that our employee relations are generally good.

Corporate Information

Our corporate headquarters are located in Fremont, California. We maintain research and development facilities in California; Chennai, India; Munich, Germany; and local operations and sales facilities in Germany, the United Kingdom, Hong Kong, Singapore, Canada, India, Japan and the United States. We were founded in 1990 in Munich, Germany and incorporated in 1996 under the laws of the State of Delaware.

Availability of SEC Filings

We make available through our website our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K and amendments to those reports free of charge as soon as reasonably practicable after we electronically file such reports with the Securities and Exchange Commission ("SEC"). Our Internet address is www.identiv.com. The content on our website is not, nor should it be deemed to be, incorporated by reference into this Annual Report. Our filings with the SEC are also available to the public through the SEC's website at www.sec.gov.

Item 1A. Risk Factors

Risks Related to Our Customers, Products and Markets, and Our Business

Adverse global and regional economic conditions have and may continue to materially adversely affect our business, results of operations and financial condition.

We conduct operations internationally with sales in the Americas, Europe and the Middle East, and Asia-Pacific regions. Our manufacturing operations and third-party contract manufacturers are located in China and Singapore/Southeast Asia. We also purchase certain products and key components from a limited number of sources that depend on the supply chain, including freight, to receive components, transport finished goods and deliver our products across the world. As a result, adverse global and regional economic conditions may materially adversely affect our business, results of operations and financial condition.

Such conditions, including but not limited to inflation, slower growth or recession, higher interest rates and currency fluctuations, and other conditions that may impact consumer confidence and spending may adversely affect demand for our products. During fiscal year 2022, we were impacted by adverse macroeconomic conditions including but not limited to inflation, foreign currency fluctuations, and the slowdown of economic activity around the globe. For example, in the second half of 2022, we experienced delays and reductions in customer orders, shifting supply chain availability and component shortages. We also continue to be affected by supply chain challenges. Global economic conditions have also impacted our suppliers, contract manufacturers, logistics providers, and distributors, causing increases in cost of materials and higher shipping and transportation rates, which then impacted the pricing of our products. Price increases may not successfully offset cost increases or may cause us to lose market share and, in turn, may adversely impact our operations.

We depend on a number of suppliers and contract manufacturers for the production of our products and components making us potentially vulnerable to supply disruption.

Our reliance on suppliers and contract manufacturers for the production of our products and hardware components has and may continue to result in product delivery problems and delays. We may suffer a disruption if the supply of components causes us to be unable to purchase sufficient components on a timely basis. For example, the ongoing global semiconductor shortage that began in 2021 has and may continue to adversely impact our ability to meet product demand in a timely fashion. This shortage, which is due in part to COVID-19, may persist for an indefinite period of time and has and may continue to have a negative impact on our revenue and operating results. Low inventory levels can affect our ability to meet customer demand, lengthen lead times and potentially cause us to miss opportunities, lose market share and/or damage customer relationships, also adversely affecting our business. Although we have taken steps to ensure we have adequate supply for expected customer demand, there can be no assurance that our efforts will be successful. If we are not able to get the necessary products and components on a timely basis, our business, financial condition and results of operations may be adversely affected.

Our financial performance depends on the extent and pace of RFID market adoption and end-user adoption of our RFID products and the timing of new customer deployments.

Our financial performance depends on the pace, scope and depth of end-user adoption of our RFID products in multiple industries. That pace, scope and depth accelerated during 2022 which has caused large fluctuations in our operating results. If RFID market adoption, and adoption of our products specifically, does not meet our expectations, then our growth prospects and operating results will be adversely affected. If we are unable to meet end-user or customer volume or performance expectations, then our business prospects may be adversely affected. In addition, given the uncertainties of the specific timing of our new customer deployments, we cannot be assured that we will have appropriate inventory and capacity levels or that we will not experience inventory shortfalls or overages in the future. We seek to mitigate those risks by being deeply embedded in our customers' design cycle, working with our chip partners on long lead time components, managing our limited capital equipment needs within a short cycle and expanding our facilities to accommodate several scenarios for growth potential. If end users with sizable projects change or delay them, we may experience significant fluctuation in revenue on a quarterly or annual basis, and we anticipate that such uncertainty and fluctuations may continue to characterize our business for the foreseeable future.

The impact of the COVID-19 pandemic, or similar global health concerns, could negatively impact our operations, supply chain and customer base.

The COVID-19 pandemic has severely restricted the level of economic activity around the world, which has and may continue to impact timing of demand for our products and services. Our operations and supply chains for certain of our products or services may be negatively impacted by the regional or global outbreak of illnesses, including a resurgence of COVID-19 variants. Any quarantines, labor shortages or other disruptions to our operations, or those of our suppliers or customers, have and may continue to adversely impact our sales and operating results, including additional expenses and strain on the business as well as our supply chain. In addition, a resurgence in COVID-19 variants could continue to adversely affect some of the market verticals that we participate in as well as the general economies and financial markets of many countries, including those in which we operate, and negatively impacted supply and demand for our products and services, and has and may continue to result in delayed sales and extended payment cycles for our products and services. We are unable to accurately fully predict the effect of a future pandemic on our business, and which could be affected by other factors we are not currently able to predict, including the success of actions taken to contain or treat future COVID-19 variants, and reactions by consumers, companies, governmental entities and capital markets.

Our business could be adversely affected by reductions or delays in the purchase of our products or services for government security programs in the United States and globally.

We derive a substantial portion of our revenues from indirect sales to U.S. federal, state and local governments and government agencies, as well as from subcontracts under federal government prime contracts. Large government programs are an important market for our business, as high-security systems employing physical access, smart card, RFID or other access control technologies are increasingly used to enable applications ranging from authorizing building and network access for federal employees to paying taxes online, to citizen identification, to receiving health care. We believe that the success and growth of our business will continue to be influenced by our successful procurement of government business either directly or through our indirect sales channels. Accordingly, changes in government purchasing policies or government budgetary constraints, including government shutdowns, could directly affect our financial performance. Sales to government agencies and customers primarily serving the U.S. Government, including further sales pursuant to existing contracts, may be adversely affected by factors outside our control, such as, federal government shutdowns or other Congressional actions to reduce federal spending, and by adverse economic, political or market conditions. A reduction in current or future anticipated sales to the U.S. Government sector could harm our results of operations.

Additionally, we anticipate that an increasingly significant portion of our future revenues will come from government programs outside the U.S., such as electronic national identity, eGovernment and eHealth programs. We currently supply smart card readers, RFID products and credential provisioning and management solutions for various government programs in Europe, Asia and Australia and are actively targeting additional programs in these and other geographic areas. However, the allocation and availability of funding for such programs are often impacted by economic or political factors over which we have no control, and which may cause delays in program implementation, which could negatively impact our sales and results of operations.

Our U.S. Government business depends upon the continuance of regulations that require federal agencies to implement security systems such as ours, and upon our ability to receive certain government approvals or certifications and demonstrate compliance in government audits or investigations. A failure to receive these government approvals or certifications or a negative audit result could result in a material adverse impact on our business, financial condition and results of operations.

While we are not able to quantify the amount of sales made to end customers in the U.S. Government market due to the indirect nature of our selling process, we believe that orders from U.S. Government agencies represent a significant portion of our revenues. The U.S. Government, suppliers to the U.S. Government and certain industries in the public sector currently fall, or may in the future fall, under regulations that require federal agencies to implement security systems that utilize physical and logical access control products and solutions such as ours. These regulations include, but are not limited to, HSPD 12 and FIPS 201 produced by the National Institute of Standards and Technology ("NIST"). Discontinuance of, changes in, or lack of adoption of laws or regulations pertaining to security related to sales to end customers in the U.S. Government market could adversely affect our sales.

Our U.S. Government business is also dependent upon the receipt of certain governmental approvals or certifications and failure to receive such approvals or certifications could have a material adverse effect on our sales in those market segments for which such approvals or certifications are customary or required. Government agencies in the U.S. and other countries may audit our business as part of their routine audits and investigations of government procurement programs. Based on the outcome of any such audit, if any of our costs are found to be improperly allocated to a specific order, those costs may not be reimbursed, and any costs already reimbursed for such order may have to be refunded. If a government agency audit uncovers improper or illegal activities, we may be subject to civil and criminal penalties and administrative sanctions. A negative audit could materially affect our competitive position and result in a material adverse impact on our business, financial condition and results of operations.

Our revenues may decline if we cannot compete successfully in an intensely competitive market.

We target our products at the rapidly evolving market for security technologies. Many of our current and potential competitors have significantly greater financial, technical, marketing, purchasing and other resources than we do. As a result, our competitors may be able to respond more quickly to new or emerging technologies or standards and to changes in customer requirements. Our competitors may also be able to devote greater resources to the development, promotion and sale of products or solutions and may be able to deliver competitive products or solutions at a lower end user price.

We also experience indirect competition from certain of our customers who currently offer alternative products or solutions or are expected to introduce competitive offerings in the future. For example, in our Premises business, many of our dealer channel partners act as system integrators, providing installation and service, and therefore carry competitive lines of products and systems. This is a common practice within the industry as the integrators need access to multiple lines in order to support all potential service and user requirements. Depending on the technical competence of their sales forces, the comfort level of their technical staff with our systems and price pressures from customers, these integrators may choose to offer a competitor's product. There is also business pressure to provide some level of sales to all vendors to maintain access to a range of products and systems.

We believe that the principal competitive factors affecting the markets for our products and solutions include:

- the extent to which products and systems must support evolving industry standards and provide interoperability;
- the extent to which products are differentiated based on technical features, quality and reliability, ease of use, strength of distribution channels and price;
- the ability to quickly develop new products and solutions to satisfy new market and customer requirements; and
- the total cost of ownership including installation, maintenance and expansion capability of systems.

Increased competition and increased market volatility in our industry could result in lower prices, reduced margins or the failure of our product and service offerings to achieve or maintain market acceptance, any of which could have a serious adverse impact on our business, financial condition and results of operations.

Our percentage of revenue and customer concentration is significant in certain of our businesses.

Sales to our ten largest customers accounted for 25%, 32% and 33% of total net revenue in 2022, 2021 and 2020, respectively. No customer accounted for 10% or more of our total net revenue in 2022, 2021 or 2020. A significant amount of revenue is sourced from sales of products and systems to our OEM partners and an indirect sales network who sell to various entities within the U.S. federal government sector. We cannot guarantee that future reductions in U.S. Government budgets will not impact our sales to these government entities or that the terms of existing contracts will not be subject to renegotiation. Our loss of one or more significant customers could have a significant adverse impact on our business, financial condition and results of operations.

Our business will not be successful if we do not keep up with the rapid changes in our industry.

The market for security products and related services is characterized by rapid technological developments, frequent new product introductions and evolving industry standards. To be competitive, we have to continually improve the performance, features and reliability of our products and services, particularly in response to competitive offerings, and quickly demonstrate the value of new products and services or enhancements to existing products and services. Our failure to develop and introduce new products and services successfully on a timely basis and to achieve market acceptance for such products and services could have a significant adverse impact on our business, financial condition and results of operations.

Security breaches, whether or not related to our products, could result in the disclosure of sensitive government information or private personal information that could result in the loss of clients and negative publicity.

Many of the systems we sell manage private personal information or protect sensitive information related to our customers in the government or commercial markets. A well-publicized actual or perceived breach of network or computer security in one of these systems, regardless of whether such a breach is attributable to our products, could adversely affect the market's perception of us and our products, and could result in the loss of customers, have an adverse effect on our reputation and reduce demand for our products.

As part of our technical support services, we agree, from time to time, to possess all or a portion of the security system database of our customers. This service is subject to a number of risks. For example, despite our security measures, our systems may be vulnerable to cyber-attacks by hackers, physical break-ins and service disruptions that could lead to interruptions, delays or loss of data. If any such compromise of our security were to occur, it could be very expensive to correct, could damage our reputation and result in the loss of customers, and could discourage potential customers from using our services. We could also be liable for damages and penalties. Although we have not experienced a cyber or physical security breach, we may experience breaches in the future. Our systems also may be affected by outages, delays and other difficulties. In addition, our insurance coverage may be insufficient to cover losses and liabilities that may result from such events.

Our business and reputation may adversely affected by information technology system failures or network disruptions.

We may be subject to information technology system failures and network disruptions. These may be caused by natural disasters, accidents, power disruptions, telecommunications failures, acts of terrorism or war, computer viruses, physical or electronic break-ins, or other events or disruptions. System redundancy may be ineffective or inadequate, and our disaster recovery planning may not be sufficient for all eventualities. Such failures or disruptions could compromise company or customer data and result in delayed or cancelled orders and expose us to liability. System failures and disruptions could also impede the manufacturing and shipping of products, delivery of online services, processing of transactions and reporting of financial results. In addition, any such failures or disruptions could harm our reputation. Although we do not have operations in Russia or Ukraine, we do not and cannot know if the current uncertainties in these geopolitical areas may escalate and result in broad economic and security conditions, which could result in material implications for our business.

Sales of our products could decline and we could be subject to legal claims for damages if our products are found to have defects.

Despite our testing efforts, our products may contain defects that are not detected until after the products have been shipped. The discovery of defects or potential defects may result in damage to our reputation, delays in market acceptance of our products and additional expenditures to resolve issues related to the products' implementation. If we are unable to provide a solution to actual or potential product defects that is acceptable to our customers, we may be required to incur substantial costs for product recall, repair and replacement, or costs related to legal or warranty claims made against us.

The global nature of our business exposes us to operational and financial risks and our results of operations could be adversely affected if we are unable to manage them effectively.

We market and sell our products and solutions to customers in many countries around the world. To support our global sales, customer base and product development activities, we maintain offices and/or business operations in several locations around the world, including the United Kingdom, Germany, Hong Kong, India, Japan, Singapore, Canada, and the U.S. We also maintain manufacturing facilities in Singapore and California and engage contract manufacturers in multiple countries outside the U.S. Managing our global development, sales, administrative and manufacturing operations places a significant burden on our management resources and our financial processes and exposes us to various risks, including:

- longer accounts receivable collection cycles:
- changes in foreign currency exchange rates;
- compliance with and changes in foreign laws and regulatory requirements;
- changes in political or economic conditions and stability, particularly in emerging markets;
- difficulties managing widespread sales and manufacturing operations and related costs;
- export controls;
- natural disasters;
- less effective protection of our intellectual property; and
- potentially adverse tax consequences.

Any failure to effectively mitigate these risks and effectively manage our global operations could have a material adverse effect on our business, financial condition or operating results.

If current or future export laws limit or otherwise restrict our business, we could be prohibited from shipping our products to certain countries, which could cause our business, financial condition and results of operations to suffer.

Some of our products are subject to export controls or other laws restricting the sale of our products under the laws of the U.S., the European Union ("EU") and other governments. The export regimes and the governing policies applicable to our business are subject to change. We cannot be certain that such export authorizations will be available to us or for our products in the future. In some cases, we rely upon the compliance activities of our prime contractors, and we cannot be certain they have taken or will take all measures necessary to comply with applicable export laws. If we or our prime contractor partners cannot obtain required government approvals under applicable regulations, we may not be able to sell our products in certain international jurisdictions.

A significant portion of our revenue is through an indirect sales channel, and the loss of dealers, systems integrators, resellers, or other channel partners could result in decreased revenue.

We currently use an indirect sales channel that includes dealers, systems integrators, value added resellers and resellers to sell a significant portion of our products and solutions, primarily into markets or to customers where the channel partner may have closer customer relationships or greater access than we do. Some of these channel partners also sell our competitors' products, and if they favor our competitors' products for any reason, they may fail to market our products as effectively or to devote necessary resources that result in sales of our products, which could cause our sales to suffer. Indirect selling arrangements are intended to benefit both us and the channel partner, and may be long- or short-term relationships, depending on market conditions, competition in the marketplace and other factors. If we are unable to maintain effective indirect sales channels, there could be a reduction in the amount of product we are able to sell, and our revenues could decrease.

We depend upon third-party manufacturers and a limited number of suppliers, and if we experience disruptions in our supply chain or manufacturing, our business may suffer.

We rely upon a limited number of suppliers for some key components of our products which exposes us to various risks, including whether or not our suppliers will provide adequate quantities with sufficient quality on a timely basis and the risk that supplier pricing may be higher than anticipated. In addition, some of the basic components used in some of our products, such as semiconductors, may at any time be in great demand. This could result in components not being available to us in a timely manner or at all, particularly if larger companies have ordered significant volumes of those components, or in higher prices being charged for components we require. Disruption or termination of the supply of components or software used in our products could delay shipments of our products, which could have a material adverse effect on our business and operating results and could also damage relationships with current and prospective customers.

Many of our products are manufactured outside the U.S. by contract manufacturers. Our reliance on these manufactures poses a number of risks, including lack of control over the manufacturing process and ultimately over the quality and timing of delivery of our products. If any of our contract manufacturers cannot meet our production requirements, we may be required to rely on other contract manufacturing sources or identify and qualify new contract manufacturers, and we may not be able to do this in a timely manner or on reasonable terms. Additionally, we may be subject to currency fluctuations, potentially adverse tax consequences, unexpected changes in regulatory requirements, tariffs and other trade barriers, export controls, natural disasters, or political and economic instability. Any significant delay in our ability to obtain adequate supplies of our products from our current or alternative manufacturers could materially and adversely affect our business and operating results. In addition, if we are not successful at managing the contract manufacturing process, the quality of our products could be jeopardized or inventory levels could be inadequate or excessive, which could result in damage to our reputation with our customers and in the marketplace, as well as possible shortages of products or write-offs of excess inventory.

Our success depends largely on the continued service and availability of key personnel.

Our future success depends on our ability to continue to attract, retain, and motivate our senior management as well as qualified technical personnel, particularly software engineers. Competition for these employees is intense and many of our competitors may have greater name recognition and significantly greater financial resources to better compete for these employees. If we are unable to retain our existing personnel, or attract and train additional qualified personnel, our growth may be limited. Our key employees are employed on an "at will" basis, meaning either we or the employee may terminate their employment with us at any time. The loss of key employees could slow our product development processes and sales efforts or harm our reputation. Also, if our stock price declines, it may result in difficulty attracting and retaining personnel as equity incentives generally comprise a significant portion of our employee compensation. Further, restructurings and reductions in force that we have recently experienced may have a negative effect on employee morale and the ability to attract and retain qualified personnel.

Risks Related to Our Financial Results, Liquidity and Need for Additional Capital

Our revenue and operating results are subject to significant fluctuations and such fluctuations may lead to a reduced market price for our stock.

Our revenue and operating results have varied in the past and will likely continue to fluctuate in the future. We believe that period-to-period comparisons of our operating results are not necessarily meaningful, but securities analysts and investors often rely upon these comparisons as indicators of future performance. If our operating results in any future period fall below the expectations of securities analysts and investors, or the guidance that we provide, the market price of our stock would likely decline.

Factors that have caused our results to fluctuate in the past and which are likely to affect us in the future include the following:

- business and economic conditions overall and in our markets:
- the timing and size of customer orders, including orders that may be tied to annual or other budgetary cycles, seasonal demand, product plans or program roll-out schedules;
- the effects of U.S. Government shutdowns, spending cuts and other changes in budget allocation or availability that create uncertainty for customers in certain parts of our business;
- the absence of significant backlog in our business;
- cancellations or delays of customer orders or the loss of a significant customer;
- the length of sales cycles associated with our product or service offerings;
- variations in the mix of products and services we sell;
- reductions in the average selling prices that we are able to charge due to competition, new product introductions or other factors;
- the impact of increasing freight and logistics costs;
- our ability to obtain an adequate supply of quality components and to deliver our products on a timely basis;
- our inventory levels and the inventory levels of our customers and indirect sales channels;
- the extent to which we invest in development, sales and marketing, and other expense categories;
- acquisitions, dispositions or organizational restructuring;
- fluctuations in the value of foreign currencies against the U.S. dollar;
- the cost or impact of litigation; and
- the write-off of trade receivables and investments.

Estimating the amount and mix of future revenues is difficult, and our failure to do so accurately could affect our ability to be profitable or reduce the market price for our stock.

Accurately estimating future revenues is difficult because the purchasing patterns of our customers can vary depending upon a number of factors. We sell our smart card readers primarily through a channel of distributors who place orders on an ongoing basis depending on their customers' requirements. As a result, the size and timing of these orders can vary from quarter to quarter. Market demand for RFID and NFC technology is resulting in larger program deployments of these products and components, as well as increasing competition for these solutions. Across our business, the timing of closing larger orders increases the risk of quarter-to-quarter fluctuation in revenues. If orders forecasted for a specific group of customers for a particular quarter are not realized or revenues are not otherwise recognized in that quarter, our operating results for that quarter could be materially adversely affected. In addition, from time to time, we may experience an unexpected increase or decrease in demand for our products resulting from fluctuations in our customers' budgets, purchasing patterns or deployment schedules. These occurrences are not always predictable and can have a significant impact on our results in the period in which they occur. Failure to accurately forecast customer demand may result in excess or obsolete inventory, which if written down might adversely impact our cost of revenues and financial condition.

In addition, our expense levels are based, in significant part, upon our expectations as to future revenues and are largely fixed in the short term. We may be unable to adjust spending in a timely manner to compensate for any unexpected shortfall in revenues. Any significant shortfall in revenues in relation to our expectations could have an immediate and significant effect on our operating results for that quarter and may lead to a reduced market price for our stock.

If we are not able to secure additional capital when needed, our business could be adversely affected.

We may seek or need to raise additional funds for capacity expansion, general corporate and commercial purposes or for acquisitions. Our ability to obtain financing depends on our historical and expected future operating and financial performance, and is also subject to prevailing economic conditions and to financial, business and other factors beyond our control. If we are unable to secure additional financing when desired, our ability to fund our business operations, make capital expenditures, pursue additional expansion or acquisition opportunities, or have resources available to capitalize on other opportunities could be limited, and this could adversely impact our financial results. There can be no assurance that additional capital will be available to us on favorable terms or at all. The sale of additional debt or equity securities may cause dilution to existing stockholders. Any debt or equity securities issued may also provide for rights, preferences or privileges senior to those of our common stock and could impose significant restrictions on our operations.

Fluctuations in foreign exchange rates between the U.S. dollar and other major currencies in which we do business may adversely affect our business, financial condition and results of operations.

A significant portion of our business is conducted in foreign currencies, principally the euro and Indian Rupee. Fluctuations in the value of foreign currencies relative to the U.S. dollar will result in currency exchange gains and losses in our reported results. If a significant portion of operating expenses are incurred in a foreign currency such as the euro or Indian Rupee, and revenues are generated in U.S. dollars, exchange rate fluctuations might have a positive or negative net financial impact on these transactions, depending on whether the value of the U.S. dollar decreases or increases compared to that currency. In addition, the valuation of current assets and liabilities that are denominated in a currency other than the functional currency can result in currency exchange gains and losses. For example, when one of our subsidiaries uses the euro as the functional currency, and this subsidiary has a receivable in U.S. dollars, a devaluation of the U.S. dollar against the euro of 10% would result in a foreign exchange loss to the reporting entity of 10% of the value of the underlying U.S. dollar receivable. We cannot predict the effect of exchange rate fluctuations upon future operating results. The effect of currency exchange rate changes may increase or decrease our costs and/or revenues in any given period, and we may experience currency losses in the future. To date, we have not adopted a hedging program to protect against the risks associated with foreign currency fluctuations.

Risks Related to Our Intellectual Property, and Litigation

We may not be able to protect our intellectual property rights, which could make us less competitive and cause us to lose market share.

Our future success will depend, in part, upon our intellectual property rights and our ability to protect these rights. We rely on a combination of patent, copyright, trademark and trade secret laws, nondisclosure agreements and other contractual provisions to establish, maintain and protect our proprietary rights. From time to time, we may be required to use litigation to protect our proprietary technology. As a result, we may incur substantial costs and we may not be successful in any such litigation. Despite our efforts to protect our proprietary rights, unauthorized third parties may copy aspects of our products, obtain and use information that we regard as proprietary, or infringe upon our patents. In addition, the laws of some foreign countries do not protect proprietary and intellectual property rights to the same extent as do the laws in the U.S. Because many of our products are sold and a significant portion of our business is conducted outside the U.S., our exposure to intellectual property risks may be higher. Our efforts to protect our proprietary and intellectual property rights may not be adequate. Additionally, there is a risk that our competitors will independently develop similar technology or duplicate our products or design around patents or other intellectual property rights. If we are unsuccessful in protecting our intellectual property or our products or technologies are duplicated by others, our competitive position could be harmed and we could lose market share.

As an example, the complexity and uncertainty of European patent laws have increased in recent years. In Europe, a new unitary patent system will likely be introduced by the end of 2023, which would significantly impact European patents, including those granted before the introduction of such a system. Under the unitary patent system, European applications will soon have the option, upon grant of a patent, of becoming a Unitary Patent which will be subject to the jurisdiction of the Unitary Patent Court (UPC). As the UPC is a new court system, there is no precedent for the court, increasing the uncertainty of any litigation. Patents granted before the implementation of the UPC will have the option of opting out of the jurisdiction of the UPC and remaining as national patents in the UPC countries. Patents that remain under the jurisdiction of the UPC will be potentially vulnerable to a single UPC-based revocation challenge that, if successful, could invalidate the patent in all countries who are signatories to the UPC. We cannot predict with certainty the long-term effects of any potential changes.

We face risks from claims of third parties and litigation, which could have an adverse effect on our results of operations.

We have, and may in the future, receive notices of claims of infringement and misappropriation or misuse of other parties' proprietary rights. From time to time, we are subject to claims of third parties, possibly resulting in litigation, which could include, among other things, claims regarding infringement of the intellectual property rights of third parties, product defects, employment-related claims, and claims related to acquisitions, dispositions or restructurings. We cannot assure you that we will prevail in such actions, or that other actions alleging misappropriation or misuse by us of third-party trade secrets, alleging infringement by us of third-party patents and trademarks or challenging the validity of our patents, will not be asserted or prosecuted against us. Addressing any such claims or litigation may be time-consuming and costly, divert management resources, cause product shipment delays, require us to redesign our products, require us to accept returns of products and to write-off inventory, or result in other adverse effects to our business. Any of the foregoing could have a material adverse effect on our results of operations and could require us to pay significant monetary damages.

We expect the likelihood of intellectual property infringement and misappropriation claims may increase as the number of products and competitors in the security market grows and as we increasingly incorporate third-party technology into our products. As a result of infringement claims, we could be required to license intellectual property from a third party or redesign our products. Licenses may not be offered when required or on acceptable terms. If we do obtain licenses from third parties, we may be required to pay license fees or royalties or we may be required to license some of our intellectual property to others in return for such licenses. If we are unable to obtain a license necessary for us or our third-party manufacturers to manufacture our allegedly infringing products, we could be required to suspend the manufacture of products or stop our suppliers from using processes that may infringe the rights of third parties. We may also be unsuccessful in redesigning our products. Our suppliers and customers may be subject to infringement claims based on intellectual property included in our products. We have historically agreed to indemnify our suppliers and customers for patent infringement claims relating to our products. The scope of this indemnity varies, but may, in some instances, include indemnification for damages and expenses, including attorney's fees. We may periodically engage in litigation as a result of these indemnification obligations. Our insurance policies exclude coverage for third-party claims for patent infringement.

We have in the past been named as a defendant in putative securities class action and derivative lawsuits.

Securities class action lawsuits have often been brought against a company following periods of volatility in the market price of its securities. Companies such as ours in the technology industry are particularly vulnerable to this kind of litigation due to the volatility of their stock prices. We have in the recent past been named as a defendant in putative securities class action and derivative lawsuits and may again be so named in the future. Any litigation to which we were a party has and may in the future result in the diversion of management attention and resources from our business and business strategy. In addition, any litigation to which we may become a party to may result in onerous or unfavorable judgments that may not be reversed upon appeal and that may require us to pay substantial monetary damages or fines, or we may decide to settle lawsuits on similarly unfavorable terms, which could have a material adverse effect our business, financial condition or results of operations.

Risks Relating to Our Financial Reporting and Disclosure

Any failure to maintain an effective system of disclosure and internal controls over financial reporting, or our ability to produce timely and accurate financial statements, could adversely affect investor confidence in us.

As a public company, we must maintain effective disclosure controls and procedures and internal control over financial reporting. Effective internal controls are necessary for us to provide reliable financial reports and prevent fraud.

Any failure to implement and maintain effective disclosure controls and procedures and internal control over financial reporting, including identifying material weaknesses, could cause investors to lose confidence in the accuracy and completeness of our financial statements and reports, which could adversely affect the market price of our common stock. We could also be subject to sanctions or investigations by The Nasdaq Stock Market, the SEC and other regulatory authorities.

We have incurred, and in the future will incur, high costs associated with being a public company.

We have incurred significant legal, accounting and other costs associated with public-company reporting requirements. We ceased to be a "smaller reporting company" on December 31, 2021, and are no longer eligible for the reduced disclosure requirements and exemptions applicable to "smaller reporting companies." Our loss of this status has required additional management attention and increased our costs, including legal, accounting, external professional consulting and investor-relations-related costs. We cannot predict or accurately estimate the additional costs we are likely to incur from being a public company or the timing of these costs.

General Risk Factors

Our stock price has been and is likely to remain volatile.

Over the past several years, The Nasdaq Capital Market has experienced significant price and volume fluctuations that have particularly affected the market prices of the stocks of technology companies. Volatility in our stock price may result from a number of factors, some of which are beyond our control, including, among others:

- low volumes of trading activity in our stock;
- technical trading patterns of our stock;
- variations in our or our competitors' financial and/or operational results;
- the fluctuation in market value of comparable companies in any of our markets;
- expected or announced news about strategic partner relationships, customer wins or losses, product announcements or organizational changes;
- comments and forecasts by securities analysts;
- litigation developments;
- global developments, including war, acts of terrorism, contagions such as COVID-19, and other such events; and
- general market downturns.

In addition, the stock markets have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. These fluctuations have often been unrelated or disproportionate to the operating performance of those companies. Broad market and industry factors, as well as general economic, political, regulatory and market conditions, may negatively affect the market price of our common stock, regardless of our actual operating performance.

You may experience dilution of your ownership interests due to the future issuance of additional shares of our stock, and future sales of shares of our common stock could adversely affect our stock price.

We have issued a significant number of shares of our common stock as well as warrants to purchase shares of our common stock, in connection with a number of financing transactions and acquisitions in recent years. In the future, from time to time we may issue additional previously authorized and unissued securities, resulting in additional dilution of the ownership interests of our current stockholders.

In addition, we have reserved shares of common stock for potential future issuance including stock issuable pursuant to our equity incentive plans, the conversion of our preferred stock and warrants issued in connection with previous capital raises and other transactions. As of March 2, 2023, 1,556,641 shares of common stock are reserved for future grants and outstanding equity awards under our equity incentive plans and an additional 8,529,203 shares of common stock are reserved for future issuance in connection with other potential issuances, including conversion of our preferred stock. We may issue additional shares of common stock or other securities that are convertible into or exercisable for shares of common stock in connection with the hiring of personnel, future acquisitions, and future financings or for other business purposes. If we issue additional securities, the aggregate percentage ownership of our existing stockholders will be reduced. In addition, any new securities that we issue may have rights senior to those of our common stock. The issuance of additional shares of common stock or preferred stock or other securities, or the perception that such issuances could occur, may create downward pressure on the trading price of our common stock.

Provisions in our charter documents and Delaware law may delay or prevent our acquisition by another company, which could decrease the value of your shares.

Our certificate of incorporation and bylaws and Delaware law contain provisions that could make it more difficult for a third party to acquire us or enter into a material transaction with us without the consent of our board of directors. These provisions include a classified board of directors and limitations on actions by our stockholders by written consent. Delaware law imposes some restrictions on mergers and other business combinations between us and any holder of 15% or more of our outstanding common stock. In addition, our board of directors has the right to issue preferred stock without stockholder approval, which could be used to dilute the stock ownership of a potential hostile acquirer. These provisions will apply even if the offer were to be considered adequate by some of our stockholders. Because these provisions may be deemed to discourage a change of control, they may delay or prevent the acquisition of our company, which could decrease the value of our common stock.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Our corporate headquarters are located in Fremont, California and we maintain operational headquarters in Santa Ana, California. We lease additional facilities to house our engineering, sales and marketing, administrative and manufacturing functions. At December 31, 2022, our major facilities consisted of the following:

Location	Function	Square Feet	Lease Expiration
Fremont, California	Corporate headquarters	3,082	November 2024
Santa Ana, California	Administration; manufacturing; research and development	34,599	January 2028
Sauerlach, Germany	European operations; research and development; sales	5,156	April 2026
Chennai, India	Research and development	17,500	September 2024
Singapore	RFID/NFC product manufacturing	16,060	May 2023

ITEM 3. LEGAL PROCEEDINGS

We are and from time to time, may become subject to various legal proceedings and claims arising in the ordinary course of business or could be named a defendant in other lawsuits. Legal proceedings could result in material costs, occupy significant management resources and entail penalties, even if we prevail. The outcome of such claims or other proceedings cannot be predicted with certainty and may have a material effect on our financial condition, results of operations or cash flows. We are not a party to any material legal proceedings as of December 31, 2022.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

Information About Our Executive Officers

Information concerning our executive officers as of March 1, 2023 is as follows:

Steven Humphreys, 61, has served as our Chief Executive Officer since September 2015 and as a director since July 1996. Mr. Humphrevs previously served as Chairman of the Board from September 2013 until September 9, 2015, Previously, he also served as Lead Director from May 2010 until April 2013 and as Chairman of the Board from April 2000 to March 2007. Mr. Humphreys also served as President of the Company from July 1996 to December 1996 and as President and Chief Executive Officer from January 1997 to July 1999. From November 2011 to December 2014, Mr. Humphreys served as chief executive officer of Flywheel Software. Inc., a location-based mobile solutions company. From October 2008 until its acquisition by SMSC in February 2011, Mr. Humphreys served as Chief Executive Officer and President of Kleer Corporation, a provider of wireless audio technology. From October 2001 to October 2003, he served as Chairman of the Board and Chief Executive Officer of ActivIdentity Corporation ("ActivIdentity"), a provider of digital identity solutions, a publicly-listed company until its acquisition by HID Global in December 2010. He also served as a director of ActivIdentity from March 2008 until December 2010. Previously, Mr. Humphreys was President of Caere Corporation ("Caere"), a publicly-listed optical character recognition software company. Prior to Caere, he spent ten years with General Electric in a variety of factory automation and information technology positions, most recently leading the Information Delivery Services business unit of GE Information Services. Philanthropically, Mr. Humphreys has been an elected public school board trustee and a contributor to a range of education-oriented charities. He also serves on the board of Summit Public Schools, a charter school system with schools across the West Coast, and developer of the Summit Learning System, developed in cooperation with Facebook and deployed in over 1,000 schools nationwide. Mr. Humphreys holds a B.S. degree from Yale University and M.S. and M.B.A. degrees from Stanford University.

Justin Scarpulla, 49, has served as our Chief Financial Officer since December 2021. Mr. Scarpulla previously served as Director of Finance at Space Exploration Technologies Corp., a company that designs, manufactures and launches advanced rockets and spacecraft, from May 2017 to December 2021. From May 2016 to May 2017, Mr. Scarpulla served as Vice President of Accounting & Finance at Incipio, LLC, a designer and manufacturer of mobile device accessories and technologies. Mr. Scarpulla served as Vice President and Corporate Controller at Vizio, Inc. (NYSE: VZIO), a designer and manufacturer of entertainment-focused technologies, from 2015 to 2016 and at JustFab, Inc., an online subscription fashion retailer, from 2014 to 2015. He also served as Chief Accounting Officer and Corporate Controller at MaxLinear, Inc. (NYSE: MXL), a provider of radio frequency, analog, digital and mixed-signal integrated circuits, from 2011 to 2014. From 1999 to 2011, Mr. Scarpulla held various roles in finance at Broadcom Corporation (Nasdaq: BRCM), a provider of semiconductor and infrastructure software solutions, including Director of Financial Reporting. Mr. Scarpulla is a Certified Public Accountant and started his career at Ernst & Young LLP. Mr. Scarpulla holds a B.A. in Accounting and Finance from California State University Fullerton.

PART II

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

Our common stock is traded on The Nasdaq Capital Market under the symbol "INVE." According to data available at March 2, 2023, we had 108 registered holders of our common stock. Not represented in this figure are individual stockholders in Germany whose custodian banks do not release stockholder information to us.

During the three months ended December 31, 2022, we repurchased 13,649 shares of our common stock. The table below sets forth information regarding the Company's purchases of its common stock during the three months ended December 31, 2022:

		Issuer Purchases of Equity Securities									
Period	Total number of shares purchased ⁽¹⁾		erage price d per share	Total number of shares purchased as part of publicly announced plans or programs	Maximum number (or approximate dollar value) of shares that may yet be purchased under the plans or programs						
October 1, 2022 – October 31, 2022	4,377	\$	12.46	_	_						
November 1, 2022 – November 30, 2022	4,500		11.47		_						
December 1, 2022 – December 31, 2022	4,772		7.95	<u> </u>							
Total	13,649	\$	10.56								

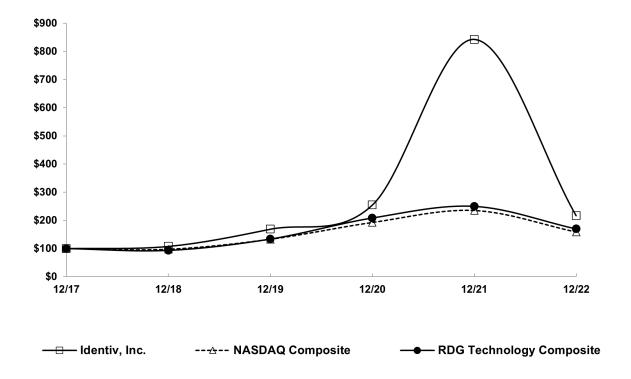
⁽¹⁾ Consists of shares surrendered to the Company to satisfy tax withholding obligations in connection with the vesting of restricted stock units issued to employees.

We have never declared or paid any cash dividends on our capital stock. We currently intend to retain any future earnings and do not expect to pay any dividends in the foreseeable future. Any determination to pay dividends in the future will be at the discretion of our board of directors and will depend on our financial condition, operating results, capital requirements and general business conditions and other factors that our board of directors may deem relevant.

The following stock performance graph compares total stockholder returns for our common stock from December 31, 2017 through December 31, 2022 against the Nasdaq Market Composite Index and the RDG Technology Composite, assuming a \$100 investment made on December 31, 2017. Each of the two comparative measures of cumulative total return assumes reinvestment of dividends. The stock performance shown on the graph below is not necessarily indicative of future price performance.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN*

Among Identiv, Inc., the NASDAQ Composite Index, the Russell 2000 Index, the Russell 3000 Growth Index, the RDG SmallCap Technology Index and the RDG Technology Composite Index



^{*\$100} invested on 12/31/17 in stock or index, including reinvestment of dividends. Fiscal year ending December 31.

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This stock performance graph and related information shall not be deemed "soliciting material" or to be "filed" with the SEC, nor shall such information be incorporated by reference into any future filing under the Securities Act or Exchange Act, except to the extent that we specifically incorporate it by reference into such filing.

ITEM 6. | RESERVED|

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

Management's Discussion and Analysis of Financial Condition and Results of Operations should be read in conjunction with the consolidated financial statements and notes thereto included in Part II, Item 8 of this Annual Report.

We have omitted discussion of the earliest of the three years covered by our consolidated financial statements presented in this report because that disclosure was already included in our Annual Report on Form 10-K for fiscal 2021, filed with the SEC on March 14, 2022. You are encouraged to reference Part II, Item 7, within that report, for a discussion of our financial condition and results of operations for fiscal 2020 compared to fiscal 2021.

Overview

Identiv is a global provider of secure identification and physical security.

We are leveraging our RFID-enabled physical device-management expertise as well as our physical access, video and analytics solutions to provide leading solutions as our customers, and our customers' customers, embracing the IoT. Customers in the technology and mobility, consumer, government, healthcare, education and other sectors rely on Identiv's identification and access solutions. Identiv's platform encompasses RFID and NFC, cybersecurity, and the full spectrum of physical access, video, and audio security. We are bringing the benefits of the IoT to a wide range of physical, connected items.

Identiv's mission is to digitally enable every physical thing and every physical place on the planet. Our full continuum of security solutions is delivered through our platform of RFID-enabled devices, mobile, client/server, cloud, web, dedicated hardware and software defined architectures. In doing so, we believe that we will create smart physical security and a smarter physical world.

Segments

We have organized our operations into two reportable business segments, principally by solution families: Identity and Premises. Our Identity segment includes products and solutions enabling secure access to information serving the logical access and cyber-security market, and protecting connected objects and information using RFID embedded security. Our Premises segment includes our solutions to address the Premises security market for government and enterprise, including access control, video surveillance, analytics, audio, access readers and identities.

Factors Affecting Our Performance

Market Adoption

Our financial performance depends on the pace, scope and depth of end-user adoption of our RFID products in multiple industries. That pace, scope and depth accelerated during 2020 causing large fluctuations in our operating results. During 2021, we believe RFID deployments occurred at a much faster pace of growth than historically. We believe significant improvement in chip capabilities at lower costs, combined with the incorporation of the full NDEF (NFC data exchange format) protocol by Apple in its iPhone 12 and iOS 14 has accelerated the opportunities for product engineers to integrate RFID into their products to create new and more engaging customer experiences, product reliability and performance. As the market hit this pivot point, we expanded both our capacity and technical leadership. We track growth indicators including design wins, customer launches and technology launches. We have made investments in our technology, high quality and automation production facilities, and we believe that our competitive advantages will continue to drive growth.

We believe the underlying, long-term trend is continued RFID adoption by multiple verticals. We also believe that expanding use cases fosters adoption across verticals and into other markets. In addition, we do not have any significant concentration of customers so we believe that our demand will continue to be resilient to the loss of any individual customer or application.

If RFID market adoption, or customer adoption and development of our products specifically, does not meet our expectations then our growth prospects and operating results will be adversely affected. If we are unable to meet end-user or customer volume or performance expectations, then our business prospects may be adversely affected. In contrast, if our RFID sales exceed expectations, then our revenue and profitability may be positively affected.

Given the uncertainties of the specific timing of our new customer deployments, we cannot assure you that we have appropriate inventory and capacity levels or that we will not experience inventory shortfalls or overages in the future or acquire inventory at costs to maintain gross margins. We attempt to mitigate those risks by being deeply embedded in our customers' design cycles, working with our chip partners on long lead time components, managing our limited capital equipment needs within a short cycle and future proofing our facilities to accommodate several scenarios for growth potential.

If end users with sizable projects change or delay them, we may experience significant fluctuation in revenue on a quarterly or annual basis, and we anticipate that uncertainty to continue to characterize our business for the foreseeable future.

Seasonality and Other Factors

In our business overall, we experience variations in demand for our offerings from quarter to quarter, and typically experience a stronger demand cycle in the second half of our fiscal year. Sales of our physical access control solutions and related products to U.S. Government agencies are subject to annual government budget cycles and generally are highest in the third quarter of each year. Sales of our identity readers, many of which are sold to government agencies worldwide, are impacted by project schedules of government agencies, as well as roll-out schedules for application deployments. Further, this business is typically subject to seasonality based on differing commercial and global government budget cycles. Lower sales are expected in the U.S. in the first half, and in particular, the first quarter of the year, with higher sales typically in the second half of each year. In Asia-Pacific, with fiscal year-ends in March and June, order demand can be higher in the first quarter as customers attempt to complete projects before the end of the fiscal year. Accordingly, our net revenue levels in the first quarter each year often depend on the relative strength of project completions and sales mix between our U.S. customer base and our international customer base.

Purchasing of our Products and Services for U.S. Federal Government Security Programs

In addition to the general seasonality of demand, overall U.S. Federal Government expenditure patterns have a significant effect on demand for our products due to the significant portion of revenue that are typically sourced from U.S. Federal Government agencies. Drivers of growth included our technology strength and proven security solutions, work from home mandates, and continued strength in investments for security across a number of different agencies. We believe that the success and growth of our business will continue through the U.S. Federal Government focus on security and our successful procurement of government business. If there are changes in government purchasing policies or budgetary constraints there could be implications for our growth prospects and operating results. If we are unable to meet end-user or customer volume or performance expectations, then our business prospects and operating results may be adversely affected.

Impacts of Macroeconomic Conditions and Other Factors on our Business

In March 2020, the World Health Organization declared the outbreak of COVID-19 as a pandemic. The rapid spread of the pandemic and the continuously evolving responses to combat it have had an increasingly negative impact on the global economy, including industry-wide global supply chain challenges, such as manufacturing, transportation and logistics. We purchase certain products and key components from a limited number of sources that depend on the supply chain, including freight, to receive components, transport finished goods and deliver our products across the world. In view of the rapidly changing business environment, we have experienced delays and reductions in customer orders, shifting supply chain availability, component shortages, and other production-related challenges. We are currently unable to determine if there will be any continued disruption and the extent to which this may have future impact on our business. We continue to monitor the global supply chain challenges and its effect on our financial position, results of operations, and cash flows.

More recently, we have also been impacted by other adverse macroeconomic conditions, including but not limited to, inflation, foreign currency fluctuations, and the slowdown of economic activity around the globe. These conditions have also impacted our suppliers, contract manufacturers, logistics providers, and distributors, causing increases in cost of materials and higher shipping and transportation rates, which then impacted the pricing of our products. Price increases may not successfully offset cost increases or may cause us to lose market share and, in turn, may adversely impact our financial position, results of operations, and cash flows.

Results of Operations

The following table includes net revenue and net profit information by business segment and reconciles gross profit to income (loss) before income tax provision (in thousands).

	Y	ear Ended I		
		2022	2021	% Change
Identity:				
Net revenue	\$	67,422	\$ 64,725	4%
Gross profit		15,153	15,670	(3)%
Gross profit margin		22%	24%	
Premises:				
Net revenue		45,493	39,044	17%
Gross profit		25,791	21,397	21%
Gross profit margin		57%	 55%	
Total:				
Net revenue		112,915	103,769	9%
Gross profit		40,944	37,067	10%
Gross profit margin		36%	36%	
Operating expenses:				
Research and development		9,916	8,673	14%
Selling and marketing		20,730	17,033	22%
General and administrative		10,429	11,891	(12)%
Restructuring and severance		202	817	(75)%
Total operating expenses		41,277	38,414	7%
Loss from operations		(333)	(1,347)	(75)%
Non-operating income (expense):				
Interest expense, net		(143)	(483)	(70)%
Gain on forgiveness of Paycheck Protection Program note			2,946	(100)%
Gain on investment		30	611	(95)%
Foreign currency gains (losses), net		155	(79)	(296)%
Income (loss) before income tax provision	\$	(291)	\$ 1,648	(118)%

Geographic net revenue based on each customer's ship-to location is as follows (in thousands):

		Year Ended December 31,						
	_	2022		2021	% Change			
Americas	\$	76,799	\$	69,396	11%			
Europe and the Middle East		15,900		12,876	23%			
Asia-Pacific		20,216		21,497	(6)%			
Total	\$	112,915	\$	103,769	9%			
As a percentage of net revenue:	_							
Americas		68%)	67%				
Europe and the Middle East		14%)	12%				
Asia-Pacific		18%		21%				
Total		100%		100%				

Fiscal 2022 Compared with Fiscal 2021

Net Revenue

Net revenue in 2022 was \$112.9 million, an increase of 9% compared with \$103.8 million in 2021. Net revenue in the Americas was \$76.8 million in 2022, an increase of 11% compared with \$69.4 million in 2021. Net revenue from our Premises segment for security programs within various U.S. government agencies and commercial customers for access control and video solutions, as well as reader, controller and appliance products, represented approximately 55% of our net revenue in the Americas. Net revenue in Europe, the Middle East, and Asia-Pacific was approximately \$36.1 million in 2022, an increase of 5% compared with \$34.4 million in 2021. Sales of RFID and NFC products and smart card readers comprised a significant proportion of our net revenue in these regions.

Identity Segment

Net revenue in our Identity segment was \$67.4 million in 2022, an increase of 4% compared with \$64.7 million in 2021. Net revenue in this segment in 2022 and 2021 represented 60% and 62%, respectively, of our net revenue. Net revenue in this segment in the Americas in 2022 increased 3% compared with 2021 primarily due to higher sales of RFID transponder products to mobile phone and consumer products contract manufacturers and higher sales of access cards, offset by lower sales of our legacy smart card readers resulting from critical component supply-chain constraints. Net revenue in this segment in Europe, the Middle East, and the Asia-Pacific increased approximately 5% in 2022 compared with 2021 primarily due to higher sales of RFID transponder products to existing customers in the medical device and library markets.

Sales of RFID and NFC products and smart card readers comprise a significant proportion of our net revenue in these regions. RFID transponder products comprised approximately 67% of net revenue in these regions in 2022, and 66% of net revenue in 2021, while smart card reader sales in 2022 and 2021 comprised approximately 22% and 24% of the net revenue, respectively.

Premises Segment

Net revenue in our Premises segment was \$45.5 million in 2022, an increase of 17% compared with \$39.0 million in 2021. Net revenue in this segment in 2022 and 2021 represented 40% and 38%, respectively, of our net revenue. Net revenue in this segment in the Americas in 2022 increased 18% compared with 2021 due to higher sales of Hirsch Velocity hardware, software, support services, and video product offerings across both federal government and commercial businesses. Net revenue in this segment across Europe, the Middle East, and Asia-Pacific increased 2% in 2022 compared with 2021. The increases in these regions are primarily project driven and can vary period to period.

As a general trend, U.S. Federal agencies continue to be subject to security improvement mandates under programs such as Homeland Security Presidential Directive-12 ("HSPD-12") and reiterated in memoranda from the Office of Management and Budget. We believe that our solutions for trusted physical access is an attractive offering to help federal agency customers move towards compliance with federal directives and mandates. To address sales opportunities in the United States in general and with our U.S. Government customers in particular, we focus on a strong U.S. sales organization and our sales presence in Washington D.C.

Gross Profit and Gross Margin

Gross profit for 2022 was \$40.9 million, or 36% of net revenue, compared to \$37.1 million or 36% of net revenue in 2021. Gross profit represents net revenue less direct cost of product sales, manufacturing overhead, other costs directly related to preparing the product for sale including freight, scrap, inventory adjustments and amortization, where applicable.

Identity Segment

In our Identity segment, gross profit was \$15.2 million in 2022 compared with \$15.7 million in 2021. Gross profit margins in the Identity segment in 2022 decreased to 22% compared to 24% in 2021. The decrease in gross profit margins was primarily attributable to continued investments in technology, manufacturing processes and equipment, and changes in product mix, with lower sales of higher margin legacy smart card readers and higher sales of lower margin RFID transponder products.

Premises Segment

In our Premises segment, gross profit was \$25.8 million in 2022 compared with \$21.4 million in 2021. Gross profit margins in the Premises segment in 2022 increased to 57% compared to 55% in 2021. The increase was primarily due to product mix as well as the continued focus on production and logistical efficiencies.

We expect there will be variation in our total gross profit from period to period, as our gross profit has been and will continue to be affected primarily by varying mix among our products. Within each product category, gross profit margins have tended to be consistent, but over time may be affected by a variety of factors, including, without limitation, competition, product pricing, the volume of sales in any given quarter, manufacturing volumes, product configuration and mix, the availability of new products, product enhancements, software and services, risk of inventory write-downs and the cost and availability of components.

Operating Expenses

Information about our operating expenses for the years ended December 31, 2022 and 2021 is set forth below.

Research and Development

	Year Ended December 31,							
		2022		2021	\$	Change	% Change	
		_		(\$ in tho	usan	ds)		
Research and development expenses	\$	9,916	\$	8,673	\$	1,243	14%	
Percentage of revenue		9%)	8%)			

Research and development expenses consist primarily of employee compensation and fees for the development of hardware, software and firmware products. We focus the bulk of our research and development activities on the continued development of existing products and the development of new offerings for emerging market opportunities.

Research and development expenses in 2022 increased compared with 2021 primarily due to higher headcount and related payroll costs, higher travel related costs, as well as higher stock-based compensation costs associated with performance stock units.

Selling and Marketing

	Year Ended December 31,								
	2022		2021	\$	Change	% Change			
	 		(\$ in tho	usan	ds)				
Selling and marketing expenses	\$ 20,730	\$	17,033	\$	3,697	22%			
Percentage of revenue	18%	ı	16%)					

Selling and marketing expenses consist primarily of employee compensation as well as amortization expense of certain intangible assets, customer lead generation activities, tradeshow participation, advertising and other marketing and selling costs.

Selling and marketing expenses in 2022 increased compared with 2021 primarily due to higher headcount and related payroll costs, higher external contractor costs as well as higher travel related costs.

General and Administrative

		Year Ended December 31,								
	_	2022		2021	\$	Change	% Change			
				(\$ in tho	usan	ds)				
General and administrative expenses	\$	10,429	\$	11,891	\$	(1,462)	(12)%			
Percentage of revenue		9%	, 0	11%)					

General and administrative expenses consist primarily of compensation expenses for employees performing administrative functions, and professional fees incurred for legal, auditing and other consulting services.

General and administrative expenses decreased compared with 2021 primarily due to bad debt expense recorded in the fourth quarter of 2021 of \$2.6 million for aged accounts receivables, and lower merchant card fees in 2022, partially offset by higher headcount and related payroll costs in 2022 compared to 2021.

	Year Ended December 31,								
	 2022 2021				Change	% Change			
			(\$ in th	ousa	nds)				
Restructuring and severance expenses	\$ 202	\$	817	\$	(615)	(75)%			

Restructuring expenses incurred in 2022 consists of severance related costs of \$353,000 offset by a net credit of \$151,000 associated with a settlement agreement for outstanding rental payments due the landlord on leased office space in San Francisco, California. The net credit represented the difference between amounts accrued and the settlement amount.

Restructuring expenses incurred in 2021 consists of facility rental related costs of \$521,000 and severance related costs of \$296,000. Facility rental related costs in 2021 included a charge of \$281,000 resulting from the impairment of a right-of-use operating lease asset for office space we vacated in the first quarter of 2021.

Non-operating Income (Expense)

Information about our non-operating income (expense) for the years ended December 31, 2022 and 2021 is set forth below.

	Year Ended December 31,								
	2022 2021			\$ Change		% Change			
				(\$ in the	ous	ands)			
Interest expense, net	\$	(143)	\$	(483)	\$	340	(70)%		
Gain on forgiveness of Paycheck Protection Program note	\$	_	\$	2,946	\$	(2,946)	100%		
Gain on investment	\$	30	\$	611	\$	(581)	(95)%		
Foreign currency gains (losses), net	\$	155	\$	(79)	\$	234	(296)%		

Interest expense, net consists of interest on financial liabilities, amortization of debt issuance costs, and interest accretion expense for a liability on a contractual payment obligation arising from our acquisition of Hirsch Electronics Corporation. The decrease in interest expense in 2022 compared to 2021 was primarily attributable to lower borrowings outstanding under our revolving loan facility with our lender (which was fully paid down in August 2021), and lower amounts outstanding under our contractual payment obligation as all amounts outstanding had been paid as of December 31, 2021.

Gain on forgiveness of the Paycheck Protection Program note represented the principal and accrued interest amounts outstanding of approximately \$2.9 million under our promissory note pursuant to the Paycheck Protection Program that had been forgiven in 2021.

Gain on investment is associated with proceeds received in connection with the acquisition of a private company that we had invested in, which had been fully impaired and had no carrying value.

Changes in currency valuation in the periods mainly were the result of exchange rate movements between the U.S. dollar, the Indian Rupee, the Canadian dollar, and the euro. Our foreign currency gains and losses primarily result from the valuation of current assets and liabilities denominated in a currency other than the functional currency of the respective entity in the local financial statements.

	Year Ended December 31,							
		2022		2021	\$	Change	% Change	
				(\$ in th	ousa	nds)		
Income tax provision	\$	101	\$	28	\$	73	261%	

As of December 31, 2022, our deferred tax assets are fully offset by a valuation allowance. Accounting Standards Codification ("ASC") 740, *Income Taxes*, provides for the recognition of deferred tax assets if realization of such assets is more likely than not. Based upon the weight of available evidence, which includes historical operating performance, reported cumulative net losses since inception and difficulty in accurately forecasting our future results, we provided a full valuation allowance against all of our net U.S. and foreign deferred tax assets. We reassess the need for our valuation allowance on a quarterly basis. If it is later determined that a portion or all of the valuation allowance is not required, it generally will be a benefit to the income tax provision in the period such determination is made.

We recorded an income tax provision during the year ended December 31, 2022. The effective tax rate for the year ended December 31, 2022 differs from the federal statutory rate of 21% primarily due to stock-based compensation, global intangible low-taxed income ("GILTI") inclusions, and the provision in certain foreign jurisdictions partially offset by the change in the valuation allowance. The effective tax rate for the year ended December 31, 2021 differs from the federal statutory rate of 21% primarily due to PPP loan forgiveness, stock-based compensation, GILTI inclusions the provision in certain foreign jurisdictions partially offset by the change in the valuation allowance.

Liquidity and Capital Resources

As of December 31, 2022, our working capital, defined as current assets less current liabilities, was \$51.7 million, a decrease of \$0.2 million compared to \$51.9 million as of December 31, 2021. As of December 31, 2022, our cash and cash equivalents balance was \$16.7 million.

On February 8, 2017, we entered into a Loan and Security Agreement with East West Bank ("EWB"). Following subsequent amendments, on April 14, 2022, we amended and restated the Loan and Security Agreement by replacing the \$20.0 million revolving loan facility subject to a borrowing base with a non-formula revolving loan facility with no borrowing base requirement and a maturity date of February 8, 2023. In addition, the interest rate was lowered from prime to prime minus 0.25%, and certain financial covenants were amended. On February 8, 2023, we entered into an amendment (the "Fourth Amendment") to the amended and restated the Loan and Security Agreement with EWB (as amended to date, the "Loan Agreement"). The Fourth Amendment amends the Loan Agreement to, among other things, extend the maturity date to February 8, 2025 and amend certain financial covenants.

As our previously unremitted earnings have been subjected to U.S. federal income tax, we expect any repatriation of these earnings to the U.S. would not incur significant additional taxes related to such amounts. However, our estimates are provisional and subject to further analysis. Generally, most of our foreign subsidiaries have accumulated deficits and cash and cash equivalents that are held outside the United States are typically not cash generated from earnings that would be subject to tax upon repatriation if transferred to the United States. We have access to the cash held outside the United States to fund domestic operations and obligations without any material income tax consequences. As of December 31, 2022, the amount of cash included at such subsidiaries was \$5.3 million. We have not, nor do we anticipate the need to, repatriate funds to the United States to satisfy domestic liquidity needs arising in the ordinary course of business, including liquidity needs associated with our domestic debt service requirements.

We have historically incurred operating losses and negative cash flows from operating activities, and we may continue to incur losses in the future. As of December 31, 2022, we had a total accumulated deficit of \$409.4 million.

We believe our existing cash and cash equivalents, together with cash generated from operations and available credit under our Loan Agreement will be sufficient to satisfy our working capital needs to fund operations for the next twelve months. We may also use cash to acquire or invest in complementary businesses, technologies, services or products that would change our cash requirements. We may also choose to finance our business through public or private equity offerings, debt financings or other arrangements. However, there can be no assurance that additional capital will be available to us or that such capital will be available to us on acceptable terms. If we raise funds by issuing equity securities, dilution to stockholders could result. Debt or any equity securities issued also may provide for rights, preferences or privileges senior to those of holders of our common stock. The terms of debt securities issued or borrowings could impose significant restrictions on our operations. The incurrence of additional indebtedness or the issuance of certain debt or equity securities could result in increased fixed payment obligations and could also result in restrictive covenants, such as limitations on our ability to incur additional debt or issue additional equity, limitations on our ability to acquire or license intellectual property rights and other operating restrictions that could adversely affect our ability to conduct our business. Our Loan Agreement imposes restrictions on our operations, increases our fixed payment obligations and has restrictive covenants. In addition, the issuance of additional equity securities by us, or the possibility of such issuance, may cause the market price of our common stock to decline. If we are not able to secure additional funding when needed, we may have to curtail or reduce the scope of our business or forgo potential business opportunities.

The following summarizes our cash flows for the years ended December 31, 2022 and 2021 (in thousands):

	Year Ended December 31,			
		2022		2021
Net cash provided by (used in) operating activities	\$	(7,807)	\$	1,228
Net cash used in investing activities		(3,872)		(1,476)
Net cash provided by (used in) financing activities		(1,039)		19,341
Effect of exchange rates on cash, cash equivalents, and restricted cash		48		(695)
Net increase (decrease) in cash, cash equivalents, and restricted cash		(12,670)		18,398
Cash, cash equivalents, and restricted cash, beginning of year		29,807		11,409
Cash, cash equivalents, and restricted cash, end of year	\$	17,137	\$	29,807

Cash flows from operating activities

Cash used in operating activities in 2022 of \$7.8 million was primarily due to net loss of \$0.4 million, a decrease in cash from changes in operating assets and liabilities of \$12.9 million, which included \$9.3 million in strategic inventory purchases, partially offset by adjustments for certain non-cash items of \$5.5 million, consisting primarily of depreciation, amortization, and stock-based compensation.

Cash provided by operating activities in 2021 of \$1.2 million was primarily due to net income of \$1.6 million and adjustments for certain non-cash items of \$4.0 million, consisting primarily of depreciation, amortization, amortization of debt issuance costs, stock-based compensation, gain on forgiveness of the Paycheck Protection Program note and impairment of a right-of-use operating lease asset, partially offset by a decrease in cash from changes in operating assets and liabilities of \$4.4 million.

Cash flows from investing activities

Cash used in investing activities in 2022 of \$3.9 million was primarily due to capital investment expenditures in our manufacturing facility in Singapore and our research and development facility in Germany.

Cash used in investing activities in 2021 of \$1.5 million was primarily due to \$2.1 million of capital investment expenditures in our manufacturing facility in Singapore and our research and development facility in Germany, partially offset by \$0.6 million related to proceeds received from an investment.

Cash flows from financing activities

Cash used in financing activities in 2022 was primarily due to taxes paid related to net share settlement of restricted stock units of \$1.0 million.

Cash provided by financing activities in 2021 was primarily due to net proceeds of \$37.6 million received from the sale of common stock in an underwritten public offering, partially offset by net repayments under our revolving loan facility of \$14.6 million, repayments of promissory notes of \$2.8 million to 21 April Fund, LP and 21 April Fund, Ltd., and taxes paid related to net share settlement of restricted stock units of \$1.2 million.

Contractual Obligations

We lease facilities, certain equipment, and automobiles under non-cancelable operating lease agreements. See Note 14, *Leases*, in the accompanying notes to our consolidated financial statements.

Purchases for inventories are highly dependent upon forecasts of customer demand. Due to the uncertainty in demand from our customers, we may have to change, reschedule, or cancel purchases or purchase orders from our suppliers. These changes may lead to vendor cancellation charges on these orders or contractual commitments. See Note 16, *Commitments and Contingencies*, in the accompanying notes to our consolidated financial statements.

Our other long-term liabilities include gross unrecognized tax benefits, and related interest and penalties. At this time, we are unable to make a reasonably reliable estimate of the timing of payments in individual years in connection with these tax liabilities. Accordingly, such amounts are not included in the table above.

Climate Change

We believe that neither climate change, nor governmental regulations related to climate change, have had a material effect on our business, financial condition or results of operations.

Critical Accounting Policies

Our consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States ("U.S. GAAP"). The preparation of these financial statements in accordance with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Management bases its estimates and judgments on historical experience and on various other factors, which we believe are reasonable based upon the information available to us at the time these

estimates, judgments and assumptions are made. Actual results may differ from these estimates under different assumptions or conditions.

Revenue Recognition

We recognize revenue when we transfer control of the promised products or services to our customers, in an amount that reflects the consideration we expect to receive in exchange for those products or services. We enter into contracts that can include various combinations of our products, software licenses, and services, which are generally capable of being distinct and accounted for as separate performance obligations. For contracts with multiple performance obligations, we allocate the transaction price of the contract to each performance obligation, generally on a relative basis using its standalone selling price. The stated contract value is generally the transaction price to be allocated to the separate performance obligations. Revenue is recognized net of any taxes collected from our customers that are subsequently remitted to governmental authorities.

Nature of Products and Services

We derive our revenues from sales of hardware products, software licenses, subscriptions, professional services, software maintenance and support, and extended hardware warranties.

Hardware Product Revenues — We generally have two performance obligations in arrangements involving the sale of hardware products. The first performance obligation is to transfer the hardware product (which includes software integral to the functionality of the hardware product). The second performance obligation is to provide assurance that the product complies with its agreed-upon specifications and is free from defects in material and workmanship for a period of one to three years (i.e., assurance warranty). The entire transaction price is allocated to the hardware product and is generally recognized as revenue at the time of shipment because the customer obtains control of the product at that point in time. We have concluded that control generally transfers at that point in time because the customer has title to the hardware, and a present obligation to pay for the hardware. None of the transaction price is allocated to the assurance warranty component, as we account for these product warranty costs in accordance with Accounting Standards Codification ("ASC") 460, *Guarantees*.

Software License Revenues — Our license arrangements grant customers the perpetual right to access and use the licensed software products at the outset of an arrangement. Technical support and software updates are generally made available throughout the term of the support agreement, which is generally one to three years. We account for these arrangements as two performance obligations: (1) the software licenses, and (2) the related updates and technical support. The software license revenue is recognized when the license is delivered to the customer or made available for download, while the software updates and technical support revenue is recognized over the term of the support contract.

Subscription Revenues — Subscription revenues consist of fees received in consideration for providing customers access to one or more of our software-as-a-service ("SaaS") based solutions. These SaaS arrangements include access to our licensed software and, in certain arrangements, use of various hardware devices over the contract term. These SaaS arrangements do not provide the customer the right to take possession of the software supporting the subscription service, or if applicable, any hardware devices at any time during the contract period, and as such are not considered separate performance obligations. Revenue is recognized ratably on a straight-line basis over the term of the contract beginning when the service is made available to the customer. Subscription contract terms range from month-to-month to six years in length and billed monthly or annually.

Professional Services Revenues — Professional services revenues consist primarily of programming customization services performed relating to the integration of our software products with our customers other systems, such as HR systems. Professional services contracts are generally billed on a time and materials basis and revenue is recognized as the services are performed.

Software Maintenance and Support Revenues — Support and maintenance contract revenues consist of the services provided to support the specialized programming applications performed by our professional services group. Support and maintenance contracts are typically billed at inception of the contract and recognized as revenue over the contract period, typically over a one or three year period.

Extended Hardware Warranties Revenues — Sales of our hardware products may also include optional extended hardware warranties, which typically provide assurance that the product will continue function as initially intended. Extended hardware warranty contracts are typically billed at inception of the contract and recognized as revenue over the respective contract period, typically over one to two year periods after the expiration of the original assurance warranty.

Significant Judgments

Our contracts with customers often include promises to transfer multiple products and services to a customer. For such arrangements, we allocate the transaction price to each performance obligation based on relative standalone selling price ("SSP").

Judgment is required to determine the SSP for each distinct performance obligation in a contract. For the majority of items, we estimate SSP using historical transaction data. We use a range of amounts to estimate SSP when we sell each of our products and services separately and need to determine whether there is a discount to be allocated based on the relative SSP of the various products and services. In instances where SSP is not directly observable, such as when the product or service is not sold separately, we determine the SSPs using information that may include market conditions and other observable inputs. The determination of SSP is an ongoing process and information is reviewed regularly in order to ensure SSPs reflect the most current information or trends.

Contract Balances

Amounts invoiced in advance of services being provided are accounted for as deferred revenue. The deferred revenue balance is primarily related software maintenance contracts. Payment terms and conditions vary by contract type, although payment is typically due within 30 to 60 days of contract inception. In instances where the timing of revenue recognition differs from the timing of invoicing, we have determined our contracts do not include a significant financing component. The primary purpose of our invoicing terms is to provide customers with simplified and predictable ways of purchasing our products and services, not to receive financing from our customers. Amounts recognized as revenue in excess of amounts billed are recorded as unbilled receivables and are included in other current assets on the consolidated balance sheet. As of December 31, 2022 and 2021, the amount of unbilled receivables were immaterial.

Allowance for Doubtful Accounts

Our allowance for doubtful accounts is based on our assessment of the collectability of customer accounts. We regularly review our receivables that remain outstanding past their applicable payment terms and establish an allowance and potential write-offs by considering factors such as historical experience, credit quality, age of the accounts receivable balances, and current economic conditions that may affect a customer's ability to pay. Although we expect to collect net amounts due as stated on the consolidated balance sheets, actual collections may differ from these estimated amounts.

Inventory Valuation

Inventories are stated at the lower of cost (using average cost or standard cost, as applicable) or net realizable value (market). We typically plan our production and inventory levels based on internal forecasts of customer demand, which can be highly unpredictable and can fluctuate significantly. We regularly review inventory quantities on hand and record an estimated provision for excess inventory based on judgment and assumptions involving an evaluation of technical obsolescence and our ability to sell based primarily on historical sales patterns and expectations for future demand. Actual demand and market conditions may differ from the projections utilized by management in establishing our inventory reserves. If we were to use different assumptions or utilize different estimates, the amount and timing of our inventory write-downs could be materially different. Adverse changes in our inventory valuations could have a material effect on our operating results and financial position.

Income Taxes

Our income tax expense, deferred tax assets and liabilities, and reserves for unrecognized tax benefits reflect management's assessment of estimated current and future income taxes to be paid. We are subject to income taxes in the United States and in numerous foreign jurisdictions. Significant judgments and estimates are required in determining the consolidated income tax expense, deferred tax assets and liabilities and reserves for unrecognized tax benefits.

Deferred tax assets and liabilities arise from temporary differences between the tax basis of assets and liabilities and their reported amounts in the financial statements, which are expected to result in taxable or deductible amounts in the future. In evaluating our ability to recover our deferred tax assets within the jurisdiction from which they arise, for all material jurisdictions, we consider all available positive and negative evidence, including scheduled reversals of deferred tax balances, projected future taxable income, taxplanning strategies and results of recent operations. In projecting future taxable income, we begin with historical results and incorporate assumptions about the amount of future state, federal and foreign pretax operating income adjusted for items that do not have tax consequences. The assumptions about future taxable income require significant judgment and are consistent with the plans and estimates we use to manage the underlying businesses. In evaluating the objective evidence that historical results provide, we consider three years of cumulative operating results.

As of December 31, 2022, we have federal and state income tax net operating loss ("NOL") carryforwards of \$121.0 million and \$50.3 million, respectively, which will expire at various dates.

We believe that it is more likely than not that the benefit from these NOL carryforwards will not be realized. Accordingly, we have provided a full valuation allowance on any potential deferred tax assets relating to these NOL carryforwards. If our assumptions change and we determine we will be able to realize these NOLs, the tax benefits relating to any reversal of the valuation allowance on deferred tax assets as of December 31, 2022, will be accounted for as a reduction of income tax expense.

The calculation of our tax liabilities involves evaluating uncertainties in the application of complex tax laws and regulations in a multitude of jurisdictions across our global operations. ASC 740, *Income Taxes* ("ASC 740") states that a tax benefit from an uncertain tax position may be recognized when it is more likely than not that the position will be sustained upon examination, including the resolution of any related appeals or litigation processes, on the basis of the technical merits.

We record unrecognized tax benefits as liabilities in accordance with ASC 740 and adjust these liabilities when our judgment changes as a result of the evaluation of new information not previously available. Because of the complexity of some of these uncertainties, the ultimate resolution may result in a tax payment that is materially different from our current estimate of the unrecognized tax benefit liabilities. These differences will be reflected as increases or decreases to income tax expense in the period in which new information is made available.

We believe that none of the unrecognized tax benefits, excluding the associated interest and penalties, which are insignificant, may be recognized by the end of 2022.

We consider the earnings of all our non-U.S. subsidiaries to be indefinitely invested outside the United States on the basis of estimates that future domestic cash generation will be sufficient to meet future domestic cash needs and our specific plans for reinvestment of those subsidiary earnings. Should we decide to repatriate foreign earnings, we would need to adjust our income tax provision in the period we determined that the earnings will no longer be indefinitely invested outside the United States.

Goodwill

Goodwill represents the excess of the aggregate of the fair value of consideration transferred in a business combination, over the fair value of assets acquired, net of liabilities assumed. In accordance with ASC 350, *Intangibles-Goodwill and Other*, goodwill is not amortized but is tested for impairment on an annual basis, in the fourth quarter, or whenever events or changes in circumstances indicate that the carrying amount of these assets may not be recoverable. We perform an initial assessment of qualitative factors to determine whether the existence of events and circumstances leads to a determination that it is more likely than not that the fair value of a reporting unit is less than its carrying amount. In performing the qualitative assessment, we identify and consider the significance of relevant key factors, events, and circumstances that affect the fair value of its reporting units. These factors include external factors such as macroeconomic, industry, and market conditions, as well as entity-specific factors, such as actual and planned financial performance. If, after assessing the totality of relevant events and circumstances, we determine that it is more likely than not that the fair value of the reporting unit exceeds its carrying value and there is no indication of impairment, no further testing is performed; however, if we conclude otherwise, then we will perform the quantitative impairment test which compares the estimated fair value of the reporting unit to its carrying value, including goodwill. If the carrying amount of the reporting unit is in excess of its fair value, an impairment loss would be recorded in the consolidated statement of comprehensive income (loss).

Intangible Assets and Long-lived Assets

We evaluate our identifiable amortizable intangible assets and long-lived assets for impairment in accordance with ASC 360, *Property, Plant and Equipment,* whenever events or changes in circumstances indicate that the carrying amount of such assets or intangibles may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to future net undiscounted cash flows expected to be generated by an asset group. If such asset groups are considered to be impaired (i.e., if the sum of its estimated future undiscounted cash flows used to test for recoverability is less than its carrying value), the impairment loss to be recognized is measured by the amount by which the carrying amount of the asset group exceeds the fair value of the asset group. Intangible assets with definite lives are amortized using the straight-line method over the estimated useful lives of the related assets.

Critical estimates in valuing intangible assets include, but are not limited to, future expected cash flows from customer relationships, developed technology, and trademarks; and discount rates. Management estimates of fair value are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable. Unanticipated events and circumstances may occur which may affect the accuracy or validity of such assumptions, estimates or actual results.

Leases

We determine if an arrangement is a lease at inception. Operating leases are included in operating lease right-of-use ("ROU") assets, operating lease liabilities, and long-term operating lease liabilities on our consolidated balance sheets. Operating lease ROU assets and operating lease liabilities are recognized based on the present value of the future minimum lease payments over the lease term at commencement date. As most of our leases do not provide an implicit rate, we use our incremental borrowing rate based on the information available at the lease commencement date in determining the present value of future payments. The operating lease ROU assets also include any lease payments made and exclude lease incentives and initial direct costs incurred. Our lease terms may include options to extend the lease when it is reasonably certain that they we will exercise that option. Lease expense for minimum lease payments is recognized on a straight-line basis over the lease term. We have lease agreements with lease and non-lease components, which is accounted for as a single lease component.

Stock-based Compensation

We recognize stock-based compensation expense for all share-based payment awards in accordance with ASC 718, Compensation – Stock Compensation. Stock-based compensation expense for expected-to-vest awards is valued under the single-option approach and amortized on a straight-line basis, net of estimated forfeitures. We utilize the Black Scholes pricing model in order to determine the fair value of stock-based option awards. The Black Scholes pricing model requires various highly subjective assumptions including volatility, expected option life, and risk-free interest rate. The assumptions used in calculating the fair value of share-based payment awards represent management's best estimates. These estimates involve inherent uncertainties and the application of management judgment. If factors change and different assumptions are used, our stock-based compensation expense could be materially different in the future. In addition, we are required to estimate the expected forfeiture rate and recognize expense only for those expected-to-vest shares. If our actual forfeiture rate is materially different from our estimate, our recorded stock-based compensation expense and operating results could be different.

Recent Accounting Pronouncements

See Note 2, Significant Accounting Policies and Recent Accounting Pronouncements, in the accompanying notes to our consolidated financial statements in Item 8 of Part II of this Annual Report for a description of recent accounting pronouncements, which is incorporated herein by reference.

10b5-1 Trading Plans

From time to time, our executive officers and directors have, and we expect they will in the future, enter into written trading plans pursuant to Rule 10b5-1 of the Securities and Exchange Act of 1934.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are primarily exposed to changes in currency exchange rates as certain of our operations are conducted in foreign currencies such as the Indian Rupee, the Canadian Dollar, and the Euro.

Economic Exposure

We transact business in various foreign currencies and have significant international revenues, as well as costs denominated in foreign currencies. This exposes us to the risk of fluctuations in foreign currency exchange rates. Our objective is to identify material foreign currency exposures and to manage these exposures to minimize the potential effects of currency fluctuations on our consolidated financial statements.

Transaction Exposure

Our exposure to foreign currency transaction gains and losses is the result of assets and liabilities (including inter-company transactions) that are denominated in currencies other than the relevant entity's functional currency. In certain circumstances, changes in the functional currency value of these assets and liabilities create fluctuations in our consolidated financial statements. We have performed sensitivity analyses as of December 31, 2022 and December 31, 2021 using a modeling technique that evaluated the hypothetical impact of a 10% movement in the value of the U.S. Dollar compared to the functional currency of the foreign subsidiary, with all other variables held constant, to determine the incremental transaction gains or losses that would have been incurred. The foreign exchange rates used were based on market rates in effect at each of December 31, 2022 and December 31, 2021. The results of these sensitivity analyses indicated that the impact on a hypothetical 10% movement in foreign currency exchange rates would result in increased foreign currency gains or losses of \$1.1 million as of December 31, 2022 and \$0.4 million as of December 31, 2021.

Translation Exposure

We are also exposed to foreign exchange rate fluctuations as we convert the financial statements of our foreign subsidiaries into U.S. Dollars in consolidation. If there is a change in foreign currency exchange rates, the conversion of the foreign subsidiaries' financial statements into U.S. Dollars results in a gain or loss which is recorded as a component of accumulated other comprehensive income (loss) in our condensed consolidated statements of stockholders' equity.

With respect to our international operations, we have re-measured accounts which are denominated in the non-functional currencies into the functional currency of the subsidiary and recorded the resulting gains (losses) within foreign currency gains (losses), net in our consolidated statements of comprehensive income (loss). We re-measure all monetary assets and liabilities at the current exchange rate at the end of the period, non-monetary assets and liabilities at historical exchange rates, and revenue and expenses at average exchange rates in effect during the periods.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Identiv, Inc.

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Identiv, Inc. (a Delaware Corporation) and its subsidiaries (collectively, the "Company") as of December 31, 2022 and 2021, and the related consolidated statements of comprehensive income (loss), stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2022, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 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 *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"), and our report dated March 15, 2023, expressed an unqualified opinion.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audits. We are a public accounting firm registered with the 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 consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

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

Inventory Valuation – Adjustments for Excess or Obsolete Inventories

As described in Notes 2 and 6 to the consolidated financial statements, the Company's consolidated inventories balance was \$29 million as of December 31, 2022. The Company's inventories are valued using standard cost, approximating average cost, and are stated at the lower of cost or net realizable value. The Company adjusts the carrying value of inventories based on assumptions about future demand, market conditions and technical obsolescence. If actual demand were to be substantially lower than estimated, there could be a significant adverse impact on the carrying value of inventories and results of operations.

The principal considerations for our determination that performing procedures relating to net realizable value adjustments to inventories is a critical audit matter are the significant amount of judgment by management in developing the assumptions of the forecasted product demand, which in turn lead to significant audit judgment, subjectivity, and effort in performing audit procedures and evaluating audit evidence relating to the forecasted product demand. Additionally, for newer products there may be limited historical data with which to evaluate forecasts.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included, among others, testing management's process for developing the valuation allowance for excess and obsolete inventory, testing the completeness and accuracy of the underlying data used in the estimate, and evaluating management's assumptions of forecasted product demand. Evaluating management's forecasted product demand for reasonableness involved considering historical sales by product, comparing prior period estimates to actual results of the same period, and determining whether the demand forecast used was consistent with evidence obtained in other areas of the audit.

/s/ BPM LLP

We have served as the Company's auditor since 2015.

San Jose, California March 15, 2023

IDENTIV, INC. CONSOLIDATED BALANCE SHEETS

(In thousands, except par value)

	December 31,				
		2022		2021	
ASSETS					
Current assets:					
Cash and cash equivalents	\$	16,650	\$	28,553	
Restricted cash		487		1,254	
Accounts receivable, net of allowances of \$2,666 and \$2,745 as of December 31, 2022					
and 2021, respectively		24,826		19,963	
Inventories		28,958		19,924	
Prepaid expenses and other current assets		4,177		3,032	
Total current assets		75,098		72,726	
Property and equipment, net		6,719		4,066	
Operating lease right-of-use assets		4,373		2,088	
Intangible assets, net		5,265		6,445	
Goodwill		10,190		10,268	
Other assets		1,120		1,070	
Total assets	\$	102,765	\$	96,663	
LIABILITIES AND STOCKHOLDERS' EQUITY					
Current liabilities:					
Accounts payable	\$	14,760	\$	10,502	
Operating lease liabilities		1,190		1,269	
Deferred revenue		2,068		2,153	
Accrued compensation and related benefits		2,757		3,150	
Other accrued expenses and liabilities		2,618		3,774	
Total current liabilities		23,393		20,848	
Long-term operating lease liabilities		3,366		938	
Long-term deferred revenue		587		280	
Other long-term liabilities		25		85	
Total liabilities		27,371		22,151	
				,	
Commitments and contingencies (see Note 16)					
Stockholders' equity:					
Stockholders' equity:					
Series B preferred stock, \$0.001 par value: 5,000 shares authorized; 5,000 shares issued and					
outstanding as of December 31, 2022 and 2021, respectively		5		5	
Common stock, \$0.001 par value: 50,000 shares authorized; 24,168 and 23,707 shares					
issued and 22,623 and 22,230 shares outstanding as of December 31, 2022 and					
2021, respectively		24		24	
Additional paid-in capital		495,818		492,657	
Treasury stock 1,545 and 1,477 shares as of December 31, 2022 and 2021, respectively		(12,173)		(11,134)	
Accumulated deficit		(409,381)		(408,989)	
Accumulated other comprehensive income		1,101		1,949	
Total stockholders' equity		75,394		74,512	
Total liabilities and stockholders' equity	\$	102,765	\$	96,663	
* *					

IDENTIV, INC. CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)

(In thousands, except per share data)

	Year Ended December 31,					
		2022		2021		2020
Net revenue	\$	112,915	\$	103,769	\$	86,920
Cost of revenue		71,971		66,702		53,239
Gross profit		40,944		37,067		33,681
Operating expenses:						
Research and development		9,916		8,673		9,781
Selling and marketing		20,730		17,033		17,270
General and administrative		10,429		11,891		8,623
Decrease in fair value of earnout liability		_		_		(261)
Restructuring and severance		202		817		1,716
Total operating expenses		41,277		38,414		37,129
Loss from operations		(333)		(1,347)		(3,448)
Non-operating income (expense):						
Interest expense, net		(143)		(483)		(1,462)
Gain on forgiveness of Paycheck Protection Program note				2,946		_
Gain on investment		30		611		_
Foreign currency gains (losses), net		155		(79)		(122)
Income (loss) before income tax provision		(291)		1,648		(5,032)
Income tax provision		(101)		(28)		(73)
Net income (loss)	\$	(392)	\$	1,620	\$	(5,105)
Other comprehensive income (loss):						
Foreign currency translation adjustment		(848)		(629)		553
Comprehensive income (loss)	\$	(1,240)	\$	991	\$	(4,552)
Net income (loss) per common share:						
Basic	\$	(0.07)	\$	0.02	\$	(0.34)
Diluted	\$	(0.07)	\$	0.02	\$	(0.34)
Weighted average shares used in computing net						
income (loss) per common share:						
Basic		22,659		21,340		17,978
Diluted		22,659		22,267		17,978

IDENTIV, INC. CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

(In thousands, except par value)

	Series B Pref	ferred Stock	Commo	n Stock	Additional Paid-in	Treasury	Accumulated	Accumulated Other Comprehensive	Total
	Shares	Amount	Shares	Amount	<u>Capital</u>	Stock	Deficit	Income	Equity
Balances, January 1, 2020	5,000	\$ 5	16,986	\$ 18	\$ 447,965	\$ (9,043)	\$ (405,504)	\$ 2,025	\$ 35,466
Net loss							(5,105)	_	(5,105)
Unrealized income from foreign									
currency translation								5.50	5.50
adjustments	_	_	_	_	_	_	_	553	553
Issuance of common stock in									
connection with vesting of			622						
stock awards			632			_			_
Proceeds from exercise of			2		1.2				10
stock options	_	_	3	_	13	_	_	_	13
Stock-based compensation	_	_	_	_	3,027	_	_	_	3,027
Shares withheld in payment of									
taxes in connection with net									
share settlement of			(170)			(000)			(000)
restricted stock units	_	_	(172)	_	_	(890)	_	_	(890)
Issuance of common stock in			1.57		400				400
connection with earnout			157		489			_	489
Issuance of shares to			62		304				304
non-employees Issuance of common stock in	_	_	02	_	304	_	_	_	304
connection with warrant									
exercise			387	1	(1)				
Issuance of warrants			387	1	(1)	_		_	332
	5,000		18,055		452,129	(0.022)	(410,609)	2,578	34,189
Balances, December 31, 2020 Net income	3,000	3	18,033		432,129	(9,933)	1,620	2,378	1,620
Unrealized loss from foreign	_	_	_	_	_	_	1,020	_	1,020
currency translation adjustments								(629)	(629)
Issuance of common stock in	_		-					(029)	(029)
connection with vesting of									
stock awards			421	1					1
Proceeds from exercise of	_	_	721	1	_	_		_	1
stock options	_	_	29	_	299	_	_	_	299
Stock-based compensation	_	_		_	2,606	_	_	_	2,606
Shares withheld in payment of					2,000				2,000
taxes in connection with net									
share settlement of									
restricted stock units		_	(82)			(1,201)		_	(1,201)
Issuance of common stock in			(02)			(1,201)			(1,201)
connection with warrant									
exercise	_	_	28	_	_	_	_	_	_
Issuance of common stock in									
connection with									
public offering	_	_	3,779	4	37,623	_	_	_	37,627
Balances, December 31, 2021	5,000	5	22,230	24	492,657	(11,134)	(408,989)	1,949	74,512
Net loss	_	_		_	_		(392)	_	(392)
Unrealized loss from foreign							()		(= -)
currency translation									
adjustments	_	_	_	_	_	_	_	(848)	(848)
Issuance of common stock in								,	
connection with vesting of									
stock awards	_	_	461	_		_	_	_	_
Stock-based compensation	_	_	_	_	3,161	_	_	_	3,161
Shares withheld in payment of									
taxes in connection with net									
share settlement of									
restricted stock units	_	_	(68)	_	_	(1,039)	_	_	(1,039)
Balances, December 31, 2022	5,000	\$ 5	22,623	\$ 24	\$ 495,818	\$ (12,173)	\$ (409,381)	\$ 1,101	\$ 75,394

IDENTIV, INC. CONSOLIDATED STATEMENTS OF CASH FLOWS (In thousands)

(In thousands)	V F. I. I. 21							
	Year Ended December				r 31,	2020		
Cold Control of the c		2022	_	2021	_	2020		
Cash flows used in operating activities: Net income (loss)	\$	(392)	\$	1,620	\$	(5,105)		
Adjustments to reconcile net income (loss) to net cash provided by	Þ	(392)	Φ	1,020	Ф	(3,103)		
(used in) operating activities:								
Depreciation and amortization		2,272		1,971		3,313		
Provision for (recovery from) doubtful accounts				2,562		(41)		
Gain on forgiveness of Paycheck Protection Program note		_		(2,946)				
Gain on investment		(30)		(611)		_		
Accretion of interest on contractual payment obligation				43		139		
Loss on disposal of fixed assets		68		_		_		
Amortization of debt issuance costs		_		108		497		
Stock-based compensation expense		3,161		2,606		3,027		
Impairment of right-of-use operating lease asset		_		281		1,294		
Decrease in fair value of earnout liability		_				(261)		
Changes in operating assets and liabilities:								
Accounts receivable		(5,051)		(3,572)		(550)		
Inventories		(9,330)		389		(4,105)		
Prepaid expenses and other assets		(1,210)		(12)		(570)		
Accounts payable		4,073		(441)		2,455		
Contractual payment obligation liability		_		(1,083)		(770)		
Deferred revenue		222		67		(467)		
Accrued expenses and other liabilities		(1,590)		246		(622)		
Net cash provided by (used in) operating activities		(7,807)		1,228		(1,766)		
Cash flows from investing activities:								
Capital expenditures		(3,902)		(2,087)		(1,564)		
Proceeds from investment		30		611		<u> </u>		
Net cash used in investing activities		(3,872)		(1,476)		(1,564)		
Cash flows from financing activities:								
Borrowings under revolving loan facility, net of issuance costs		_		3,964		3,362		
Repayments under revolving loan facility		_		(18,548)		(3,347)		
Borrowings under East West Bank term loan		_				4,500		
Repayments under East West Bank term loan		_		_		(4,500)		
Proceeds from April 21 Funds promissory notes		_				4,000		
Repayments of April 21 Funds promissory notes		_		(2,800)		(1,200)		
Proceeds from the sale of common stock, net of issuance costs				37,627				
Proceeds from Paycheck Protection Program promissory note		_		_		2,915		
Taxes paid related to net share settlement of restricted stock units		(1,039)		(1,201)		(890)		
Proceeds from exercise of stock options		<u> </u>		299		13		
Net cash provided by (used in) financing activities		(1,039)		19,341		4,853		
Effect of exchange rates on cash, cash equivalents, and restricted cash		48		(695)		503		
Net increase (decrease) in cash, cash equivalents, and restricted cash		(12,670)		18,398		2,026		
Cash, cash equivalents and restricted cash								
Beginning of period		29,807		11,409		9,383		
End of period	\$	17,137	\$	29,807	\$	11,409		
Supplemental Disclosures of Cash Flow Information:								
Interest paid	\$	6	\$	340	\$	945		
Taxes paid, net	\$	88	\$	74	\$	112		
Non-cash investing and financing activities:	Ť		Ť		Ť			
Dividends earned on Series B preferred stock	\$	1,206	\$	1,148	\$	1,094		
· · · · · · · · · · · · · · · · · · ·								
Operating lease right-of-use assets obtained in exchange for operating lease liabilities	\$	3,646	\$	183	\$	1,676		
Reclassification of debt issuance costs to prepaid expenses and other current assets	\$		\$	114	\$			
Common stock issued to settle vendor liability	\$		\$		\$	304		
Common stock issued to settle earnout liability	\$		\$		\$	489		
Fair value of warrants issued in connection with financial liabilities	\$		\$		\$	332		
i air varae or warrants issued in connection with illiancial flatilities	Ψ		Ψ		Ψ	332		

IDENTIV, INC. NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Description of Business

Description of Business — Identiv, Inc. and its wholly owned subsidiaries (the "Company") is a global security technology company provider of secure identification and physical security solutions that secure things, data and physical places. Global organizations in the mobility, consumer, government, healthcare, education and other markets rely upon the Company's solutions. The Company's solutions allow its customers to create safe, secure, validated and convenient experiences in their interaction with physical things around them and physical places like schools, government offices, factories, transportation, hospitals and other types of facilities. The Company's corporate headquarters are in Fremont, California. The Company maintains research and development facilities in California, India, and Germany and local operations and sales facilities in Germany, Hong Kong, Japan, Singapore, Canada, and the United States. The Company was founded in 1990 in Munich, Germany and was incorporated in 1996 under the laws of the State of Delaware.

2. Significant Accounting Policies and Recent Accounting Pronouncements

Principles of Consolidation — The accompanying consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation.

Reclassifications — Certain reclassifications have been made to the fiscal year 2021 consolidated financial statements to conform to the fiscal year 2022 presentation. The reclassifications had no impact on net income (loss), total assets, total liabilities, or stockholders' equity.

Use of Estimates — The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP") requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent liabilities as of the date of the consolidated financial statements and the reported amounts of revenue and expenses during the reporting period. The Company believes judgment is involved in determining revenue recognition; impairment of goodwill and intangible assets; the recoverability of long-lived assets; stock-based compensation expense; and income tax uncertainties. The Company bases these estimates on historical and anticipated results, trends, and various other assumptions that the Company believes are reasonable under the circumstances, including assumptions as to future events. Actual results could differ materially from those estimates and assumptions.

Cash and Cash Equivalents and Restricted Cash — The Company considers all highly liquid investments with an original maturity of 90 days or less at the date of purchase to be cash equivalents and investments with original maturities greater than 90 days but less than one year to be short-term investments.

Restricted cash as of December 31, 2022 and 2021 of \$0.5 million and \$1.3 million, respectively, pertains primarily to a stand by letter of credit with a manufacturer for equipment purchased for the Company's manufacturing facility in Singapore.

Concentration of Credit Risk — Financial instruments that potentially expose the Company to concentrations of credit risk consist primarily of cash and cash equivalents and accounts receivable. The Company maintains its cash and cash equivalents with what it considers high credit quality financial institutions. No customer accounted for 10% or more of net revenue for the years ended December 31, 2022, 2021 or 2020, respectively. No customer accounted for 10% or more of the Company's accounts receivable, net balance as of December 31, 2022 or 2021. The Company does not require collateral or other security to support accounts receivable. To reduce risk, the Company's management performs ongoing credit evaluations of its customers' financial condition. The Company maintains allowances for potential credit losses in its consolidated financial statements. The Company relies upon a limited number of suppliers for some key components of their products which exposes them to various risks. One supplier accounted for 11% of the Company's accounts payable as of December 31, 2022, while no supplier accounted for 10% or more of the Company's accounts payable balance as of December 31, 2021.

Allowance for Doubtful Accounts — The allowance for doubtful accounts is based on the Company's assessment of the collectability of customer accounts. The Company regularly reviews its receivables that remain outstanding past their applicable payment terms and establishes an allowance and potential write-offs by considering factors such as historical experience, credit quality, age of the accounts receivable balances, and current economic conditions that may affect a customer's ability to pay. Although the Company expects to collect net amounts due as stated on the consolidated balance sheets, actual collections may differ from these estimated amounts.

Inventories — Inventories are stated at the lower of cost (using average cost or standard cost, as applicable) or net realizable value (market). Inventory is written down for excess inventory, technical obsolescence and the inability to sell based primarily on historical sales and expectations for future use. The Company operates in an industry characterized by technological change. The planning of production and inventory levels is based on internal forecasts of customer demand, which are highly unpredictable and can fluctuate substantially. Should the demand for the Company's products prove to be significantly less than anticipated, the ultimate realizable value of the Company's inventory could be substantially less than amounts in the consolidated balance sheets. Once inventory has been written down below cost, it is not subsequently written up.

Property and Equipment — Property and equipment are stated at cost less accumulated depreciation. Depreciation and amortization are computed using the straight-line method over estimated useful lives of three to ten years for furniture, fixture and office equipment, five to seven years for machinery, five years for automobiles and three years for computer software. Leasehold improvements are amortized over the shorter of the lease term or their estimated useful life.

Intangible Assets — Amortizable intangible assets include trademarks, developed technology and customer relationships acquired as part of business combinations. Intangible assets subject to amortization are amortized using the straight-line method over their estimated useful lives ranging from four to twelve years and are reviewed for impairment.

Goodwill — Goodwill represents the excess of the aggregate of the fair value of consideration transferred in a business combination, over the fair value of assets acquired, net of liabilities assumed. In accordance with Accounting Standards Codification ("ASC") 350, Intangibles-Goodwill and Other ("ASC 350"), goodwill is not amortized but is tested for impairment on an annual basis, in the fourth quarter, or whenever events or changes in circumstances indicate that the carrying amount of these assets may not be recoverable. The Company performs an initial assessment of qualitative factors to determine whether the existence of events and circumstances leads to a determination that it is more likely than not that the fair value of a reporting unit is less than its carrying amount. In performing the qualitative assessment, the Company identifies and considers the significance of relevant key factors, events, and circumstances that affect the fair value of its reporting units. These factors include external factors such as macroeconomic, industry, and market conditions, as well as entity-specific factors, such as actual and planned financial performance. If, after assessing the totality of relevant events and circumstances, the Company determines that it is more likely than not that the fair value of the reporting unit exceeds its carrying value and there is no indication of impairment, no further testing is performed; however, if the Company concludes otherwise, then it performs the quantitative impairment test which compares the estimated fair value of the reporting unit to its carrying value, including goodwill. If the carrying amount of the reporting unit is in excess of its fair value, an impairment loss would be recorded in the consolidated statement of comprehensive income (loss).

Long-Lived Assets — The Company reviews long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets may not be recoverable. An impairment loss is recognized when the total estimated future undiscounted cash flows expected to result from the use of the asset and its eventual disposition are less than its carrying amount. Impairment, if any, is assessed using discounted cash flows or other appropriate measures of fair value. There were no impairment losses recorded during the years ended December 31, 2022, 2021 or 2020.

Leases — The Company determines if an arrangement is a lease at inception. Operating leases are included in operating lease right-of-use ("ROU") assets, operating lease liabilities, and long-term operating lease liabilities on the Company's consolidated balance sheets. Operating lease ROU assets and operating lease liabilities are recognized based on the present value of the future minimum lease payments over the lease term at commencement date. As most of the Company's leases do not provide an implicit rate, the Company uses its incremental borrowing rate based on the information available at the lease commencement date in determining the present value of future payments. The operating lease ROU assets also include any lease payments made and exclude lease incentives and initial direct costs incurred. The Company's lease terms may include options to extend the lease when it is reasonably certain that the Company will exercise that option. Lease expense for minimum lease payments is recognized on a straight-line basis over the lease term. The Company has lease agreements with lease and non-lease components, which are accounted for as a single lease component.

Freight Costs — The Company reflects the cost of shipping its products to customers as a cost of revenue. Reimbursements received from customers for freight costs are recognized as product revenue.

Research and Development — Costs to research, design, and develop the Company's products are expensed as incurred and consist primarily of employee compensation, external contractor costs, and fees for the development of prototype products. Software development costs are capitalized beginning when a product's technological feasibility has been established and ending when a product is available for general release to customers. Generally, the Company's products are released soon after technological feasibility has been established. Costs incurred subsequent to achieving technological feasibility have not been significant and generally have been expensed as incurred. As of December 31, 2022 and 2021, the net amount of capitalized software development costs were \$515,000 and \$303,000, respectively, and are included in other current and long term assets in the accompanying consolidated balance sheets.

The Company capitalizes certain costs for its internal-use software incurred during the application development stage. Costs related to preliminary project activities and post implementation activities are expensed as incurred. Internal-use software is amortized on a straight line basis over its estimated useful life, generally three years. The estimated useful life is determined based on management's judgment on how long the core technology and functionality serves internal needs and the customer base. Management evaluates the useful lives of these assets on an annual basis and tests for impairment whenever events or changes in circumstances occur that could impact the recoverability of these assets. The Company recorded amortization expense related to software development costs of \$45,000, \$55,000 and \$78,000 for the years ended December 31, 2022, 2021 and 2020, respectively. The Company capitalized software development costs of \$103,000 and \$84,000 for the year ended December 31, 2022 and 2021, respectively.

Advertising Costs — The Company expenses advertising costs as incurred. Advertising costs were not significant for the years ended December 31, 2022, 2021 and 2020.

Stock-based Compensation — The Company accounts for all stock-based payment awards, including employee stock options, restricted stock awards, and performance share units in accordance with ASC 718, Compensation-Stock Compensation ("ASC 718"). Under the fair value recognition provisions of ASC 718, stock-based compensation cost is measured at the grant date based on the fair value of the award. Compensation expense for all stock-based payment awards is recognized using the straight-line single-option approach. Employee stock options awards are valued under the single-option approach and amortized on a straight-line basis, net of estimated forfeitures. The value of the portion of the stock option award that is ultimately expected to vest is recognized as expense over the requisite service periods in the Company's consolidated statements of comprehensive income (loss). See Note 10, Stock-Based Compensation, for further information regarding the Company's stock-based compensation assumptions and expenses.

The Company has elected to use the Black Scholes pricing model to estimate the fair value of its stock options, which incorporates various subjective assumptions including volatility, risk-free interest rate, expected life, and dividend yield to calculate the fair value of stock option awards. Since the Company has been publicly traded for many years, it utilizes its own historical volatility in valuing its stock option grants. The expected life of an award is based on historical experience, the terms and conditions of the stock awards granted to employees, as well as the potential effect from options that have not been exercised at the time. The assumptions used in calculating the fair value of stock-based payment awards represent management's estimates. These estimates involve inherent uncertainties and the application of management's judgment. If factors change and the Company uses different assumptions, its stock-based compensation expense could be materially different in the future. In addition, the Company estimates the expected forfeiture rate and recognizes expense only for those awards which are ultimately expected-to-vest shares. If the actual forfeiture rate is materially different from the Company's estimate, the recorded stock-based compensation expense could be different. ASC 718 requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

Income Taxes — The Company accounts for income taxes in accordance with ASC 740, Income Taxes ("ASC 740"), which requires the asset and liability approach for financial accounting and reporting of income taxes. Deferred income taxes reflect the recognition of future tax consequences of events that have been recognized in the Company's financial statements or tax returns. The carrying value of net deferred tax assets reflects that the Company has been unable to generate sufficient taxable income in certain tax jurisdictions. A valuation allowance is provided to reduce the deferred tax asset to an amount that is more likely than not to be realized. The deferred tax assets are still available for the Company to use in the future to offset taxable income, which would result in the recognition of a tax benefit and a reduction in the Company's effective tax rate. Actual operating results and the underlying amount and category of income in future years could render the Company's current assumptions, judgments and estimates of the realizability of deferred tax assets inaccurate, which could have a material impact on its financial position or results of operations.

The Company accounts for uncertain tax positions in accordance with ASC 740, which clarifies the accounting for uncertainty in income taxes recognized in an enterprise's financial statements. It prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. ASC 740 also provides guidance on derecognition, classification, interest and penalties, accounting in interim periods, disclosure, and transition. Such changes in recognition or measurement might result in the recognition of a tax benefit or an additional charge to the tax provision in the period.

The Company recognizes interest and penalties related to unrecognized tax benefits within the income tax expense line in the accompanying consolidated statement of comprehensive income (loss). Accrued interest and penalties are included within the related tax liability line in the consolidated balance sheets. See Note 8, *Income Taxes*, for further information regarding the Company's tax disclosures.

Net Income (Loss) Per Share — Basic net income (loss) per share is based upon the weighted average number of common shares outstanding during the period. Diluted net income (loss) per share is based upon the weighted average number of common shares and dilutive-potential common share equivalents outstanding during the period (using the treasury stock or if-converted method), if applicable. Dilutive-potential common share equivalents are excluded from the computation of net income (loss) per share

in loss periods, as their effect would be antidilutive. See Note 11, *Net Income (Loss) per Common Share*, for further information regarding the Company's computation of both basic and diluted net income (loss) per common share.

Comprehensive Income (Loss) — Comprehensive income (loss) for the years ended December 31, 2022, 2021 and 2020 has been disclosed within the consolidated statements of comprehensive income (loss). Other accumulated comprehensive income (loss) includes net foreign currency translation adjustments, which are excluded from consolidated net income (loss).

Foreign Currency Translation and Transactions — The functional currencies of the Company's foreign subsidiaries are the local currencies, except for the Singapore subsidiary, which uses the U.S. dollar as its functional currency. For those subsidiaries whose functional currency is the local currency, the Company translates assets and liabilities to U.S. dollars using period-end exchange rates and translates revenues and expenses using average exchange rates during the period. Exchange gains and losses arising from translation of foreign entity financial statements are included as a component of other comprehensive income (loss) and gains and losses from transactions denominated in currencies other than the functional currency of the Company are included in the Company's consolidated statements of comprehensive income (loss). The Company recognized net currency gains of \$0.2 million in 2022 and net currency losses of \$0.1 million and \$0.1 million in 2021 and 2020, respectively.

Recent Accounting Pronouncements

From time to time, new accounting pronouncements are issued by the Financial Accounting Standards Board ("FASB") or other standard setting bodies that the Company adopts as of the specified effective date. Unless otherwise discussed, the Company does not believe that the impact of recently issued standards that are not yet effective will have a material impact on its financial position or results of operations upon adoption.

In June 2016, the FASB issued Accounting Standards Update ("ASU") No. 2016-13, *Financial Instruments-Credit Losses* (Topic 326): *Measurement of Credit Losses on Financial Instruments* ("ASU 2016-13"), which requires measurement and recognition of expected credit losses for financial assets held at the reporting date based on external information, or a combination of both relating to past events, current conditions, and reasonable and supportable forecasts. ASU 2016-13 replaces the existing incurred loss impairment model with a forward-looking expected credit loss model which will result in earlier recognition of credit losses. Subsequent to the issuance of ASU 2016-13, the FASB issued ASU 2018-19, Codification Improvement to Topic 326, Financial Instruments – Credit Losses, ASU 2019-04, Codification Improvements to Topic 326, Financial Instruments – Credit Losses (Topic 326) Targeted Transition Relief, ASU 2016-13, the FASB issued ASU 2019-10 Financial Instruments-Credit Losses (Topic 326), Derivatives and Hedging (Topic 815), and Leases (Topic 842), and ASU 2019-11 Codification Improvements to Topic 326, Financial Instruments-Credit Losses. The subsequent ASUs do not change the core principle of the guidance in ASU 2016-13. Instead, these amendments are intended to clarify and improve operability of certain topics included within ASU 2016-13.

In February 2020, the FASB issued ASU 2020-02, which provides guidance regarding methodologies, documentation, and internal controls related to expected credit losses. The subsequent amendments will have the same effective date and transition requirements as ASU No. 2016-13. Early adoption is permitted. Topic 326 requires a modified retrospective approach by recording a cumulative-effect adjustment to retained earnings as of the beginning of the period of adoption. The Company adopted this standard on January 1, 2022, and it did not have a material impact on the Company's consolidated financial statements.

3. Revenue

Revenue Recognition

Revenue is recognized upon transfer of control of promised products or services to customers in an amount that reflects the consideration the Company expects to receive in exchange for those products or services. The Company enters into contracts that can include various combinations of its products, software licenses, and services, which are generally capable of being distinct and accounted for as separate performance obligations. For contracts with multiple performance obligations, the Company allocates the transaction price of the contract to each performance obligation, generally on a relative basis using its standalone selling price. The stated contract value is generally the transaction price to be allocated to the separate performance obligations. Revenue is recognized net of any taxes collected from customers that are subsequently remitted to governmental authorities.

Nature of Products and Services

The Company derives revenues from sales of hardware products, software licenses, subscriptions, professional services, software maintenance and support, and extended hardware warranties.

Hardware Product Revenues — The Company generally has two performance obligations in arrangements involving the sale of hardware products. The first performance obligation is to transfer the hardware product (which includes software integral to the functionality of the hardware product). The second performance obligation is to provide assurance that the product complies with its agreed-upon specifications and is free from defects in material and workmanship for a period of one to three years (i.e. assurance warranty). The entire transaction price is allocated to the hardware product and is generally recognized as revenue at the time of shipment because the customer obtains control of the product at that point in time. The Company has concluded that control generally transfers at that point in time because the customer has title to the hardware, and a present obligation to pay for the hardware. None of the transaction price is allocated to the assurance warranty component, as the Company accounts for these product warranty costs in accordance with ASC 460, *Guarantees*.

Software License Revenues — The Company's license arrangements grant customers the perpetual right to access and use the licensed software products at the outset of an arrangement. Technical support and software updates are generally made available throughout the term of the support agreement, which is generally one to three years. The Company accounts for these arrangements as two performance obligations: (1) the software licenses, and (2) the related updates and technical support. The software license revenue is recognized when the license is delivered to the customer or made available for download, while the software updates and technical support is recognized over the term of the support contract.

Subscription Revenues — Subscription revenues consist of fees received in consideration for providing customers access to one or more of the Company's software-as-a-service ("SaaS") based solutions. These SaaS arrangements include access to the Company's licensed software and, in certain arrangements, use of various hardware devices over the contract term. These SaaS arrangements do not provide the customer the right to take possession of the software supporting the subscription service, or if applicable, any hardware devices at any time during the contract period, and as such are not considered separate performance obligations. Revenue is recognized ratably on a straight-line basis over the term of the contract beginning when the service is made available to the customer. Subscription contract terms range from month-to-month to six years in length and billed monthly or annually.

Professional Services Revenues — Professional services revenues consist primarily of programming customization services performed relating to the integration of the Company's software products with the customers other systems, such as HR systems. Professional services contracts are generally billed on a time and materials basis and revenue is recognized as the services are performed.

Software Maintenance and Support Revenues — Support and maintenance contract revenues consist of the services provided to support the specialized programming applications performed by the Company's professional services group. Support and maintenance contracts are typically billed at inception of the contract and recognized as revenue over the contract period, typically over a one or three year period.

Extended Hardware Warranties Revenues — Sales of the Company's hardware products may also include optional extended hardware warranties, which typically provide assurance that the product will continue function as initially intended. Extended hardware warranty contracts are typically billed at inception of the contract and recognized as revenue over the respective contract period, typically over one to two year periods after the expiration of the original assurance warranty.

Performance Obligation	When Performance Obligation is Typically Satisfied	When Payment is Typically Due	How Standalone Selling Price is Typically Estimated
Hardware products	When customer obtains control of the product (point-in-time)	Within 30-60 days of shipment	Observable in transactions without multiple performance obligations
Software licenses	When license is delivered to customer or made available for download, and the applicable license period has begun (point-in-time)	Within 30-60 days of the beginning of license period	Established pricing practices for software licenses bundled with software maintenance, which are separately observable in renewal transactions
Subscriptions	Ratably over the course of the subscription term (over time)	In advance of subscription term	Contractually stated or list price
Professional services	As services are performed and/or when contract is fulfilled (point-in-time)	Within 30-60 days of delivery	Observable in transactions without multiple performance obligations
Software maintenance and support services	Ratably over the course of the support contract (over time)	Within 30-60 days of the beginning of the contract period	Observable in renewal transactions
Extended hardware warranties	Ratably over the course of the support contract (over time)	Within 30-60 days of the beginning of the contract period	Observable in renewal transactions

Significant Judgments

The Company's contracts with customers often include promises to transfer multiple products and services to a customer. For such arrangements, the Company allocates the transaction price to each performance obligation based on its relative standalone selling price ("SSP").

Judgment is required to determine the SSP for each distinct performance obligation in a contract. For the majority of items, the Company estimates SSP using historical transaction data. The Company uses a range of amounts to estimate SSP when it sells each of the products and services separately and needs to determine whether there is a discount to be allocated based on the relative SSP of the various products and services. In instances where SSP is not directly observable, such as when the product or service is not sold separately, the Company determines the SSP using information that may include market conditions and other observable inputs. The determination of SSP is an ongoing process and information is reviewed regularly in order to ensure SSPs reflect current information or trends.

Disaggregation of Revenues

The Company disaggregates revenue from contracts with customers based on the timing of transfer of goods or services to customers (point-in-time or over time) and geographic region based on the shipping location of the customer. The geographic regions that are tracked are the Americas, Europe and the Middle East, and Asia-Pacific regions.

Total net sales based on the disaggregation criteria described above are as follows (in thousands):

				Year E	nded Decem	ber 31,			
		2022			2021			2020	
	Point-in-	Over		Point-in-	Over		Point-in-	Over	
	Time	Time	Total	Time	Time	Total	Time	Time	Total
Americas	\$ 73,317	\$ 3,482	\$ 76,799	\$ 66,162	\$ 3,234	\$ 69,396	\$ 54,491	\$ 3,811	\$ 58,302
Europe and the Middle East	15,492	408	15,900	12,507	369	12,876	9,124	373	9,497
Asia-Pacific	20,216		20,216	21,497		21,497	19,121		19,121
Total	\$109,025	\$ 3,890	\$112,915	\$100,166	\$ 3,603	\$103,769	\$ 82,736	\$ 4,184	\$ 86,920

Contract Balances

Amounts invoiced in advance of services being provided are accounted for as deferred revenue. Nearly all of the Company's deferred revenue balance is related software maintenance contracts. Payment terms and conditions vary by contract type, although payment is typically due within 30 to 60 days of contract inception. In instances where the timing of revenue recognition differs from the timing of invoicing, the Company has determined its contracts do not include a significant financing component. The primary purpose of the Company's invoicing terms is to provide customers with simplified and predictable ways of purchasing the Company's products and services, not to receive financing from its customers.

Changes in deferred revenue during the years ended December 31, 2022 and 2021 were as follows (in thousands):

	Y	Year Ended December 31,					
	2	022		2021			
Deferred revenue, beginning of period	\$	2,433	\$	2,366			
Deferral of revenue billed in current period, net of recognition		2,241		1,905			
Recognition of revenue deferred in prior periods		(2,019)		(1,838)			
Deferred revenue, end of period	\$	2,655	\$	2,433			

Amounts recognized as revenue in excess of amounts billed are recorded as unbilled receivables and are included in other current assets on the consolidated balance sheet. As of December 31, 2022 and 2021, the amount of unbilled receivables was immaterial.

Unsatisfied Performance Obligations

Revenue expected to be recognized in future periods related to remaining performance obligations, excluding revenue pertaining to contracts that have an original expected duration of one year or less, and contracts where revenue is recognized as invoiced, was approximately \$0.9 million as of December 31, 2022. Since the Company typically invoices customers at contract inception, this amount is included in the deferred revenue balance. As of December 31, 2022, the Company expects to recognize approximately 39% of the revenue related to these unsatisfied performance obligations during 2023, 26% during 2024, and 35% thereafter.

Practical Expedients

The Company has elected the following practical expedients in accordance with ASC 606, *Revenue from Contracts with Customers*:

- The Company expenses costs as incurred for costs to obtain a contract when the amortization period would have been one year or less. These costs include internal sales force compensation programs and certain partner sales incentive programs as the Company has determined annual compensation is commensurate with annual sales activities.
- The Company generally expenses sales commissions when incurred because the amortization period would have been one year or less. These costs are recorded within selling and marketing expense.
- The Company does not disclose the value of unsatisfied performance obligations for contracts with an original expected length of one year or less.
- The Company does not consider the time value of money for contracts with original durations of one year or less.

4. Fair Value Measurements

The Company determines the fair values of its financial instruments based on a fair value hierarchy, which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The classification of a financial asset or liability within the hierarchy is based upon the lowest level input that is significant to the fair value measurement. Under ASC 820, *Fair Value Measurement and Disclosures* ("ASC 820"), the fair value hierarchy prioritizes the inputs into three levels that may be used to measure fair value:

- Level 1 Quoted prices (unadjusted) for identical assets and liabilities in active markets;
- Level 2 Inputs other than quoted prices in active markets for identical assets and liabilities that are observable either directly or indirectly; and
- Level 3 Unobservable inputs.

Assets and Liabilities Measured at Fair Value on a Recurring Basis

As of December 31, 2022 and 2021, the only assets measured and recognized at fair value on a recurring basis were nominal cash equivalents. As of December 31, 2022 and 2021, there were no liabilities measured and recognized at fair value on a recurring basis

Assets and Liabilities Measured at Fair Value on a Non-recurring Basis

Certain of the Company's assets, including goodwill, intangible assets, and privately-held investments, are measured at fair value on a nonrecurring basis if impairment is indicated. Purchased intangible assets are measured at fair value primarily using discounted cash flow projections. For additional discussion of measurement criteria used in evaluating potential impairment involving goodwill and intangible assets, refer to Note 5, *Goodwill and Intangible Assets*.

As of December 31, 2022 and 2021, the Company had \$348,000 of privately-held investments measured at fair value on a nonrecurring basis, which were classified as Level 3 assets due to the absence of quoted market prices and inherent lack of liquidity. The Company reviews its investments to identify and evaluate investments that have an indication of possible impairment. The Company adjusts the carrying value for its privately-held investments for any impairment if the fair value is less than the carrying value of the respective assets on an other-than-temporary basis. The amount of privately-held investments is included in other assets in the accompanying consolidated balance sheets.

During the years ended December 31, 2022 and 2021, the Company received proceeds of approximately \$30,000 and \$611,000, respectively from the acquisition of a private company that the Company had invested in, which had been fully impaired and had no carrying value.

As of December 31, 2022 and 2021, there were no liabilities that are measured and recognized at fair value on a non-recurring basis.

Assets and Liabilities Not Measured at Fair Value

The carrying amounts of the Company's accounts receivable, prepaid expenses and other current assets, accounts payable, and other accrued expenses and liabilities approximate fair value due to their short maturities.

5. Goodwill and Intangible Assets

Goodwill

The following table summarizes the activity of goodwill (in thousands):

	I	dentity	Premises	Total
Balance as of December 31, 2020	\$	3,554	\$ 6,712	\$ 10,266
Currency translation adjustment		<u> </u>	2	2
Balance as of December 31, 2021		3,554	6,714	10,268
Currency translation adjustment		<u> </u>	(78)	(78)
Balance as of December 31, 2022	\$	3,554	\$ 6,636	\$ 10,190

In accordance with ASC 350, the Company tests goodwill for impairment on an annual basis, in the fourth quarter, or whenever events or changes in circumstances indicate that the carrying amount of these assets may not be recoverable. The Company performs an initial assessment of qualitative factors to determine whether the existence of events and circumstances leads to a determination that it is more likely than not that the fair value of a reporting unit is less than its carrying amount. In performing the qualitative assessment, the Company identifies and considers the significance of relevant key factors, events, and circumstances that affect the fair value of its reporting units. These factors include external factors such as macroeconomic, industry, and market conditions, as well as entity-specific factors, such as actual and planned financial performance. If, after assessing the totality of relevant events and circumstances, the Company determines that it is more likely than not that the fair value of the reporting unit exceeds its carrying value and there is no indication of impairment, no further testing is performed; however, if the Company concludes otherwise, then the Company will perform the quantitative impairment test which compares the estimated fair value of the reporting unit to its carrying value, including goodwill. If the carrying amount of the reporting unit is in excess of its fair value, an impairment loss would be recorded in the consolidated statement of comprehensive income (loss). During the years ended December 31, 2022, 2021 and 2020, the Company noted no indicators of goodwill impairment and concluded no further testing was necessary.

Intangible Assets

The following table summarizes the gross carrying amount and accumulated amortization for intangible assets resulting from acquisitions (in thousands):

	Tradema	rks		eloped nology	_	Customer lationships	Total
Amortization period (in years)	5		10	- 12		4 - 12	
Gross carrying amount as of December 31, 2022	\$	766	\$	9,093	\$	15,743	\$ 25,602
Accumulated amortization		(691)		(6,666)		(12,980)	(20,337)
Intangible assets, net as of December 31, 2022	\$	75	\$	2,427	\$	2,763	\$ 5,265
Gross carrying amount as of December 31, 2021	\$	764	\$	9,127	\$	15,774	\$ 25,665
Accumulated amortization		(536)		(6,219)		(12,465)	(19,220)
Intangible assets, net as of December 31, 2021	\$	228	\$	2,908	\$	3,309	\$ 6,445

Each period, the Company evaluates the estimated remaining useful lives of purchased intangible assets and whether events or changes in circumstances warrant a revision to the remaining period of amortization. If a revision to the remaining period of amortization is warranted, amortization is prospectively adjusted over the remaining useful life of the intangible asset. Intangible assets subject to amortization are amortized on a straight-line basis over their useful lives as indicated in the table above. The Company performs an evaluation of its amortizable intangible assets for impairment at the end of each reporting period. The Company did not identify any impairment indicators during the years ended December 31, 2022, 2021 and 2020.

The following table summarizes the amortization expense included in the consolidated statements of comprehensive income (loss) (in thousands):

	Year Ended December 31,							
	2022		2021		2020			
Cost of revenue	\$ 447	\$	453	\$	899			
Selling and marketing	670		671		1,666			
Total	\$ 1,117	\$	1,124	\$	2,565			

The estimated annual future amortization expense for purchased intangible assets with definite lives as of December 31, 2022 was as follows (in thousands):

2023	\$ 1,030
2024	956
2024 2025	956
2026	956
2027	956
Thereafter	411
Total	\$ 5,265

6. Balance Sheet Components

The Company's inventories are stated at the lower of cost or market value. Inventories consist of (in thousands):

	 December 31,					
	2022		2021			
Raw materials	\$ 13,333	\$	7,182			
Work-in-progress	55					
Finished goods	15,570		12,742			
Total	\$ 28,958	\$	19,924			

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

	December 31,				
	 2022		2021		
Building and leasehold improvements	\$ 1,941	\$	1,304		
Furniture, fixtures and office equipment	726		1,379		
Plant and machinery	15,311		13,244		
Purchased software	 718		2,281		
Total	18,696		18,208		
Accumulated depreciation	(11,977)		(14,142)		
Property and equipment, net	\$ 6,719	\$	4,066		

The Company recorded depreciation expense of \$1.2 million, \$0.8 million and \$0.7 million during the years ended December 31, 2022, 2021 and 2020, respectively.

Other accrued expenses and liabilities consist of (in thousands):

	December 31,				
	2022		2021		
Accrued professional fees	\$ 574	\$	576		
Accrued restructuring	24		294		
Accrued warranties	345		377		
Rental payments due to landlord			922		
Other accrued expenses	 1,675		1,605		
Total	\$ 2,618	\$	3,774		

7. Financial Liabilities

On February 8, 2017, the Company entered into a Loan and Security Agreement with East West Bank ("EWB"). Following subsequent amendments, on April 14, 2022, the Company and EWB amended the Loan and Security Agreement replacing the \$20.0 million revolving loan facility subject to a borrowing base with a non-formula revolving loan facility with no borrowing base requirement and a maturity date of February 8, 2023. In addition, the interest rate was lowered from prime to prime minus 0.25%, and

certain financial covenants were amended. On February 8, 2023, the Company entered into an amendment (the "Fourth Amendment") to its amended and restated the Loan and Security Agreement with EWB (as amended to date, the "Loan Agreement"). The Fourth Amendment amends the Loan Agreement to, among other things, extend the maturity date to February 8, 2025, and amend certain financial covenants.

The Loan Agreement contains customary representations and warranties and customary affirmative and negative covenants, including, limits or restrictions on the Company's ability to incur liens, incur indebtedness, make certain restricted payments (including dividends), merge or consolidate and dispose of assets, as well as other financial covenants. The Company's obligations under the Loan Agreement are collateralized by substantially all of its assets. As of December 31, 2022, there were no amounts outstanding and the Company was in compliance with all financial covenants under the Loan Agreement.

8. Income Taxes

Income (loss) before income tax provision for domestic and non-U.S. operations is as follows (in thousands):

	 For the Year Ended December 31,					
	2022		2021		2020	
Income (loss) from operations before income tax provision:					_	
U.S.	\$ (2,710)	\$	(1,189)	\$	(6,321)	
Foreign	 2,419		2,837		1,289	
Income (loss) from operations before income tax provision	\$ (291)	\$	1,648	\$	(5,032)	

The income tax provision consisted of the following (in thousands):

	For the Year Ended December 31,				
		2022		2021	2020
Deferred:					
Federal	\$		\$		\$ _
State		_		_	_
Foreign				_	<u> </u>
	\$		\$	<u> </u>	\$ _
Current:					
Federal	\$	_	\$		\$ _
State		3		(24)	(15)
Foreign		98		52	88
Total current		101	-	28	73
Total income tax provision	\$	101	\$	28	\$ 73

Significant items making up deferred tax assets and liabilities are as follows (in thousands):

	December 31,				
	2022		2021		
Deferred tax assets:	_				
Allowances not currently deductible for tax purposes	\$ 777	\$	978		
Net operating loss carryforwards	41,730		44,068		
Operating lease liabilities	1,018		312		
General carryforwards	16,407		16,433		
Stock-based compensation	1,471		1,487		
Accrued and other	 2,090		1,961		
	63,493		65,239		
Less valuation allowance	(59,996)		(62,441)		
	3,497		2,798		
Deferred tax liabilities:					
Depreciation and amortization	(867)		(925)		
Operating lease right-of-use assets	(693)		(10)		
State income taxes	(1,937)		(1,863)		
	(3,497)		(2,798)		
Net deferred tax asset	\$	\$			

Management assesses the available positive and negative evidence to estimate if sufficient future taxable income will be generated to use the existing deferred tax assets. A significant piece of objective negative evidence evaluated was the cumulative loss incurred over the three-year period ended December 31, 2022. Such objective evidence limits the ability to consider other subjective evidence such as the Company's projections for future growth.

A valuation allowance of \$60.0 million and \$62.4 million, as of December 31, 2022 and 2021, respectively, has been recorded to offset the related net deferred tax assets as the Company is unable to conclude that it is more likely than not that such deferred tax assets will be realized. The net deferred tax liabilities are primarily from foreign tax liabilities as well as intangibles acquired as a result of the acquisitions, which are not deductible for tax purposes.

The following table summarizes the Company's net deferred tax assets valuation allowance activity (in thousands):

	Year Ended December 31,					
		2022		2021		2020
Balance at beginning of period	\$	62,441	\$	62,699	\$	62,492
Increases in valuation allowance				459		1,142
Decreases in valuation allowance		(2,445)		(717)		(935)
Balance at end of period	\$	59,996	\$	62,441	\$	62,699

Section 951A under the Tax Cuts and Jobs Act (the "Act") requires a U.S. shareholder of a controlled foreign corporation to include in taxable income the shareholder's share of global intangible low-taxed income ("GILTI") for the year. The Company has determined that the Section 951A provisions do apply to its operations and relationships with its controlled foreign corporations ("CFCs"). The Company recorded \$2.0 million and \$2.5 million of GILTI income in 2022 and 2021, respectively. The Company did not record any GILTI income in 2020 due to net tested losses at its CFCs.

The Act also changed the treatment of Section 174 research and experimental costs beginning January 1, 2022. Historically, taxpayers had the option of expensing Section 174 costs currently or amortizing over five years. The Act provision requires taxpayers to now capitalize such costs and amortize over five years for research conducted domestically or fifteen years if conducted outside of the U.S. This new Section 174 rule had no material impact on the Company's consolidated financial statements in 2022, and any increases to taxable income as a result of capitalizing research and experimental costs in the future are expected to be offset by the Company's net operating losses.

As of December 31, 2022, the Company had net operating loss carryforwards of \$121.0 million for federal, \$50.3 million for state and \$52.5 million for foreign income tax purposes. Certain of the Company's federal, state and foreign loss carryforwards have started expiring and will continue to expire through 2042 if not utilized.

The Tax Reform Act of 1986 (the "Tax Reform Act") limits the use of net operating loss and tax credit carryforwards in certain situations where changes occur in stock ownership. The Company completed its acquisition of Bluehill ID AG on January 4, 2010, which resulted in a stock ownership change as defined by the Tax Reform Act. The Company also completed its acquisition of 3VR Security, Inc. on February 14, 2018, which resulted in a stock ownership change as defined by the Tax Reform Act. These transactions resulted in limitations on the annual utilization of federal and state net operating loss carryforwards and credits. As a result, the Company reevaluated its available deferred tax assets, and the loss carryforward and credit amounts, excluding the valuation allowance presented above have been adjusted for the limitation resulting from the change in ownership in accordance with the provisions of the Tax Reform Act.

The income tax provision reconciled to the amount computed by applying the statutory federal tax rate to the income (loss) before income tax provision is as follows (in thousands):

	For the Year Ended December 31,					31,
		2022		2021		2020
Income tax provision (benefit) at statutory federal tax rate of 21%	\$	(61)	\$	345	\$	(1,057)
State taxes, net of federal benefit		2		(19)		(12)
Foreign taxes provisions provided for at rates other than U.S. statutory rate		(410)		(494)		(202)
Section 951(A) inclusion		428		523		
Stock options		(218)		(443)		_
Change in valuation allowance		274		700		1,432
Permanent differences		86		42		(76)
PPP loan forgiveness				(619)		_
Other		<u> </u>		(7)		(12)
Total provision for income taxes	\$	101	\$	28	\$	73

The Company applies the provisions of, and accounted for uncertain tax positions in accordance with, ASC 740. ASC 740 clarifies the accounting for uncertainty in income taxes recognized in an entity's financial statements. It prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. ASC 740 also provides guidance on de-recognition, classification, interest and penalties, accounting in interim periods, disclosure, and transition.

The Coronavirus Aid, Relief and Economic Security Act (the "CARES Act") includes provisions relating to refundable payroll tax credits, deferment of the employer portion of certain payroll taxes, net operating loss carryback periods, and alternative minimum tax credit refunds. The Company analyzed the provisions of the CARES Act and determined there was no significant impact to its provision for income taxes for the year ended December 31, 2020.

On August 16, 2022, the President of the United States signed into law the Inflation Reduction Act ("H.R. 5376"), which contained various tax law changes, including the imposition of an AMT on "large" corporations, a tax on certain stock buybacks, and other targeted revenue raisers. The Company analyzed the provisions of H.R. 5376 and currently does not expect this law to have any material effect on the Company.

On June 29, 2020, California Governor Gavin Newsom signed Assembly Bill 85 ("AB85") into law as part of the California 2020 Budget Act, which temporarily suspends the use of California net operating losses and imposes a cap on the amount of business incentive tax credits that companies can utilize against their net income for tax years 2020, 2021, and 2022. The Company analyzed the provisions of AB85 and determined there was no impact on the Company's income tax provision for the years ended December 31, 2022 and 2021.

On December 27, 2020, the Consolidated Appropriations Act, 2021 (the "CAA") was signed into law. The CAA includes provisions meant to clarify and modify certain items put forth in CARES Act, while providing aid to businesses affected by the pandemic. The Company recorded an income tax benefit of \$6.2 million in the year ended December 31, 2021 as a result of deductibility of expenses paid by the forgiveness of the PPP loan.

A reconciliation of the beginning and ending amount of unrecognized tax benefits with an impact on the Company's consolidated balance sheets or statements of comprehensive income (loss) is as follows (in thousands):

	December 31,				
	2	022		2021	
Balance at beginning of period	\$	2,276	\$	2,307	
Additions based on tax positions related to the current year		1		1	
Additions for tax positions of prior years		2			
Reductions in prior year tax positions				(32)	
Balance at end of period	\$	2,279	\$	2,276	

While timing of the resolution and/or finalization of tax audits is uncertain, the Company does not believe that its unrecognized tax benefits as presented in the above table would materially change in the next 12 months.

As of December 31, 2022 and 2021, the Company recognized liabilities for unrecognized tax benefits of \$2.3 million and \$2.3 million, respectively. Since there was a full valuation allowance against these deferred tax assets, there was no impact on the Company's consolidated balance sheets or statements of comprehensive income (loss) for the years ended December 31, 2022, 2021 and 2020. Also the subsequent recognition, if any, of these previously unrecognized tax benefits would not affect the effective tax rate. Such recognition would result in adjustments to other tax accounts, primarily deferred taxes. The amount of unrecognized tax benefits which, if recognized, would not affect the Company's tax rate as of December 31, 2022 and 2021, respectively.

The Company recognizes interest accrued related to unrecognized tax benefits and penalties as income tax expense. For the year ended December 31, 2022, the Company recorded an increase in accrued penalties of \$2,000 and an increase in accrued interest of \$1,000 related to the unrecognized tax benefits noted above. As of December 31, 2022, the Company has recognized a total liability for penalties of \$4,000 and interest of \$7,000. For the year ended December 31, 2021, the Company recorded a decrease in accrued penalties of \$3,000 and a decrease in accrued interest of \$9,000 related to the unrecognized tax benefits noted above. As of December 31, 2021, the Company had recognized a total liability for penalties of \$3,000 and interest of \$5,000. For the year ended December 31, 2020, the Company recorded a decrease in accrued penalties of \$5,000 and a decrease in accrued interest of \$21,000.

The Company files U.S. federal, U.S. state and foreign tax returns. The Company generally is no longer subject to tax examinations for years prior to 2017. However, if loss carryforwards of tax years prior to 2017 are utilized in the U.S., these tax years may become subject to investigation by the tax authorities.

9. Stockholders' Equity

Preferred Stock

The Company is authorized to issue 10,000,000 shares of preferred stock, 40,000 of which have been designated as Series A Participating Preferred Stock, par value \$0.001 per share, and 5,000,000 of which have been designated as Series B Non-Voting Convertible Preferred Stock, par value \$0.001 per share (the "Series B Preferred Stock"). No shares of the Company's Series A Participating Preferred Stock were outstanding as of December 31, 2022 and 2021. At both December 31, 2022 and 2021, 5,000,000 shares of the Series B convertible preferred stock were outstanding.

The Board of Directors may from time to time, without further action by the Company's stockholders, direct the issuance of shares of preferred stock in other series and may, at the time of issuance, determine the rights, preferences and limitations of each series, including voting rights, dividend rights and redemption and liquidation preferences. Satisfaction of any dividend preferences of outstanding shares of preferred stock would reduce the amount of funds available for the payment of dividends on shares of the Company's common stock. Holders of shares of preferred stock may be entitled to receive a preference payment in the event of any liquidation, dissolution or winding-up of the Company before any payment is made to the holders of shares of the Company's common stock. Upon the affirmative vote of the Board, without stockholder approval, the Company may issue shares of preferred stock with voting and conversion rights, which could adversely affect the holders of shares of its common stock.

Series B Convertible Preferred Stock and Private Placement

On December 20, 2017, the Company entered into a Securities Purchase Agreement (the "Purchase Agreement") with each of 21 April Fund, Ltd. and 21 April Fund, LP (collectively, the "Purchasers"), pursuant to which the Company, in a private placement, agreed to issue and sell to the Purchasers an aggregate of up to 5,000,000 shares of the Series B convertible preferred stock, \$0.001 par value per share (collectively referred to as the "Shares"). The Purchasers agreed to purchase an aggregate of 3,000,000 Shares at a price of \$4.00 per share in cash at the initial closing of the transaction, and at the sole option of the Company, an additional 2,000,000

Shares at a price of \$4.00 per share in cash at a second closing, if any (the "Private Placement"). The total purchase price payable to the Company was \$20,000,000, of which \$12,000,000 was paid at the initial closing. On May 30, 2018, the Company issued 2,000,000 Shares at a price of \$4.00 per share in the second closing of the Private Placement. Gross proceeds to the Company from the second closing were approximately \$8.0 million, before deducting fees and certain expenses payable by the Company. The proceeds from the issuance of the Shares were required to be used to pay off existing debt obligations of the Company and to fund future acquisitions of technology, business and other assets by the Company.

Each Share shall be convertible into the Company's common stock (i) following the sixth (6th) anniversary of the initial closing of the Private Placement or (ii) if earlier, during the thirty (30) day period following the last trading day of any period of three (3) or more consecutive trading days that the closing market price of the Company's common stock exceeds \$10.00. Each Share is convertible at the option of the holder of the Shares into such number of shares of the Company's common stock determined by taking the accreted value of such Share (purchase price plus accrued but unpaid dividends) and dividing such value by the stated value of such Share (\$4.00 per share, subject to adjustment for dilutive issuances, stock splits, stock dividends and the like); provided, however, that the Company shall not convert any Shares if doing so would cause the holder thereof, along with its affiliates, to beneficially own in excess of 19.9% of the outstanding common stock immediately after giving effect to the applicable conversion (the "Ownership Limitation"), unless waiver of this restriction has been effected by the holder requesting conversion of Shares.

Based on the current conversion price, the outstanding shares, including the accretion of dividends, of Series B convertible preferred stock as of December 31, 2022 would be convertible into 6,330,762 shares of the Company's common stock. However, the conversion rate will be subject to adjustment in certain instances, such as if the Company issues shares of its common stock at a price less than \$4.00 per common share, subject to a minimum conversion price of \$3.27 per share. As of December 31, 2022, none of the contingent conditions to adjust the conversion rate had been met.

Each share of Series B convertible preferred stock is entitled to a cumulative annual dividend of 5% for the first six (6) years following the issuance of such share and 3% for each year thereafter, with the Company retaining the option to settle each year's dividend after the tenth (10th) year in cash. The dividends accrue and are payable in kind upon such time as the shares convert into the Company's common stock. In general, the shares are not entitled to vote except in certain limited cases, including in change of control transactions where the expected price per share distributable to the Company's stockholders is expected to be less than \$4.00 per share. The Certificate of Designation with respect to the Series B convertible preferred stock further provides that in the event of, among other things, any change of control, liquidation or dissolution of the Company, the holders of the Series B convertible preferred stock will be entitled to receive, on a pari passu basis with the holders of the common stock, the same amount and form of consideration that the holders of the Company's common stock receive (on an as-if-converted-to-common-stock basis and without regard to the Ownership Limitation applicable to the Series B convertible preferred stock).

Series B Convertible Preferred Stock Dividend Accretion

The following table summarizes Series B convertible preferred stock and the accretion of dividend activity for the years ended December 31, 2022 and 2021 (in thousands):

	Year Ended December 31,			
	2022	2021		
Series B Convertible Preferred Stock:				
Balance at beginning of period	24,117	\$ 22,969		
Cumulative dividends on Series B convertible preferred stock	1,206	1,148		
Balance at end of period	\$ 25,323	\$ 24,117		
Number of Common Shares Issuable Upon Conversion:				
Number of shares at beginning of period	6,029	5,742		
Cumulative dividends on Series B convertible preferred stock	302	287		
Number of shares at end of period	6,331	6,029		

Sale of Common Stock

On April 7, 2021, the Company sold an aggregate of 3,779,342 shares of its common stock at a public offering price of \$10.65 per share in an underwritten public offering. The Company received net proceeds of approximately \$37.6 million from the sale of the common stock in the public offering, after deducting the underwriting discounts and other offering related expenses of \$2.6 million.

Common Stock Warrants

On May 5, 2020, the Company entered into a Note and Warrant Purchase Agreement with April 21 Fund, LP and 21 April Fund, Ltd. (collectively, the "April 21 Funds"), pursuant to which the Company issued warrants ("April 21 Funds Warrants") to purchase 275,000 shares of common stock of the Company. The April 21 Funds Warrants have a term of three years. The shares of common stock issuable upon exercise of the April 21 Fund Warrants are entitled to the same resale registration rights granted to the April 21 Funds Warrants under the Stockholders Agreement dated December 21, 2017.

Below is the summary of outstanding warrants issued by the Company as of December 31, 2022:

	Number of Shares	Weighted		
	Issuable Upon	Average Exercise	e	
Warrant Type	Exercise	Price	Issue Date	Expiration Date
April 21 Funds Warrants	275,000	\$ 3.5	0 May 5, 2020	May 5, 2023

Common Stock Reserved for Future Issuance

Common stock reserved for future issuance as of December 31, 2022 was as follows:

Exercise of outstanding stock options, vesting of restricted stock units ("RSU"), vesting of performance stock units ("PSU"), and issuance of RSUs vested but not released	1,495,944
Employee Stock Purchase Plan	293,888
Shares of common stock available for grant under the 2011 Plan	530,537
Warrants to purchase common stock	275,000
Shares of common stock issuable upon conversion of Series B convertible preferred stock	7,541,449
Total	10,136,818

10. Stock-Based Compensation

Stock Incentive Plan

The Company maintains a stock-based compensation plan, the 2011 Incentive Compensation Plan, as amended, (the "2011 Plan"), to attract, motivate, retain and reward employees, directors and consultants by providing its Board or a committee of the Board the discretion to award equity incentives to these persons.

On June 6, 2011, the Company's stockholders approved the 2011 Plan, which is administered by the Compensation Committee of the Board. The 2011 Plan provides that stock options, stock units, restricted shares, and stock appreciation rights may be granted to executive officers, directors, consultants, and other key employees. The Company reserved 400,000 shares of common stock under the 2011 Plan, plus 459,956 shares of common stock that remained available for delivery under the 2007 Plan and the 2010 Plan as of June 6, 2011. In aggregate, as of June 6, 2011, 859,956 shares were available for future grant under the 2011 Plan, including shares rolled over from the 2007 Plan and the 2010 Plan. Subsequent to June 6, 2011 through December 31, 2022, the number of shares of common stock authorized for issuance under the 2011 Plan has been increased by an aggregate of 4,400,000 shares.

Stock Options

The following is a summary of stock option activity for the year ended December 31, 2022:

	Number Outstanding	Average Exercise Price per Share	Weighted Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Balance as of December 31, 2021	514,693	\$ 5.11	4.11	\$11,850,930
Granted		_		
Cancelled or Expired	(9,100)	8.47		_
Exercised	_	_		
Balance as of December 31, 2022	505,593	\$ 5.05	3.17	\$ 1,280,805
Vested or expected to vest as of December 31, 2022	505,593	\$ 5.05	3.17	\$ 1,280,805
Exercisable as of December 31, 2022	505,593	\$ 5.05	3.17	\$ 1,280,805

The aggregate intrinsic value in the table above represents the difference between the fair value of the Company's common stock as of December 31, 2022 and the exercise price of in-the-money stock options multiplied by the number of such stock options.

The following table summarizes information about stock options outstanding as of December 31, 2022:

	Sto	Stock Options Outstanding			ions Exercisable
		Weighted Average			
		Remaining	Weighted Average		Weighted Average
D 45 1 D1	Number	Contractual Life	Exercise	Number	Exercise
Range of Exercise Prices	Outstanding	(Years)	Price Price	Exercisable	Price
\$4.36 - \$7.20	445,960	3.42	\$ 4.37	445,960	\$ 4.37
\$7.50 - \$11.25	59,100	1.29	10.17	59,100	10.17
\$11.30 - \$16.95	500	1.25	11.30	500	11.30
\$19.70 - \$29.55	33	0.62	19.70	33	19.70
\$4.36 - \$29.55	505,593	3.17	\$ 5.05	505,593	\$ 5.05

As of December 31, 2022, there was no unrecognized stock-based compensation expense related to stock options.

Restricted Stock Units

The following is a summary of RSU activity for the year ended December 31, 2022:

	Number Outstanding	We	eighted Average Fair Value
Unvested as of December 31, 2021	485,729	\$	9.19
Granted	675,046		14.10
Vested	(274,834)		9.01
Forfeited	(66,756)		9.96
Unvested as of December 31, 2022	819,185	\$	13.23
RSUs vested but not released	131,166	\$	6.73

The fair value of the Company's RSUs is calculated based upon the fair market value of the Company's common stock at the date of grant. As of December 31, 2022, there was \$8.7 million of unrecognized compensation cost related to unvested RSUs granted, which is expected to be recognized over a weighted average period of 3.3 years.

Performance Stock Units

The Company grants PSUs to certain key employees that are subject to the attainment of performance goals established by the Company's Compensation Committee, the periods during which performance is to be measured, and other limitations and conditions. Performance goals are based on pre-established objectives that specify the manner of determining the number of PSUs that will vest if performance goals are attained. If an employee terminates employment, the non-vested portion of the PSUs will not vest and all rights to the non-vested portion will terminate.

The following is a summary of PSU activity for the year ended December 31, 2022:

	Number	Wei	ghted Average
	Outstanding		Fair Value
Unvested as of December 31, 2021	175,000	\$	6.38
Granted	25,000		12.05
Vested	(20,000)		6.38
Forfeited	(140,000)		6.79
Unvested as of December 31, 2022	40,000	\$	8.51

As of December 31, 2022, there was \$0.2 million of unrecognized compensation cost related to unvested PSUs, which is expected to be recognized over a period of 1.0 year. No tax benefit was realized from PSUs for the year ended December 31, 2022.

Stock-Based Compensation Expense

The following table summarizes stock-based compensation expense related to stock options, RSUs, and PSUs included in the consolidated statements of comprehensive income (loss) (in thousands):

	Year Ended December 31,							
	2022		2021		2020			
Cost of revenue	\$ 192	\$	183	\$	160			
Research and development	699		486		685			
Selling and marketing	845		545		480			
General and administrative	1,425		1,392		1,702			
Total	\$ 3,161	\$	2,606	\$	3,027			

Restricted Stock Unit Net Share Settlements

During the years ended December 31, 2022, 2021 and 2020, the Company repurchased 67,723, 82,351, and 171,641 shares, respectively, of common stock surrendered to the Company to satisfy tax withholding obligations in connection with the vesting of RSUs issued to employees.

11. Net Income (Loss) per Common Share

Basic net income (loss) per common share is computed by dividing net income (loss) available to common stockholders during the period by the weighted average number of common shares outstanding during that period. Diluted net income (loss) per common share is impacted by equity instruments considered to be potential common shares, if dilutive, computed using the treasury stock or the if-converted method of accounting.

The calculations for basic and diluted net income (loss) per common share are as follows:

	Year Ended December 31,					
		2022		2021		2020
Basic net income (loss) per common share:						
Numerator:						
Net income (loss)	\$	(392)	\$	1,620	\$	(5,105)
Less: accretion of Series B convertible preferred stock dividends		(1,206)		(1,148)		(1,094)
Net income (loss) available to common stockholders	\$	(1,598)	\$	472	\$	(6,199)
Denominator:						
Weighted average common shares outstanding - basic		22,659		21,340		17,978
Net income (loss) per common share - basic	\$	(0.07)	\$	0.02	\$	(0.34)
Diluted net income (loss) per common share:						
Numerator:						
Net income (loss) available to common stockholders	\$	(1,598)	\$	472	\$	(6,199)
Plus: accretion of Series B convertible preferred stock dividends, if dilutive				<u> </u>		
Net income (loss) available to common stockholders	\$	(1,598)	\$	472	\$	(6,199)
Denominator:						
Weighted average common shares outstanding - basic		22,659		21,340		17,978
Dilutive securities:						
Stock options, RSUs, and warrants				927		<u> </u>
Weighted average common shares outstanding - diluted		22,659		22,267		17,978
Net income (loss) per common share - diluted	\$	(0.07)	\$	0.02	\$	(0.34)

The following common stock equivalents have been excluded from diluted net income (loss) per share for the fiscal years presented below because their inclusion would have been anti-dilutive (in thousands):

	December 31,				
	2022	2021	2020		
Shares of common stock subject to outstanding RSUs	819	_	683		
Shares of common stock subject to outstanding stock options	506		551		
Shares of common stock subject to outstanding warrants	275	_	315		
Shares of common stock issuable upon conversion of Series B					
convertible preferred stock	6,331	6,029	5,742		
Total	7,931	6,029	7,291		

12. Segment Reporting and Geographic Information

Segment Reporting

ASC 280, Segment Reporting ("ASC 280") establishes standards for the reporting by public business enterprises of information about operating segments, products and services, geographic areas, and major customers. The method for determining what information to report is based on the way management organizes the operating segments within the Company for making operating decisions and assessing financial performance. An operating segment is defined as a component of an enterprise that engages in business activities from which it may earn revenue and incur expenses and about which separate financial information is available to its chief operating decision makers ("CODM"). The Company's CODM is its CEO.

The CODM reviews financial information and business performance for each operating segment. The Company evaluates the performance of its operating segments at the revenue and gross profit levels. The Company does not report total assets, capital expenditures or operating expenses by operating segment as such information is not used by the CODM for purposes of assessing performance or allocating resources.

Net revenue and gross profit information by segment are as follows (in thousands):

	Year Ended December 31,					
		2022		2021		2020
Identity:			'			
Net revenue	\$	67,422	\$	64,725	\$	52,742
Gross profit		15,153		15,670		14,781
Gross profit margin		22%		24%		28%
Premises:						
Net revenue		45,493		39,044		34,178
Gross profit		25,791		21,397		18,900
Gross profit margin		57%		55%		55%
Total:						
Net revenue		112,915		103,769		86,920
Gross profit		40,944		37,067		33,681
Gross profit margin		36%		36%		39%
Operating expenses:						
Research and development		9,916		8,673		9,781
Selling and marketing		20,730		17,033		17,270
General and administrative		10,429		11,891		8,623
Decrease in fair value of earnout liability						(261)
Restructuring and severance		202		817		1,716
Total operating expenses:		41,277		38,414		37,129
Loss from operations		(333)		(1,347)		(3,448)
Non-operating income (expense):						
Interest expense, net		(143)		(483)		(1,462)
Gain on forgiveness of Paycheck Protection Program note		_		2,946		_
Gain on investment		30		611		
Foreign currency gains (losses), net	_	155		(79)		(122)
Income (loss) before income tax provision	\$	(291)	\$	1,648	\$	(5,032)

Geographic Information

Geographic net revenue is based on the customer's ship-to location. Information regarding net revenue by geographic region is as follows (in thousands):

		Year Ended December 31,					
		2022		2021		2020	
Americas	\$	76,799	\$	69,396	\$	58,302	
Europe and the Middle East		15,900		12,876		9,497	
Asia-Pacific		20,216		21,497		19,121	
Total	\$	112,915	\$	103,769	\$	86,920	
As percentage of net revenue:	_						
Americas		68%)	67%		67%	
Europe and the Middle East		14%)	12%		11%	
Asia-Pacific		18%)	21%		22%	
Total		100%		100%		100%	

Long-lived assets by geographic location as of December 31, 2022 and 2021 are as follows (in thousands):

		December 31,				
	2022			2021		
Property and equipment, net:						
Americas	\$	530	\$	545		
Europe and the Middle East		458		334		
Asia-Pacific		5,731		3,187		
Total property and equipment, net	\$	6,719	\$	4,066		
Operating lease ROU assets:						
Americas	\$	3,637	\$	1,344		
Europe and the Middle East		384		135		
Asia-Pacific		352		609		
Total operating lease ROU assets	\$	4,373	\$	2,088		

13. Restructuring and Severance

During the year ended December 31, 2022, the Company incurred restructuring expenses of \$202,000, consisting of severance related costs of \$353,000 offset by a net credit of \$151,000 associated with a settlement agreement for outstanding rental payments due the landlord on leased office space in San Francisco, California. The net credit represented the difference between amounts accrued and the settlement amount.

During the year ended December 31, 2021, the Company incurred restructuring expenses of \$817,000, consisting of facility rental related costs of \$521,000, and severance related costs of \$296,000. Facility rental related costs during the year ended December 31, 2021 included a charge of \$281,000 resulting from the impairment of a ROU operating lease asset for office space the Company vacated in the first quarter of 2021.

During the year ended December 31, 2020, the Company incurred restructuring expenses of \$1,716,000, consisting of severance related costs of \$375,000, and facility rental related costs associated with office space of an acquired business of \$1,341,000. The latter included a charge of \$1,296,000 associated with the impairment of the ROU operating lease assets for office space the Company vacated in 2020.

14. Leases

The Company's leases consist primarily of operating leases for administrative office space, research and development facilities, a manufacturing facility, and sales offices in various countries around the world. The Company determines if an arrangement is a lease at inception. Some lease agreements contain lease and non-lease components, which are accounted for as a single lease component. Total rent expense was \$1.4 million, \$1.3 million and \$1.5 million for the years ended December 31, 2022, 2021 and 2020, respectively.

Initial lease terms are determined at commencement and may include options to extend or terminate the lease when it is reasonably certain the Company will exercise the option. Remaining lease terms range from one to four years, some of which include options to extend for up to five years. Leases with an initial term of twelve months or less are not recorded on the consolidated balance sheets. As the Company's leases do not provide an implicit rate, the present value of future lease payments is determined using the Company's incremental borrowing rate based on information available at the lease commencement date.

The table below reconciles the undiscounted cash flows for the first five years and the total of the remaining years to the operating lease liabilities recorded on the consolidated balance sheets as of December 31, 2022 (in thousands):

		December 31, 2022
2023	\$	1,398
2024		1,222
2025		984
2026		765
2027		723
Thereafter		<u> </u>
Total minimum lease payments		5,092
Less: amount of lease payments representing interest		(536)
Present value of future minimum lease payments		4,556
Less: current liabilities under operating leases		(1,190)
Long-term operating lease liabilities	\$	3,366

As of December 31, 2022, the weighted average remaining lease term for the Company's operating leases was 2.8 years, and the weighted average discount rate used to determine the present value of the Company's operating leases was 6.3%.

Cash paid for amounts included in the measurement of operating lease liabilities was \$1.4 million, \$1.4 million and \$2.1 million for the years ended December 31, 2022, 2021 and 2020, respectively.

15. Legal Proceedings

The Company is and from time to time, may become subject to claims arising in the ordinary course of business or could be named a defendant in additional lawsuits. The outcome of such claims or other proceedings cannot be predicted with certainty and may have a material effect on the Company's financial condition, results of operations or cash flows.

16. Commitments and Contingencies

The following table summarizes the Company's principal contractual commitments, excluding operating leases, as of December 31, 2022 (in thousands):

			Ot	her	
	Pu	rchase	Contr	actual	
	Com	mitments	Comm	itments	Total
2023	\$	61,366	\$	99	\$ 61,465
2024		3,809			3,809
2025		4,005			4,005
Thereafter					_
Total	\$	69,180	\$	99	\$ 69,279

Purchase commitments for inventories are highly dependent upon forecasts of customer demand. Due to the uncertainty in demand from its customers, the Company may have to change, reschedule, or cancel purchases or purchase orders from its suppliers. These changes may lead to vendor cancellation charges on these purchases or contractual commitments.

The following table summarizes the Company's warranty accrual activity during the years ended December 31, 2022 and 2021 (in thousands):

	 Year Ended December 31,				
	2022		2021		
Balance at beginning of period	\$ 377	\$	321		
Charged (credited) to costs and expenses	(24)		59		
Cost of warranty claims	 (8)		(3)		
Balance at end of period	\$ 345	\$	377		

The Company provides warranties on certain product sales for periods ranging from 12 to 36 months, and allowances for estimated warranty costs are recorded during the period of sale. The determination of such allowances requires the Company to make estimates of product return rates and expected costs to repair or to replace the products under warranty. The Company currently establishes warranty reserves based on historical warranty costs for each product line combined with liability estimates based on the prior 12 months' sales activities. If actual return rates and/or repair and replacement costs differ significantly from the Company's estimates, adjustments to recognize additional cost of sales may be required in future periods. Historically the warranty accrual and the expense amounts have been immaterial.

17. Subsequent Events

There were no subsequent events except as disclosed within Note 7, *Financial Liabilities*.

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

Not applicable.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

As of the end of the fiscal year ended December 31, 2022, as required in Rule 13a-15(b) under the Exchange Act, we carried out an evaluation under the supervision and with the participation of members of our senior management, including our CEO and CFO, of the effectiveness of the design and operation of the Company's disclosure controls and procedures (as defined in Rule 13a-15(e) under the Exchange Act). Disclosure controls and procedures are those controls and other procedures that are designed to provide reasonable assurance that the information required to be disclosed in our SEC reports that we file or submit under the Exchange Act (i) is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and (ii) is accumulated and communicated to our management, including our CEO and CFO, as appropriate to allow timely decisions regarding required disclosure.

Based on our evaluation, our management, including our CEO and CFO, concluded that as of December 31, 2022, our disclosure controls and procedures were effective at the reasonable assurance level.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rule 13a-15(f) under the Exchange Act, to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles in the United States, or U.S. GAAP. Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external purposes in accordance with U.S. GAAP. 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 consolidated financial statements in accordance with U.S. GAAP, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and or directors; 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 interim or annual consolidated financial statements.

A control system, no matter how well designed and operated, can only provide reasonable assurance that the objectives of the control system are met. Because there are inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been or will be detected.

A deficiency in internal control over financial reporting exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent or detect misstatements on a timely basis. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the Company's annual or interim financial statements will not be prevented or detected on a timely basis.

Our management, including our CEO and CFO, assessed our internal control over financial reporting as of December 31, 2022. In making the assessment of internal control over financial reporting, our management based its assessment on the criteria issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") in "Internal Control — Integrated Framework of 2013." Our management's assessment included evaluation of such elements as the design and operating effectiveness of key financial reporting controls, process documentation, accounting policies, and our overall control environment. This assessment is supported by testing and monitoring performed by our internal accounting and finance organization.

Based on management's assessment, management has concluded that the Company's internal control over financial reporting was effective as of December 31, 2022. The effectiveness of our internal control over financial reporting as of December 31, 2022 has been audited by BPM LLP, our independent registered public accounting firm, as stated in their report which appears below.

Changes in Internal Controls over Financial Reporting

We have made no changes to our internal control over financial reporting during the three months ended December 31, 2022 that have materially affected, or that are reasonably likely to materially affect, our internal control over financial reporting.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Identiv, Inc.

Opinion on Internal Control Over Financial Reporting

We have audited the internal control over financial reporting of Identiv, Inc. (a Delaware corporation) and its subsidiaries' (the "Company") as of December 31, 2022 based on *Internal Control—Integrated Framework (2013)* 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 *Internal Control—Integrated Framework (2013)* issued by COSO.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated balance sheets as of December 31, 2022 and 2021 and the related consolidated statements of comprehensive income (loss), stockholders equity, and cash flows for each of the three years in the period ended December 31, 2022 and the related notes (collectively referred to as the "consolidated financial statements") of the Company, and our report dated March 15, 2023 expressed an unqualified opinion on those consolidated 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 of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included 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/ BPM LLP

San Jose, California March 15, 2023

ITEM 9B. OTHER INFORMATION

Not applicable.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTION THAT PREVENT INSPECTIONS.

Not applicable.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by Item 10 concerning our directors will be set forth under the captions "Proposal No. 1, Election of Directors" and "Policy for Director Recommendations and Nominations" in our Proxy Statement relating to our 2023 Annual Meeting of Stockholders, referred to in this Annual Report on Form 10-K as the "Proxy Statement," which we expect to file within 120 days of the end of our fiscal year pursuant to General Instruction G(3) of Form 10-K. Such information is incorporated herein by reference. Certain information required by this item concerning executive officers is set forth in Part I of this Report under the caption "Information About Our Executive Officers" and is incorporated herein by reference. Item 405 of Regulation S-K calls for disclosure of any known late filing or failure of an insider to file a report required by Section 16(a) of the Exchange Act. To the extent disclosure of a delinquent reports is being made, it can be found under, and is incorporated herein by reference to the section of the Proxy Statement captioned "Delinquent Section 16(a) Reports." The information required by this item concerning our code of ethics is incorporated by reference to the section captioned "Code of Conduct and Ethics" in our Proxy Statement. To date, there have been no waivers under our Code of Conduct and Ethics. We intend to disclose future amendments to certain provisions of our Code of Conduct and Ethics or waivers of such code granted to executive officers and directors on our website at www.identiv.com within four business days following the date of such amendment or waiver. The information required by this item concerning the Audit Committee of our board of directors is incorporated by reference to the section captioned "Committees of the Board of Directors" in our Proxy Statement.

ITEM 11. EXECUTIVE COMPENSATION

The information required by Item 11 will be contained in our Proxy Statement under the captions "Compensation of Directors" and "Executive Compensation", which information is incorporated herein by reference.

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

The information required by Item 12 will be set forth under the captions "Security Ownership of Certain Beneficial Owners and Management" and "Equity Compensation Plan Information" in our Proxy Statement, which information is incorporated herein by reference.

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

The information required by Item 13 will be set forth under the captions "Certain Relationships and Related Transactions" and "Director Independence" in our Proxy Statement, which information is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by Item 14 will be set forth under the captions "Principal Accountant Fees and Services" and "Policy on Audit Committee Pre-Approval of Audit and Permissible Non-Audit Services of Our Independent Registered Public Accounting Firms" in our Proxy Statement, which information is incorporated herein by reference.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

- (a) The following documents are filed as a part of this report:
- 1. Financial Statements: Consolidated Financial Statements filed as part of this report are listed under Item 8. Financial Statements and Supplementary Data.
- 2. Financial Statement Schedules: Not Applicable.
- 3. Exhibits: See Item 15(b) below.
- (b) Exhibits:

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Exhibit Number	Description of Document		
3.1	Fourth Amended and Restated Certificate of Incorporation. (Incorporated by reference to Exhibit 3.1 to the Company's Registration Statement on Form S-4/A, filed on November 10, 2009 (SEC File No. 333-162618).)		
3.2	Certificate of Amendment to Fourth Amended and Restated Certificate of Incorporation. (Incorporated by reference to Exhibit 3.4 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2010.)		
3.3	Certificate of Amendment to Fourth Amended and Restated Certificate of Incorporation. (Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on June 17, 2010.)		
3.4	Certificate of Amendment to Fourth Amended and Restated Certificate of Incorporation. (Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on June 7, 2011.)		
3.5	Certificate of Amendment to Fourth Amended and Restated Certificate of Incorporation. (Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on May 23, 2014.)		
3.6	Certificate of Amendment to Fourth Amended and Restated Certificate of Incorporation, as amended. (Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on May 18, 2016.)		
3.7	Amended and Restated Bylaws of the Company, as amended May 16, 2020 (Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on May 19, 2020.)		
4.1	Specimen Common Stock Certificate. (Incorporated by reference to Exhibit 4.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2010.)		
4.2	Certificate of Designation of Rights, Preferences and Privileges of Series A Participating Preferred Stock of SCM Microsystems, Inc. (Incorporated by reference to Exhibit 3.3 to the Company's Registration Statement on Form 8-A filed on November 14, 2002.)		
4.3	Certificate of Designation of Preferences, Rights and Limitations of Series B Non-Voting Convertible Preferred Stock dated December 21, 2017. (Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on December 21, 2017.)		
4.4	Warrants issued to 21 April Fund, Ltd. and 21 April Fund, L.P. dated May 5, 2020. (Incorporated by reference to Exhibit 4.4 to the Company's Annual Report on Form 10-K filed on March 12, 2021.)		
4.5	Description of Securities Registered Pursuant to Section 12 of the Securities and Exchange Act of 1934. (Incorporated by reference to Exhibit 4.5 to the Company's Annual Report on Form 10-K filed on March 18, 2020).		
10.1*	Form of Director and Officer Indemnification Agreement. (Incorporated by Reference to Exhibit 10.1 to the Company's Annual Report on Form 10-K for the year ended December 31, 2015).		
10.2*	2011 Incentive Compensation Plan, as amended through March 10, 2020. (Incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2020.)		
10.3*	2011 Employee Stock Purchase Plan. (Incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on June 7, 2011.)		
10.4*	Letter Agreement dated September 14, 2015 between the Company and Steven Humphreys. (Incorporated by reference to Exhibit 10.2 of the Company's Current Report on Form 8-K filed on September 16, 2015.)		
10.5	Securities Purchase Agreement dated December 21, 2017 among the Company, 21 April Fund, Ltd. and 21 April Fund, LP. (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on December 21, 2017.)		
10.6	Stockholder Agreement dated December 21, 2017 among the Company, 21 April Fund, Ltd. and 21 April Fund, LP. (Incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on December 21, 2017.)		
10.7	Promissory Note dated April 8, 2020 between the Company and East West Bank. (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on April 15, 2020.)		

Exhibit Number	Description of Document		
10.8	Amended and Restated Loan and Security Agreement dated February 8, 2021 between the Company and East West Bank. (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K on February 11, 2021.)		
10.9*	Offer Letter dated October 25, 2021 between the Company and Justin Scarpulla. (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on December 1, 2021.)		
10.10	First Amendment to Amended and Restated Loan and Security Agreement dated as of April 30, 2021 between the Company and East West Bank. (Incorporated by reference to Exhibit 10.14 to the Company's Annual Report on Form 10-K for the year ended December 31, 2021.)		
10.11	Second Amendment to Amended and Restated Loan and Security Agreement dated as of April 14, 2022 between the Company and East West Bank. (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on April 20, 2022.)		
10.12^	Third Amendment to Amended and Restated Loan and Security Agreement dated as of December 30, 2022 between the Company and East West Bank.		
10.13	Fourth Amendment to Amended and Restated Loan and Security Agreement dated as of February 8, 2028 between the Company and East West Bank. (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on February 8, 2023.)		
21.1^	Subsidiaries of the Registrant.		
23.1^	Consent of Independent Registered Public Accounting Firm.		
24.1	Power of Attorney (included on the signature page hereof.)		
31.1^	Certification of Chief Executive Officer pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934.		
31.2^	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934.		
32+	Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.		
101.INS	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because XBRL tags are embedded within the Inline XBRL document.		
101.SCH	Inline XBRL Taxonomy Extension Schema Document		
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document		
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document		
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document		
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document		
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)		

[^] Filed herewith.

ITEM 16. FORM 10-K SUMMARY

Not applicable.

^{*} Denotes management compensatory contract or arrangement.

⁺ Furnished herewith and not "filed" for purposes of Section 18 of the Securities and Exchange Act of 1934, as amended (the "Exchange Act"). Such certifications will not be deemed to be incorporated by reference into any filings under the Securities Act of 1933 or the Exchange Act, except to the extent that the registrant specifically incorporates by reference.

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.

	C	hief Executive Officer	
		Steven Humphreys	
By:	/ _S /	Steven Humphreys	
IDENTIV, INC.			
Registrant			

March 15, 2023

POWER OF ATTORNEY

Dagietrant

KNOW ALL PERSONS BY THESE PRESENT, that each person whose signature appears below constitutes and appoints Steven Humphreys and Justin Scarpulla, and each of them, his or her true and lawful attorneys in fact, each with full power of substitution, for him or her in any and all capacities, to sign any amendments to this report on Form 10-K and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys in fact or their substitute or substitutes may do or cause to be done by virtue hereof.

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

Signature	Capacity in Which Signed	Date	
/s/ STEVEN HUMPHREYS Steven Humphreys	Chief Executive Officer and Director	March 15, 2023	
Steven Humpmeys	(Principal Executive Officer)		
/s/ JUSTIN SCARPULLA	Chief Financial Officer	March 15, 2023	
Justin Scarpulla	(Principal Financial and Accounting Officer)		
/s/ James E. Ousley	Chairman of the Board and Director	March 15, 2023	
James E. Ousley	_	,	
/s/ Laura Angelini	Director	March 15, 2023	
Laura Angelini		Waten 13, 2023	
/s/ GARY KREMEN	Director	March 15, 2023	
Gary Kremen	_		
/s/ RICHARD E. KUNTZ	Director	March 15, 2023	
Richard E. Kuntz	_		