

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

FORM 10-K

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

For the fiscal year ended December 31, 2023

or

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

For the transition period from _____ to _____

Commission File Number: 000-30269

PIXELWORKS, INC.

(Exact name of registrant as specified in its charter)

Oregon

91-1761992

(State or other jurisdiction of incorporation or organization)

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

16760 SW Upper Boones Ferry Rd. Ste. 101

97224

Portland, Oregon

(Address of principal executive offices)

(Zip Code)

503-601-4545

(Registrant's telephone number, including area code)

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

Title of each class

Trading Symbol(s)

Name of each exchange on which registered

Common Stock, par value \$0.001 per share

PXLW

The Nasdaq Global Market

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

None

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

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

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

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

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. Yes No

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

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

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

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

The aggregate market value of the registrant's voting and non-voting common stock held by non-affiliates at June 30, 2023 was \$ 88,578,119 based on the closing price of \$ 1.73 per share of common stock on the Nasdaq Global Market on June 30, 2023 (the last business day of the registrant's most recently completed second fiscal quarter). For purposes of this calculation, executive officers and directors are considered affiliates as well as holders of more than 5% of the registrant's common stock known to the registrant. This determination of affiliate status is not a conclusive determination for other purposes.

Number of shares of common stock of the registrant outstanding as of March 8, 2024: 57,796,873

Documents Incorporated by Reference

Part III of this Annual Report on Form 10-K incorporates information by reference to the registrant's definitive proxy statement, to be filed with the Securities and Exchange Commission within 120 days after the close of the fiscal year ended December 31, 2023.

SUMMARY RISK FACTORS

Our business is subject to varying degrees of risk and uncertainty. Investors should consider the risks and uncertainties summarized below, as well as the risks and uncertainties discussed in Part I, Item 1A, "Risk Factors" of this Annual Report on Form 10-K. Investors should also refer to the other information contained or incorporated by reference in this Annual Report on Form 10-K for the year ended December 31, 2023, including our consolidated financial statements and related notes, and our other filings made from time to time with the Securities and Exchange Commission. Our business operations could also be affected by factors that we currently consider to be immaterial or that are unknown to us at the present time. If any of these risks occur, our business, financial condition, and results of operations could be materially and adversely affected, and the trading price of our common stock could decline.

Our business is subject to the following principal risks and uncertainties:

- The continued uncertain global economic environment and volatility in global credit, banking and financial markets could materially and adversely affect our business and results of operations.
- If we fail to meet the evolving needs of our markets, identify new products, services or technologies, or successfully compete in our target markets, our revenue and financial results will be adversely impacted.
- Our product strategy may not address the demands of our target customers and may not lead to increased revenue in a timely manner or at all, which could materially adversely affect our results of operations and limit our ability to grow.
- Achieving design wins involves lengthy competitive selection processes that require us to incur significant expenditures prior to generating any revenue or without any guarantee of any revenue related to this business. If we fail to generate revenue after incurring substantial expenses to develop our products, our business and operating results would suffer.
- System security and data protection breaches, as well as cyber-attacks, could disrupt our operations, reduce our expected revenue and increase our expenses, which could adversely affect our stock price and damage our reputation.
- If we fail to retain or attract the specialized technical and management personnel required to successfully operate our business, it could harm our business and may result in lost sales and diversion of management resources.
- We have significantly fewer financial resources than most of our competitors, which limits our ability to implement new products or enhancements to our current products, which in turn could adversely affect our future sales and financial condition.
- If we are not profitable in the future, we may be unable to continue our operations.
- A significant amount of our revenue comes from a limited number of customers and distributors exposing us to increased credit risk and subjecting our cash flow to the risk that any of our customers or distributors could decrease or cancel their orders.
- We generally do not have long-term purchase commitments from our customers and if our customers cancel or change their purchase commitments, our revenue and operating results could suffer.
- Our revenue and operating results can fluctuate from period to period, which could cause our share price to decline.
- If we are unable to generate sufficient cash from operations and are forced to seek additional financing alternatives our working capital may be adversely affected and our shareholders may experience dilution or our operations may be impaired.
- We license our intellectual property, which exposes us to risks of infringement or misappropriation, and may cause fluctuations in our operating results.
- We face a number of risks as a result of the concentration of our operations and customers in Asia.
- Our operations in Asia expose us to heightened risks due to natural disasters.
- Our international operations expose us to risks resulting from the fluctuations of foreign currencies.
- If we are unable to maintain effective disclosure controls and internal controls over financial reporting, investors may lose confidence in the accuracy and completeness of our financial reports, and the market price of our common stock may be materially and adversely affected.
- Our dependence on selling to distributors and integrators increases the complexity of managing our supply chain and may result in excess inventory or inventory shortages.
- We may be unable to successfully manage any future growth, including the integration of any acquisition or equity investment, which could disrupt our business and severely harm our financial condition.
- Continued compliance with regulatory and accounting requirements will be challenging and will require significant resources.
- Regulations related to conflict minerals may adversely impact our business.
- Dependence on a limited number of sole-source, third-party manufacturers for our products exposes us to possible shortages based on low manufacturing yield, errors in manufacturing, uncontrollable lead-times for manufacturing, capacity allocation, price increases with little notice, volatile inventory levels and delays in product delivery, any of which could result in delays in satisfying customer demand, increased costs and loss of revenue.

- Shortages of materials used in the manufacturing of our products and other key components of our customers' products may increase our costs, impair our ability to ship our products on time and delay our ability to sell our products.
- Our highly integrated products and high-speed mixed signal products are difficult to manufacture without defects and the existence of defects could result in increased costs, delays in the availability of our products, reduced sales of products or claims against us.
- The development of new products is extremely complex and we may be unable to develop our new products in a timely manner, which could result in a failure to obtain new design wins and/or maintain our current revenue levels.
- Intense competition in our markets may reduce sales of our products, reduce our market share, decrease our gross profit and result in large losses.
- If we are not able to respond to the rapid technological changes and evolving industry standards in the markets in which we compete, or seek to compete, our products may become less desirable or obsolete.
- We use a customer-owned tooling process for manufacturing most of our products, which exposes us to the possibility of poor yields and unacceptably high product costs.
- We depend on the manufacturers of our semiconductor products not only to respond to changes in technology and industry standards but also to continue the manufacturing processes on which we rely.
- Because of our long product development process and sales cycles, we may incur substantial costs before we earn associated revenue and ultimately may not sell as many units of our products as we originally anticipated.
- Our developed software may be incompatible with industry standards and challenging and costly to implement, which could slow product development or cause us to lose customers and design wins.
- The competitiveness and viability of our products could be harmed if necessary licenses of third-party technology are not available to us on terms that are acceptable to us or at all.
- Our limited ability to protect our IP and proprietary rights could harm our competitive position by allowing our competitors to access our proprietary technology and to introduce similar products.
- Our products are characterized by average selling prices that can decline over relatively short periods of time, which will negatively affect our financial results unless we are able to reduce our product costs or introduce new products with higher average selling prices.
- The cyclical nature of the semiconductor industry may lead to significant variances in the demand for our products and could harm our operations.
- Risks associated with our operations in China, including the risk of changes in China's political, economic or social conditions or changes in U.S.-China relations, as well as liquidity risks, any of which may adversely and materially affect our results of operations, financial position and value of our securities.
- Legal and operational risks related to the PRC legal system, including uncertainties regarding the enforcement of laws, and sudden or unexpected changes in laws, required approvals and permissions, and regulations in China, which could adversely affect us and limit the legal protections available to the Company and its stockholders, as well as materially and adversely affect our business and value of our securities.
- If we are unable to implement our strategy to expand our PRC operations, our ability to access capital, customers, and talent in China could suffer, which in turn may materially and adversely affect our worldwide growth and revenue potential.
- Even if we complete a listing on The Shanghai Exchange's Science and Technology Innovation Board, known as the STAR Market (the "Listing"), we may not achieve the results contemplated by our business strategy and our strategy for growth in the PRC may not result in increases in the price of our common stock.
- If the Listing is completed, Pixelworks Semiconductor Technology (Shanghai) Co., Ltd.'s ("PWSH") status as a publicly traded company in China that is controlled, but less than wholly owned, by Pixelworks could have an adverse effect on us.
- The STAR Market is relatively new, and as a result, it is difficult to predict the effect of the proposed Listing, which may in turn negatively affect the price of our common stock on the Nasdaq Global Market.
- If the Listing is completed, Pixelworks and PWSH both will be public reporting companies, but each will be subject to separate, and potentially inconsistent, accounting and disclosure requirements, which may lead to investor confusion or uncertainty that could cause decreased demand for, or fluctuations in the price of, one or both of the companies' publicly traded shares.
- The price of our common stock has and may continue to fluctuate substantially.

PIXELWORKS, INC.
FORM 10-K
FOR THE YEAR ENDED DECEMBER 31, 2023

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SIGNATURES

Forward-looking Statements

This Annual Report on Form 10-K, including Management's Discussion and Analysis of Financial Condition and Results of Operation in Part II, Item 7, contains "forward-looking statements" that are based on current expectations, estimates, beliefs, assumptions and projections about our business. Words such as "may," "will," "appears," "predicts," "continue," "expects," "anticipates," "intends," "plans," "believes," "seeks," "estimates" and variations of such words and similar expressions are intended to identify such forward-looking statements. These statements are not guarantees of future performance and involve numerous risks, uncertainties and assumptions that are difficult to predict. These forward-looking statements include, but are not limited to, statements regarding: the features, benefits and applications of our technologies and products; market trends and changes, including in the Mobile, Home & Enterprise and Cinema markets; our strategy, including strategy regarding our products, technology, research and development, sales and marketing and acquisition and other growth opportunities; the Equity Transfer Agreement and the redeemable non-controlling interests in our subsidiary, PWSH, including the possible redemption thereof and the impact thereof, and any changes in carrying value of such interests that are attributable to foreign currency, and the rights related thereto; our strategic plan of re-aligning our Mobile and Home & Enterprise businesses and expectations related thereto, including the potential Listing and the timing and benefits thereof, plans with respect to our reinvestment of our earnings in China; amortization expectations; our expectations with respect to our co-development agreement and related costs and expenses; our gross profit margin; any future restructuring programs; our liquidity, capital resources and the sufficiency of our working capital and need for, or ability to secure, financing; the success of our products; customer, distributor and manufacturer concentration; current global economic challenges; exchange rate and interest rate risks; our competitive advantages in research and development; levels of inventory at distributors and customers; changes in customer ordering patterns or lead times; seasonality; expectations as to revenue associated with sales into certain markets; cost and investment expectations; backlog; future contractual obligations; competition; intellectual property; insufficient, excess or obsolete inventory and variations in inventory valuation; income tax valuation allowance; net operating loss utilization; accounting policies and use of estimates and potential impact of changes thereto; internal controls; the potential impact on our business of certain risks, including the concentration of our suppliers, risks of technological change, concentration of credit risk, changes in the markets in which we operate, our international operations, including in Asia, our indemnification obligations and litigation risks; our operations in China, including the risk of changes in the political, economic, legal or social conditions there, and statements relating to our customer agreement that defrays research and development expenses, including amounts to be received thereunder, the accounting treatment thereof, the timing of the work thereunder, expenses and offsets related thereto and our expectations with respect to sales and offsets related thereto. Factors which may cause actual results to vary materially from those contained in the forward-looking statements include, without limitation: unanticipated changes in the markets in which the Company operates; the effects of the current macroeconomic climate; our ability to deliver new products in a timely fashion; our new product yield rates; changes in estimated product costs; product mix; the growth of the markets we serve; supply of products from third-party foundries; failure or difficulty in achieving design wins; timely customer transition to new product designs; competitive factors, such as rival chip architectures, introduction or traction by competing designs, or pricing pressures; litigation related to our intellectual property rights; our limited financial resources; economic and political challenges due to operations in Asia and specifically in China; including any governmental approvals; exchange rate fluctuations; failure to retain or attract qualified employees; the sufficiency of our intellectual property and patent portfolio; natural disasters, war or pandemics; the need for additional income tax valuation allowances; limitations on net operating losses, as well as other risks identified in the risk factors contained in Part I, Item 1A of this Annual Report on Form 10-K. These forward-looking statements speak only as of the date on which they are made, and we do not undertake any obligation to update any forward-looking statement to reflect events or circumstances after the date of this Annual Report on Form 10-K unless otherwise required by law. If we do update one or more forward-looking statements, you should not conclude that we will make additional updates with respect thereto or with respect to other forward-looking statements. Except where the context otherwise requires, in this Annual Report on Form 10-K, the terms "Pixelworks," the "Company," "we," "us" and "our" mean Pixelworks, Inc., an Oregon corporation, and its subsidiaries.

PART I

Item 1. **Business.**

Overview

Pixelworks is a leading provider of high-performance and power-efficient visual processing semiconductor and software solutions that enable consistently high-quality and authentic viewing experiences in a wide variety of applications. We define our primary target markets as Mobile (smartphone and tablet), Home & Enterprise (projectors, personal video recorders ("PVR"), and over-the-air ("OTA") streaming devices), and Cinema (creation, remastering, and delivery of digital video content). Previously we classified our primary target markets as Mobile, Projector, Video Delivery and Cinema, but have since aggregated the Projector and Video Delivery categories into one market called "Home & Enterprise".

Pixelworks has been a pioneer in visual processing technology for over 20 years. We were one of the first companies to commercially launch a video System on Chip ("SoC") capable of deinterlacing 1080i HDTV signals and one of the first companies with a commercial dual-channel 1080i deinterlacer integrated circuit. We launched one of the industry's first single-chip SoCs for digital projection. We were the first company to integrate motion estimation / motion compensation technology ("MEMC") as a mobile-optimized solution for smartphones. In 2019, we introduced our Hollywood award-winning TrueCut Motion™ video platform, the industry's first motion grading technology that allows fine tuning of motion appearance in cinematic content.

Our core visual processing technology intelligently processes digital images and video from a variety of sources and optimizes the content for a superior viewing experience. Rapid growth in video and gaming consumption, combined with the move towards bright, high resolution, high frame rate and high refresh rate displays, especially in mobile, is increasing the demand for our solutions. Our technologies can be applied across a wide range of applications: cinema theaters, low-power mobile tablets, smartphones, streaming devices, and digital projectors for the home, school, or the workplace. Our products are designed and optimized for power, cost, bandwidth, viewer experience, and overall system performance, according to the requirements of the specific application. On occasion, we have also licensed our technology.

During 2021, we engaged in a strategic plan to re-align our Mobile and Home & Enterprise businesses to improve their focus on their Asia-centered customers and employee stakeholders. One of our Chinese subsidiaries, Pixelworks Semiconductor Technology (Shanghai) Co., Ltd. (or "PWSH"), now operates these businesses as a full profit-and-loss center underneath Pixelworks. In connection with this strategic plan, the Company and PWSH closed three separate financing transactions in 2021 and 2022, which are further described in "Note 14: Redeemable Non-Controlling Interest and Equity Interest of PWSH Sold to Employees" and "Note 15: Non-Controlling Interest", which are incorporated by reference into this section. PWSH has a branch office located in Shenzhen, China (Pixelworks Semiconductor Technology (Shanghai) Co. Ltd. Shenzhen Branch Office No. 1), which is primarily for sales and customer support for PWSH, and a subsidiary located in Hong Kong (Pixelworks Hong Kong Limited), which has no employees and is used for distribution of PWSH products. Pixelworks has an additional subsidiary in China (Frame Shadow Technology (Shanghai) Co., Ltd. (formerly called Mucheng Huai Management Consulting (Shanghai) Co., Ltd)) which is a research and development center for our TrueCut business. This subsidiary does not operate under PWSH, but rather is owned by Pixelworks through our Oregon limited liability company, Pixelworks Semiconductor Technology Company, LLC.

We continue to prepare PWSH to file an application for an initial public offering of PWSH shares on the Shanghai Stock Exchange's Science Technology Innovation Board, known as the STAR Market (the "Listing") once market conditions in China are supportive. We believe that the Listing will have many benefits, including improved access to new capital markets and the funding of PWSH's growth worldwide. The process of going public on the STAR Market is lengthy and includes several periods of review by various government agencies of the People's Republic of China ("PRC"), such as the Shanghai Stock Exchange ("SSE") and the China Securities Regulatory Commission ("CSRC"). There is no guarantee that PWSH will be approved for a Listing at any point in the future. The CSRC and the SSE have recently tightened the standards for the STAR Market and are currently advising companies that are not yet profitable under China GAAP standards against filing an IPO application in the present environment. The Company believes this is in large part due to the current economic conditions in China and the recent performance of companies already listed on the STAR Market that were not profitable at the time of their IPO. PWSH is not currently profitable under China GAAP standards. The CSRC and the SSE may relax the standards, but there is no guarantee that this will happen in any particular time frame. Any listing of PWSH on the STAR Market will not change the status of PXLW as a U.S. public company. More than a majority of our operations are in China, but our executive officers and all of our directors but one are located in the United States (and he resides in Singapore). We are neither a PRC operating company nor do we conduct our operations in China through the use of variable interest entities. Our auditor is Grant Thornton LLP, with headquarters in Chicago, Illinois. The Holding Foreign Companies Accountable Act, as amended by the Consolidated Appropriations Act, 2023, and related regulations, therefore do not apply to our Company.

Key Markets

We target three key markets with our products and services: Mobile, Home & Enterprise, and Cinema.

Mobile

Our Mobile market category is composed of smartphones and tablets. The user experience with mobile video and gaming is a key driver of growth in the smartphone and tablet market. Smartphones and tablets pose a number of unique challenges as mobile display systems. Digital video content is available in a wide range of resolutions and frame rates. Power is of primary importance, impacting form factor, cost, and performance. As these systems have added more functionality, new features have had to compete for battery life, internal bandwidth, and space. The addition of high-resolution and high refresh rate displays has further increased the burden on these resources. The challenges of playing low resolution and frame rate content on a high resolution and frame rate display and of rendering high resolution and frame rate mobile games in a power-efficient way are limiting the users' visual experience on mobile video and gaming. Our Mobile solutions are designed to improve this user experience.

Using the same visual processing technology in a mobile device that was developed for large screen TVs is neither feasible nor desirable. The visual processing pipelines used in TVs consume many watts of power and would be unsuitable for battery powered systems. In TVs, the size constraints on electronics are significantly less stringent when compared to mobile systems. To furnish the Mobile market with appropriate solutions, we have taken a holistic, system-wide view and re-invented its visual processing technology to fit within the mobile constraints of battery life, bandwidth, form factor, performance, and use cases. This approach has enabled us to create technology that meets the power and size requirements of mobile as well as enabling low power but high frame rate, high resolution and high dynamic range video and gaming experiences.

The burgeoning global gaming market is dominated by the smartphone segment. The vast majority of gamers worldwide play games on a smartphone (June 2020 Ericsson Mobility Report). PC-grade AAA/Cinematic games are being deployed for smartphones. These games require more intensive visual processing, including higher frame rate, resolution, photorealistic, picture quality and responsiveness. Cost, size and power limit the rendering capabilities of mobile application processors, which are not keeping up with the sophistication of mobile games. Furthermore, battery life and thermal challenges remain difficult to overcome. Our visual processor solutions enable the most popular mobile games to achieve previously impossible visual experiences and battery life.

As 5G network coverage rapidly expands worldwide, the availability of 5G chipsets targeting smartphones should continue to reinvigorate market growth given the increased speed and lower latency of the wireless connections. In addition, service providers in some countries will also utilize 5G networks to provide fixed wireless broadband. We further believe our compelling Mobile visual processing functionality, combined with 5G capability, may help motivate consumers to replace their 3G and 4G phones at a faster rate than occurred in the past. Finally, a new smartphone category has emerged as top vendors have previewed foldable smartphones which serve as a phone, and a mini tablet when unfolded. As prices for this capability inevitably come down, and further competition emerges, we believe this new category, along with the rollout of 5G networks, can strengthen the Mobile device market.

Home & Enterprise

Our Home & Enterprise market category is composed of digital projection and video delivery devices and applications.

Digital Projection

Increasingly affordable price points are driving continued adoption of digital projectors in business and education, as well as among consumers. Technology improvements are helping to reduce the size and weight of projection devices while increasing their performance. Projector models range from larger units designed to be permanently installed in a conference hall or other venue to ultra-portable devices weighing fewer than two pounds for maximum portability. The feature set of projection systems differs from that of a typical large-screen flat panel display such as a TV. This is primarily because the projector is a sharing and collaboration device while the TV is designed for direct consumption of content. The digital projection market serves several different areas such as business, education, and home theater. Business users employ multimedia projectors to display both still and video presentation materials from PCs and other sources. Requirements for the business market include portability, compatibility with multiple software and hardware applications, and features that ensure simple operation. In education environments ranging from elementary schools to university campuses, projectors help teachers integrate media-rich instruction into classrooms. Home theater projector systems can drive large-screen displays for content consumption where flat panel displays are either economically not viable or physically incompatible for use.

Consistent with the trends of other consumer products, digital projectors are increasingly incorporating networking capabilities that enable the sharing of video and other content among multiple devices. This, in turn, is enabling new use models for digital projection in both the education and business environments. For example, one teacher can present the same material simultaneously in multiple classrooms, and students in different classrooms can display and discuss their work. Such connectivity allows instant access to content and sharing of content, which promotes interaction and collaboration among dispersed groups. In the business setting, this connectivity enables teleconferencing and the seamless sharing of content for more effective meetings.

Video Delivery

With the acquisition of ViXS Systems Inc. in August 2017, we expanded both our market presence and product portfolio. The video industry continues to evolve and adopt new video standards such as High Efficiency Video Coding, 4K Ultra HD and HDR. The technical and processing demands of these standards are complex and play directly into our core competencies. Our technologies for video delivery are highly integrated, low power, and provide high quality video processing, allowing seamless connectivity between devices while maintaining end-to-end content security. With the advent of digital video, it has become possible to deliver video to consumers in an ever-increasing number of ways. Traditional delivery mechanisms, such as over the air broadcasts, cable, satellite, DVDs, and Blu-ray, are being supplemented with Internet streaming and download services. With these new video delivery options comes the ability to offer more services and improved quality.

High-resolution (UHD/4K), sustained bitrate decoding (100Mbit), and advanced video formats (HDR10, HDR10+) are key requirements for advanced personal video recorder ("PVR") products sold in the Japanese market, where consumers rate video quality as a key acquisition criteria. The advanced PVR market in Japan is experiencing growth as products move from 2K to UHD/4K formats and support new broadcast technologies, like Advanced Digital Satellite Broadcast ("ADSB") in Japan.

Cinema

Our Cinema market category is composed of applications and services for content creation, remastering and video streaming for cinematic video. Our Cinematic solutions expand the creative palette for filmmakers, and ensure the correct presentation of creative intent across screens. In recent years, the trend towards brighter, high dynamic range ("HDR")-capable screens, larger screen sizes and higher resolutions, has amplified artifacts such as judder and strobing and caused the filmed shutter speed to appear faster and more choppy than intended. Furthermore, the mismatch between the 24 frame per second rate that is the standard for cinema and the higher screen refresh rates used on home entertainment screens creates additional artifacts, that all together degrade the viewing experience and are no longer faithful to creative intent.

Our TrueCut Motion platform is the industry's first solution to give filmmakers the ability to cinematically fine-tune motion blur, judder, and frame-rate appearance and can be used as part of the creative process to empower filmmakers to shoot at any frame-rate and then deliver a cinematically-tuned, broader set of motion and frame rate appearances. TrueCut technology preserves artistic intent across screens, from theaters to TVs to smartphones.

Core Products and Technology

Core Products

Our products include the following:

Semiconductor Hardware (integrated circuits or "ICs")

- Visual Processor ICs for mobile devices
- ImageProcessor SoCs for digital projectors
- Transcoder ICs for media players, set-top-box recorders

Software and Platform Licensing

- Pixelworks Pro display processing software for smartphones
- TrueCut Motion grading, content creation and distribution tools and device certification

Currently the vast majority of our revenue is generated from the sale of the following ICs.

- **ImageProcessor ICs.** Our ImageProcessor ICs include embedded microprocessors, digital signal processing technology and software that control the operations and signal processing within high-end display systems. We have continued to refine the architectures for optimal performance, manufacturing our products on process technologies that align with our customers' requirements. Additionally, we provide a software development environment and operating system that enables our customers to more quickly develop and customize the "look and feel" of their products.
- **Visual Processor ICs.** Products in this category work with a mobile application processor to enhance the performance or feature set of the overall display solution. Our Visual Processor ICs can be used with many popular mobile application processors (such as from Qualcomm Incorporated and MediaTek Inc.) to help original equipment manufacturers ("OEMs") enhance their smartphone or tablet products. In addition, we provide a software development kit to our gaming eco-system partners (including publishers of AAA mobile games) that enables the use of our Rendering Accelerator technology in our visual processors to improve game performance and reduce overall system power while playing high frame rate mobile games.
- **Transcoder ICs.** Our Transcoder ICs include embedded microprocessors, digital signal processing technology and software that control the operations and signal processing for converting multiple bitrates, resolutions and codecs to provide bandwidth efficient video transmissions based on industry standard protocols. Our transcoder technology allows for single, dual and even quad streaming solutions for OTA products. Like our other ICs, we have continued to refine the architectures for optimal performance, manufacturing our products on process technologies that align with our customers' requirements. Additionally, we provide a software development environment that enables our customers to more quickly develop and customize their products.

Revenue is also derived from the following software and platform licensing products, which are included in the Engineering services, license and other revenue category:

- **Pixelworks Pro Software.** Our Pro Software is a software development environment that enables our customers to more quickly develop and customize the "look and feel" of their mobile products by use of various features, such as absolute color accuracy, HDR tone mapping, SDR-to-HDR conversion, and others. Customers can use our Pro Software on the application processor or in connection with our visual processor products.
- **TrueCut Motion Platform.** Our TrueCut Motion content creation tools provide filmmakers with the ability to dial in a motion look on a shot-by-shot basis. We provide motion grading services that use these tools as a service, and the tools are also available for license. For content finishing, specific to certain displays, TrueCut Motion will pre-process the content in order to ensure playback according to the original creative intent. For display makers and brands, we provide the certification services, support, and IP licensing necessary to play back TrueCut Motion processed content, and the right to use the TrueCut Motion brand.

For clarity, in the table below we describe the relationship between our products and the markets and applications that each serves.

Product or Service (revenue type)		Application	
Enterprise	Visual processors (Sales of ICs)	For smartphones and tablets	
	License	For use of our technology or software in smartphones and tablets	
	Image processors (Sales of ICs)	For projectors to be used by businesses, in educational settings and for home entertainment	
	Transcoder	Cs (Sales of ICs)	For OEMs and ODMs who design personal video recorder (PVR) products and Over the Air products (OTA) for the consumer electronics segment
	Engineering services and Other	Related to	our IP streaming applications for PVR and OTA applications and technical support services
	Engineering services and Other	Related to	content creation, remastering and video streaming of cinematic content processed with our content creation tools, such as TrueCut® Motion

Technology

Evolution of Display Technology and The Performance Gap

Display technologies have recently begun to transition from an era of higher resolutions, response times, and frame rates, with lower power and thinner form factors, to one focused on higher contrast, brightness, and more colors.

In mobile devices, Apple Inc. ("Apple") has brought wide color gamut to many of their devices, including the iPhone, iPad Pro, MacBook Pro and iMac. These devices deliver the same color gamut used in digital cinema theaters ("DCI-P3"). Meanwhile, TV manufacturers including Samsung Electronics Co., Ltd. ("Samsung"), TCL Technology, Sony Group Corporation ("Sony"), and LG Electronics, Inc. ("LG") are bringing high contrast, high brightness, or HDR TVs based on organic light emitting diodes ("OLED") and local-dimming liquid crystal display ("LCD") panels to the living room. Furthermore, most premium and high-tier smartphones and tablets from Apple, Samsung, Sony, LG, and Huawei Technologies Co., Ltd now include HDR as a standard feature.

Hardware improvements in color and contrast are of little value without content that can take advantage of them. In fact, a significant gap now exists between the vast majority of video content available to consumers and these emerging display devices.

- **Contrast and Brightness:** Almost all movies available to consumers today use the "Rec.709" ITU standard format. This format defines brightness levels up to around 100 "nits" (a standard measure of brightness), whereas HDR TVs are five to ten times brighter, from 540 nits upwards. Most mobile devices support over 400 nits and sometimes over 1000 nits of peak brightness.
- **Color Gamut:** DCI-P3 has a 25% larger color gamut than Rec.709.
- **Frame Rate:** TVs commonly display at 120 frames per second (120 Hz) and up to 240 Hz on more sophisticated higher-end models. All premium tier mobile displays were launched in 2023 with 120 Hz screens, which are quickly cascading down to lower price points. Some of the gaming smartphones now have displays that run at up to 144 Hz.
- **Resolution:** TVs have achieved 4k resolutions (3840x2160) and mobile devices today can achieve up to 1440x3240 resolution, and while some content is available in 4k resolution, most movies are only available in FHD or HD resolutions, which is typically 1920x1080 and 1280x720, respectively.

Content formats are evolving to take advantage of these display improvements. For example, Dolby Laboratories, Inc. ("Dolby") introduced the "Dolby Vision™" format for movies and devices, in order to allow consumers to realize the benefits of HDR and wide color gamut. The industry standards body Society of Motion Picture & Television Engineers released a format specification known as "HDR10" that similarly bridges the gap in contrast and color between content and devices. The Ultra-HD Blu-ray disk format and streaming services such as Netflix and Amazon Video now support 4k HDR, aided by improved compression standards such as H.265.

Managing many content formats across a rapidly evolving range of displays is a significant and growing challenge. Older content tends to not get upgraded to the newer formats, yet consumers expect all content to display correctly. As the number of content formats grow, the technology of video processing becomes increasingly complex.

Delivering the intent of the content creator requires sophisticated algorithms and hardware circuits. Frame-rate and motion incompatibilities require a significantly higher level of processing and more sophisticated algorithms in order to avoid creating new problems. For example, Hollywood movies, TV shows, and other premium content are usually authored at 24 frames per second or 24 Hz. At this frame rate, the brain can easily notice the transition from one frame to the next. As the brain and eyes track objects in motion, they have to jump in discrete steps due to the low frame rate. This stop-start motion is perceived by the brain as judder, jitter or strobing, reducing the visible clarity and fidelity of objects in motion and distracting from the main subject of the content. Most TVs today include frame-rate conversion chips, but many reviewers complain about artifacts such as halos, breakup in the image and the so-called "soap opera effect". Unfortunately, without frame-rate conversion, the video can appear to have judder and blur at levels that have increased substantially as a result of the improvements in contrast, color and detail.

Additionally, when a motion sequence is played on a digital display device, the new updated frame is drawn over the top of the still visible previous frame. This "hold" effect is perceived by the brain as motion blur. There are numerous causes of motion blur. The materials used in constructing pixels on the display take a finite amount of time to transition from one state to another. If this time is too long, the image does not update swiftly and motion sequences seem to smear or blur.

Judder and motion blur artifacts are more noticeable on bright, large screen, high contrast displays. Our advanced visual processing technology provides OEMs with solutions that avoid or minimize these artifacts and help realize the potential of their investment in high-resolution displays.

This gap between display capabilities and available content brings significant challenges to video display device manufacturers. Sophisticated visual processing is required to accurately reproduce the intended video on today's displays. We help bridge this gap between the display capabilities and available content with our visual processors and software, as well as with our TrueCut® Motion platform for content creators, distributors and display brands.

Our Technology: Bridging the Gap Between Device and Content While Preserving Creative Intent

Our core technologies are a portfolio of advanced video algorithms and intellectual property to address the many challenges posed by digital video. We believe our technologies can significantly improve video quality and will become increasingly important as the popularity of video content consumption grows, and pixel densities, screen size and image quality increase. Our products are designed with a flexible architecture that allows us to combine algorithms and functional blocks of digital and mixed signal circuitry. Accordingly, our technologies can be implemented across multiple products or in combinations within single products and can be applied to a broad range of applications, including smartphones, tablets, and projectors. The majority of our products include one or more of our technologies to provide optimal high-quality visual processing solutions to our customers, regardless of screen size.

Our core visual processing technologies include:

- ***MotionEngine® MEMC***. Our proprietary MEMC technology significantly improves the performance and viewing experience of any screen by addressing problems such as judder and motion blur. Unlike competitive solutions it also reduces halo effects that are a typical byproduct of MEMC technology in general. Halos are objectionable blurred regions that surround moving objects as the MEMC algorithms try to reconstruct missing image data caused by the concealing and revealing of objects as they pass over or behind one another. Removing halos dramatically improves image quality and is of particular importance on high-resolution and bright displays where artifacts become more visible.
- ***AI Based Display Processing***. This technology dramatically improves video and image quality and sets a new standard for picture quality on both LCD and OLED mobile displays with a new AI-driven architecture and dynamic refresh rate support for up to 144 Hz. Its lightweight AI display inferencing augments the Company's knowledge base, numerous real time inputs, and fuzzy logic IP to adaptively and intelligently optimize overall picture quality for video, games, and photos at low power, including real time SDR-to-HDR conversion and AI adaptive display.
- ***Advanced Scaling***. As display resolutions continue to increase, there is a need to convert lower resolution content to higher resolution in order to display content properly. With the latest wave of high-resolution displays, the quality and quantity demands of scaling have increased significantly. Artifacts become more noticeable on these types of displays as they distract from the realism effect. In addition, with the availability of high-resolution content lagging behind the availability of high-resolution displays, high-quality scaling is required to ensure these new high resolution displays (such as 4K) do not suffer when compared to lesser resolution displays of the same size. Our advanced scaling is designed to ensure that up-conversion of lower resolution content is of the highest quality in maintaining the fidelity of image.
- ***Mobile Visual Processing***. We have developed innovative visual processing solutions that are designed to optimize power consumption for mobile devices. Beyond MEMC and advanced scaling, these mobile solutions provide the kind of improvements in color, contrast, sharpness, and de-blur that are currently only found in high quality TVs today. Furthermore, this technology can reduce system power consumption and extend battery life.
- ***Transcoding/Decoding***. Digital Delivery forms the bulk of not just video content, but all internet bandwidth today. However, throughout the entire chain from inception to consumption, there are multiple variations in bitrate, resolution, and codecs used for both audio and video. Transcoding is a fundamental technology used throughout this pipeline that leads to moving pictures viewed on TVs and mobile devices. The XCODE family of ASICs has enabled many devices within this pipeline, from the racks in some service providers all the way down to the home user watching broadcast OTA TV on a smartphone. XCODE technology provides solutions that deliver UHD Blu-ray PVRs with capability of transcoding recorded content suitable for viewing on smartphones. The technology supports today's broadcast standards, such as ATSC 1.0, DVB/T/T2/S/S2, ISDB/T/S, and ADSB and is scalable to support upcoming broadcast standards such as ATSC 3.0.
- ***SDR to HDR Conversion***. UHD video has standardized on a technology known as HDR to deliver higher dynamic range content. This has resulted in several competing HDR deployments like HDR10, HLG and HDR10+ with support by multiple industry giants. Our HDR conversion technology can not only convert between SDR (Standard Dynamic Range) and HDR10, it can also convert among HDR10, HLG and HDR10+, solving an interconnectivity problem between content formatted in one HDR format and display devices that support a different HDR format.
- ***Rendering Accelerator (IRX)***. We have developed technology that is enabled via a software development kit used by gaming content makers to allow their games to leverage the resources and features of our most current visual processing technology to improve the user experience with high frame rate, high resolution games while reducing overall system power consumption.
- ***TrueCut Motion Grading and Pre-processing***. Through our end-to-end platform, filmmakers determine the motion look and their creative intent at the source. Their creative intent is preserved through a certified distribution and playback platform all the way to the final presentation to viewers. This approach provides a closer relationship between the filmmaker and the viewer than has been previously possible.

Customers, Sales and Marketing

IC Products

The key focus of our global sales and marketing strategy for our IC products is to achieve design wins with industry leading branded manufacturers in our target markets and to continue building strong customer relationships. Once a design win has been achieved, sales and marketing efforts are focused on building long-term mutually beneficial business relationships with our customers by providing superior technology and reducing their costs, which complements our customers' product development objectives and meets their expectations for price-performance and time to market. Marketing efforts are focused on building market-leading brand awareness and preference for our solutions.

We utilize direct sales and marketing resources in Japan, China and Taiwan. In addition to sales and marketing representatives, we have field application engineers who provide technical expertise and assistance to manufacturing customers on final product development.

Our global distribution channel is multi-tiered and involves both indirect and direct distribution channels.

Indirect Distribution Channels

- We have indirect distribution relationships through our distributors. Distributors are resellers in local markets who provide engineering support and stock our semiconductors in direct relation to specific manufacturing customer orders. Our distributors often have valuable and established relationships with our end customers, and in certain countries it is customary to sell to distributors. While a distributor's payment to us is not dependent upon the distributor's ability to resell the product or to collect from the end customer, our distributors may provide longer payment terms to end customers than those we would offer. Sales to distributors accounted for 66% and 57% of revenue in 2023 and 2022 respectively.

One of our distributors, Upstar Technology Limited represented more than 10% of revenue in each of 2023 and 2022, and accounted for more than 10% of accounts receivable as of December 31, 2023 and December 31, 2022. Another distributor, Tokyo Electron Device Ltd. accounted for more than 10% of revenue in 2022 and more than 10% of accounts receivable as of December 31, 2022. No other distributor accounted for more than 10% of revenue in 2023 and 2022 or represented more than 10% of accounts receivable as of December 31, 2023 or 2022.

Direct Distribution Channels

We have direct distributor relationships in Japan, China and Taiwan.

- We have established direct relationships with companies that manufacture high-end display systems. Revenue through direct relationships accounted for 34% and 43% of total revenue in 2023 and 2022, respectively.

We have direct relationships with companies falling into the following three classifications:

- **Integrators.** Integrators are OEMs who build display devices based on specifications provided by branded suppliers.
- **Branded Manufacturers.** Branded manufacturers are globally recognized manufacturers who develop display device specifications and manufacture, market and distribute display devices either directly or through resellers to end-users.
- **Branded Suppliers.** Branded suppliers are globally recognized suppliers who develop display device specifications and then source them from integrators, typically in Asia, and distribute them either directly or through resellers to end-users.

End Customers

Revenue attributable to our top five end customers together represented 87% and 76% of revenue in 2023 and 2022, respectively. End customers include customers who purchase directly from us as well as customers who purchase products indirectly through distributors. Sales to Seiko Epson Corporation represented more than 10% of revenue in each of 2023 and 2022, and accounted for more than 10% of accounts receivable as of December 31, 2023 and 2022. Sales to Guangdong OPPO Mobile Telecommunications Corporation, Ltd. accounted for more than 10% of revenue in each of 2023 and 2022. Sales to Vivo Communication Technology Co. Ltd. represented more than 10% of revenue in 2022. Vecima Networks represented more than 10% of accounts receivable as of December 31, 2022. No other end customer accounted for more than 10% of revenue in 2023 or 2022 or represented more than 10% of accounts receivable as of December 31, 2023 or 2022.

TrueCut Products

The sales and marketing of our TrueCut products differs in approach from that of our IC products. The TrueCut platform includes a mix of services and licensing that is targeted at all levels of the creation, finishing, and distribution of cinematic or streaming digital video. For our TrueCut Motion content creation tools we seek to work directly with filmmakers, providing motion grading services, or the tools are also available for license. For content finishing, specific to certain displays, TrueCut Motion will pre-process the content in order to ensure playback according to the original creative intent. For display makers and brands, we provide the certification services, support, and IP licensing necessary to play back TrueCut Motion processed content, and the right to use the TrueCut Motion brand. We do not use distributors for our TrueCut products. Revenue from our TrueCut products is thus far not material, and therefore we include all such revenue in our Engineering services, license and other category for the Mobile market.

Seasonality

Our business is subject to seasonality related to the markets we serve and the location of our customers. We have typically experienced higher revenue from the digital projector component of the Home & Enterprise market in the third quarter, and lower revenue in the first quarter, as our Japanese customers reduce inventories in anticipation of their March 31 fiscal year end. We have typically experienced higher revenue from the mobile market in the fourth quarter, and lower revenue in the first quarter, as mobile phone OEMs ramp production in advance of Chinese New Year.

Geographic Distribution of Sales

Sales outside the U.S. accounted for approximately 99.7% and 95.1% of revenue in 2023 and 2022 respectively.

Financial information regarding our domestic and foreign operations is presented in "Note 13. Segment Information" in Part II, Item 8 of this Annual Report on Form 10-K.

Backlog

Our sales are made pursuant to customer purchase orders for delivery of standard products. The volume of product actually purchased by our customers, as well as shipment schedules, are subject to frequent revisions that reflect changes in both the customers' needs and product availability. In light of industry practice and our own experience, we do not believe that backlog as of any particular date is indicative of future results.

Competition

The vast majority of our revenue is derived from sales of integrated circuits within the intensely competitive semiconductor industry. Further, the markets for higher performance display and projection devices, including the markets for mobile devices, digital projectors and other applications demanding high quality video, are characterized by rapid technological change, evolving industry standards, compressed product life cycles and declining average selling prices. We believe the principal competitive factors in our markets include product performance, time to market, cost, functional versatility provided by software, customer relationships and reputation, patented innovative designs, levels of product integration, compliance with industry standards and system design cost. We believe we compete favorably with respect to these factors.

Our current products face competition from developers of application processors and specialized display controllers designed by merchant chip vendors, our customers, potential customers and display panel vendors. Additionally, new alternative display processing technologies and industry standards may emerge that compete with technologies we offer.

We also compete with specialized and diversified electronics and semiconductor companies that offer display processors or scaling components including: Actions Microelectronics Co., Ltd., ARM Holdings PLC, Dolby Laboratories, Inc., EGiS Technology Inc., HiSilicon Technologies Co., Ltd., i-Chips Technology Inc., Lattice Semiconductor Corporation, MediaTek Inc., Novatek Microelectronics Corp., NVIDIA Corporation, Qualcomm Incorporated, Realtek Semiconductor Corp., Socionext Inc., Solomon Systech (International) Ltd., STMicroelectronics N.V., Sunplus Technology Co., Ltd., Synaptics Incorporated, Texas Instruments Incorporated, Unisoc Communications, Inc., and other companies. Potential and current competitors may include diversified semiconductor manufacturers and the semiconductor divisions or affiliates of some of our customers, including: Apple Inc., Broadcom Inc., LG Electronics, Inc., MegaChips Corporation, Mitsubishi Digital Electronics America, Inc., NEC Corporation, Panasonic Corporation, Samsung Electronics Co., Ltd., Socionext Inc., ON Semiconductor Corporation, Seiko Epson Corporation, Sharp Corporation, Sony Group Corporation, and Toshiba America, Inc. In addition, start-up companies may seek to compete in our markets.

Although TrueCut Motion is the first motion grading solution for the cinematic market, competitive solutions could arise rapidly. These competitive solutions could come from several sources, including companies that provide solutions for other post-processing needs (such as Dolby Laboratories, Inc., Epic Games, Inc., Unity Technologies, Adobe Inc., Soluciones Gráficas por Ordenador S.L. (SGO), The Foundry Visionmongers Limited, and Autodesk, Inc.) as well as visual effects studios that use digital effects to reduce artifacts before they are created (such as Wētā FX, DNEG Plc, Pixar Animation Studios, Digital Domain, and Industrial Light & Magic (ILM)). We believe that we would compete favorably with respect to these potential competitive solutions and services in terms of cost, price, functionality, efficiency, patented methods, and time to market.

Research and Development

Research and development efforts are focused on the development of our solutions for the Mobile, Home & Enterprise and Cinema markets. Our development efforts are focused on pursuing higher levels of video performance, integration and new features in order to provide our customers with solutions that enable them to introduce market leading products and help lower final systems costs.

We have invested, and expect to continue to invest, significant resources in research and development activities. Our research and development expenses were \$30.9 million and \$30.5 million in 2023 and 2022, respectively. During 2023 and 2022, we received reimbursements related to a co-development arrangement with a customer for costs incurred in connection with our development of an IC product. As a result of the reimbursements, our overall research and development expense was reduced by \$3.2 million and \$4.3 million in 2023 and 2022, respectively.

Manufacturing

Within the semiconductor industry we are known as a "fabless" company, meaning that we do not manufacture the semiconductors that we design and develop, but instead contract with a limited number of foundries and assembly and test vendors to produce all of our wafers and for completion of finished products. The fabless approach allows us to concentrate our resources on product design and development where we believe we have greater competitive advantages.

See "Risk Factors" in Part I, Item 1A of this Annual Report on Form 10-K for information on risks related to our manufacturing strategy and processes.

Our TrueCut products do not require manufacturing, since they are based on IP, software, and services.

Intellectual Property

We use a combination of nondisclosure agreements and patent, copyright, trademark and trade secret laws to protect the algorithms, design and architecture of our technology. As of December 31, 2023, we held 280 patents and have 18 patent applications pending, compared to 291 patents and 17 patent applications pending as of December 31, 2022. The patents we hold relate generally to improvements in the visual display of digital image data including, but not limited to, improvements in image scaling, image correction, automatic image optimization and video signal processing for digital displays, and in large part, are implemented in our core technologies and products. Our U.S. and foreign patents are generally enforceable for 20 years from the date they were filed. Accordingly, our issued patents have from approximately 1 to 16 years remaining in their respective term, depending on their filing dates. We believe that the remaining term of our patents is adequate relative to the expected lives of our related products.

We intend to seek patent protection for other significant technologies that we have already developed and expect to seek patent protection for future products and technologies as necessary. Patents may not be issued as a result of any pending applications and any claims allowed under issued patents may be insufficiently broad to protect our technology. Existing or future patents may be invalidated, diluted, circumvented, challenged or licensed to others. Furthermore, the laws of certain foreign countries in which our products are or may be developed, manufactured or sold, including various countries in Asia, may not protect our products or intellectual property rights in the same manner and to the same extent as do the laws of the U.S. and, thus, make the possibility of piracy of our technology and products more likely in these countries.

The semiconductor industry is characterized by vigorous protection of intellectual property rights, which have resulted in significant and often protracted and expensive litigation. We, our customers or our foundries from time to time may be notified of claims that we may be infringing patents or other intellectual property rights owned by third parties. Litigation by or against us relating to patent infringement or other intellectual property matters could result in significant expense to us and divert the efforts of our technical and management personnel, whether or not such litigation results in a determination favorable to us. In the event of an adverse result in any such litigation, we could be required to pay substantial damages, cease the manufacture, use and sale of infringing products, expend significant resources to develop non-infringing technology, discontinue the use of certain processes or obtain licenses to the infringing technology. We may not be able to settle any alleged patent infringement claim through a cross-licensing arrangement. In the event any third party made a valid claim against us, our customers or our foundries, and a license was not made available to us on terms that are acceptable to us or at all, we would be adversely affected.

See "Risk Factors" in Part I, Item 1A, and "Note 10. Commitments and Contingencies" in Part II, Item 8 of this Annual Report on Form 10-K for information on various risks related to intellectual property.

Environmental Matters

Environmental laws and regulations are complex, change frequently and have tended to become more stringent over time. We have incurred, and may continue to incur, significant expenditures to comply with these laws and regulations and we may incur additional capital expenditures and asset impairments to ensure that our products and our vendors' products are in compliance with these regulations. We would be subject to significant penalties for failure to comply with these laws and regulations.

See "Risk Factors" in Part I, Item 1A of this Annual Report on Form 10-K for information on various environmental risks.

Employees

As of December 31, 2023, we had a total of 239 employees, the majority of which were full-time, compared to 222 employees as of December 31, 2022.

Corporate Information

Pixelworks was founded in 1997 and is incorporated under the laws of the state of Oregon. Our stock is traded on the Nasdaq Global Market under the symbol "PXLW".

Availability of Securities and Exchange Commission Filings

We make available through our website our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports and any filings filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act of 1934, free of charge as soon as reasonably practicable after we electronically file or furnish such material with the Securities and Exchange Commission ("SEC"). Our Internet address is www.pixelworks.com. The content on, or that can be accessed through, our website is not incorporated by reference into this filing. Our committee charters and codes of ethics are also available free of charge on our website.

The SEC maintains an Internet site at www.sec.gov that contains our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports, if any, or other filings filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act, and proxy and information statements.

Item 1A. Risk Factors.

The following risks could materially and adversely affect our business, financial condition, and results of operations, and the trading price of our common stock could decline. These risk factors do not identify all of the risks that we face. Our business operations could also be affected by factors that we currently consider to be immaterial or that are unknown to us at the present time. Investors should also refer to the other information contained or incorporated by reference in this Annual Report on Form 10-K for the year ended December 31, 2023, including our consolidated financial statements and related notes, and our other filings made from time to time with the SEC.

Risks Related to the Global Economy

The continued uncertain global economic environment and volatility in global credit, banking and financial markets could materially and adversely affect our business and results of operations.

The state of the global economy continues to be uncertain. Additionally, recent high-profile global business failures, such as the court-ordered liquidation of Chinese property developer Evergrande Group, have caused general uncertainty and concern regarding the health of the economy of China, which is a major market for our products. As a result, we or our manufacturers, vendors and customers might experience deterioration of our or their businesses, cash flow shortages and difficulty obtaining financing, which could result in interruptions or delays in the performance of any contracts, reductions and delays in customer purchases, delays in or the inability of the Company or our customers to obtain financing or of our customers to purchase our products, and bankruptcy of customers. Furthermore, the constraints in the capital and credit markets, may limit our ability to access the capital we need when we need it, on favorable terms or otherwise, or limit the ability of our customers to meet their liquidity needs, which could result in an impairment of their ability to make timely payments to us and reduce their demand for our products, adversely impacting our results of operations and cash flows. This environment has also made it difficult for us to accurately forecast and plan future business activities.

Company Specific Risks

If we fail to meet the evolving needs of our markets, identify new products, services or technologies, or successfully compete in our target markets, our revenue and financial results will be adversely impacted.

Pixelworks designs, develops and markets visual processing and advanced media processing solutions for the Mobile, Home & Enterprise and Cinema markets. Our success depends to a significant extent on our ability to meet the evolving needs of these markets and to enhance our existing products, solutions and technologies. In addition, our success depends on our ability to identify emerging industry trends and to develop new products, solutions and technologies. Our existing markets and products and new markets and products may require a considerable investment of technical, financial, compliance, sales and marketing resources.

We cannot assure you that our strategic direction will result in innovative products and technologies that provide value to our customers and partners. If we fail to anticipate the changing needs of our target markets and emerging technology trends, or adapt that strategy as market conditions evolve, in a timely manner to exploit potential market opportunities our business will be harmed. In addition, if demand for products and solutions from these markets is below our expectations, if we fail to achieve consumer or market acceptance of them or if we are not able to develop these products and solutions in a cost effective or efficient manner, we may not realize benefits from our strategy.

Our target markets remain extremely competitive, and we expect competition to intensify as current competitors expand their product and/or service offerings, industry standards continue to evolve and new competitors enter these markets. If we are unable to successfully compete in our target markets, demand for our products, solutions and technologies could decrease, which would cause our revenue to decline and our financial results to suffer.

Our product strategy, which is targeted at markets demanding superior video and digital image quality as well as efficient video delivery, may not address the demands of our target customers and may not lead to increased revenue in a timely manner or at all, which could materially adversely affect our results of operations and limit our ability to grow.

We have adopted a product strategy that focuses on our core competencies in visual display processing and delivering high levels of video and digital image quality. With this strategy, we continue to make further investments in the development of our image processor architecture for the projector market, with particular focus on adding increased performance and functionality. For the mobile device market, our strategy focuses on implementing our intellectual property ("IP") to improve the video performance of our customers' image processors through the use of our MotionEngine® advanced video co-processor integrated circuits. This strategy is designed to address the needs of the high-resolution and high-quality segment of these markets. Such markets may not develop or may take longer to develop than we expect. We cannot assure you that the products we are developing will adequately address the demands of our target customers, or that we will be able to produce our new products at costs that enable us to price these products competitively.

Achieving design wins involves lengthy competitive selection processes that require us to incur significant expenditures prior to generating any revenue or without any guarantee of any revenue related to this business. If we fail to generate revenue after incurring substantial expenses to develop our products, our business and operating results would suffer.

We must achieve "design wins" that enable us to sell our semiconductor solutions for use in our customers' products. These competitive selection processes typically are lengthy and can require us to incur significant research and development expenditures and dedicate scarce engineering resources in pursuit of a single customer opportunity. We may not achieve a design win and may never generate any revenue despite incurring significant research and development expenditures. This could cause us to lose revenue and require us to write off obsolete inventory and could weaken our position in future competitive selection processes. Even if our product strategy is properly targeted, we cannot assure you that the products we are developing will lead to an increase in revenue from new design wins. To achieve design wins, we must design and deliver cost-effective, innovative and integrated semiconductors that overcome the significant costs associated with qualifying a new supplier and which make developers reluctant to change component sources. Additionally, potential developers may be unwilling to select our products due to concerns over our financial strength. Further, design wins do not necessarily result in developers ordering large volumes of our products. Developers can choose at any time to discontinue using our products in their designs or product development efforts. A design win is not a binding commitment by a developer to purchase our products, but rather a decision by a developer to use our products in its design process. Even if our products are chosen to be incorporated into a developer's products, we may still not realize significant revenue from the developer if its products are not commercially successful or it chooses to qualify, or incorporate the products, of a second source. Additionally, even if our product strategy is successful at achieving design wins and increasing our revenue, we may continue to incur operating losses due to the significant research and development costs that are required to develop competitive products for the projection market and mobile market.

System security and data protection breaches, as well as cyber-attacks, could disrupt our operations, reduce our expected revenue and increase our expenses, which could adversely affect our stock price and damage our reputation.

Security breaches, computer malware and cyber-attacks have become more prevalent and sophisticated in recent years. These attacks have occurred on our systems in the past and are expected to occur in the future. Experienced computer programmers, hackers and employees may be able to penetrate our security controls and misappropriate or compromise our confidential information, or that of our employees or third parties. These attacks may create system disruptions or cause shutdowns. For portions of our IT infrastructure, including business management and communication software products, we rely on products and services provided by third parties. These providers may also experience breaches and attacks to their products which may impact our systems. Data security breaches may also result from non-technical means, such as actions by an employee with access to our systems.

Actual or perceived breaches of our security measures or the accidental loss, inadvertent disclosure or unapproved dissemination of proprietary information or sensitive or confidential data about us, our partners, our customers or third parties could expose the parties affected to a risk of loss, or misuse of this information, resulting in litigation and potential liability, damage to our brand and reputation or other harm to our business. Our efforts to prevent and overcome these challenges could increase our expenses and may not be successful. We may experience interruptions, delays, cessation of service and loss of existing or potential customers. Such disruptions could adversely impact our ability to fulfill orders and interrupt other critical functions. Delayed sales, lower margins or lost customers as a result of these disruptions could adversely affect our financial results, stock price and reputation.

If we fail to retain or attract the specialized technical and management personnel required to successfully operate our business, it could harm our business and may result in lost sales and diversion of management resources.

Our success depends on the continued services of our executive officers and other key management, engineering, and sales and marketing personnel and on our ability to continue to attract, retain and motivate qualified personnel. Competition for skilled engineers and management personnel is intense within our industry, and we may not be successful in hiring and retaining qualified individuals. For example, we have experienced, and may continue to experience, difficulty and increased compensation expense in order to hire and retain qualified engineering personnel in our Shanghai design center. The loss of, or inability to hire, key personnel could limit our ability to develop new products and adapt existing products to our customers' requirements, and may result in lost sales and a diversion of management resources. Any transition in our senior management team may involve a diversion of resources and management attention, be disruptive to our daily operations or impact public or market perception, any of which could have a negative impact on our business or stock price.

We may not fully realize the estimated savings from our restructurings in a timely manner or at all, and our restructuring programs may result in business disruptions and decrease productivity. Any of the foregoing would negatively affect our financial condition and results of operations.

From time to time, we may have the need to execute restructuring plans to make the operation of the Company more efficient. We may not be able to implement our restructuring programs as planned, and we may need to take additional measures to fulfill the objectives of our restructuring. The anticipated expenses associated with our restructuring programs may differ from or exceed our expectations, and we might not be able to realize the full amount of estimated savings from the restructuring programs in a timely manner or at all. Additionally, our restructuring plans may result in business disruptions or decreases in productivity. As a result, our restructuring plans could have an adverse impact on our financial condition or results of operations.

We have significantly fewer financial resources than most of our competitors, which limits our ability to implement new products or enhancements to our current products and may require us to implement additional future restructuring plans, which in turn could adversely affect our future sales and financial condition.

Financial resource constraints could limit our ability to execute our product strategy or require us to implement additional restructuring plans, particularly if we are unable to generate sufficient cash from operations or obtain additional sources of financing. Any future restructuring actions may slow our development of new or enhanced products by limiting our research and development and engineering activities. Our cash balances are also lower than those of our competitors, which may limit our ability to develop competitive new products on a timely basis or at all. If we are unable to successfully introduce new or enhanced products, our sales, operating results and financial condition will be adversely affected.

If we are not profitable in the future, we may be unable to continue our operations.

We have incurred operating losses each fiscal year since 2010 and have an accumulated deficit of \$477.0 million as of December 31, 2023. If and when we achieve profitability depends upon a number of factors, including our ability to develop and market innovative products, accurately estimate inventory needs, contract effectively for manufacturing capacity and maintain sufficient funds to finance our activities. We cannot assure our investors that we will ever achieve annual profitability, or that we will be able to maintain profitability if achieved. If we are not profitable in the future, we may be unable to continue our operations.

A significant amount of our revenue comes from a limited number of customers and distributors and from time to time we may enter into exclusive deals with customers, exposing us to increased credit risk and subjecting our cash flow to the risk that any of our customers or distributors could decrease or cancel their orders.

The display manufacturing market is highly concentrated and we are, and will continue to be, dependent on a limited number of customers and distributors for a substantial portion of our revenue. Sales to our top distributor represented 48% and 29% of revenue for the years ended December 31, 2023 and 2022, respectively. If any of our distributors ceases to do business with us, it may be difficult for us to find adequate replacements, and even if we do, it may take some time. The loss of any of our top distributors could negatively affect our results of operations. Additionally, revenue attributable to our top five end customers represented 87% and 76% of revenue for the years ended December 31, 2023 and 2022, respectively. As of December 31, 2023, we had two accounts that each represented 10% or more of accounts receivable. As of December 31, 2022, we had four accounts that each represented 10% or more of accounts receivable. All of the orders included in our backlog are cancelable. A reduction, delay or cancellation of orders from one or more of our significant customers, or a decision by one or more of our significant customers to select products manufactured by a competitor or to use its own internally-developed semiconductors, would significantly and negatively impact our revenue. Further, the concentration of our accounts receivable with a limited number of customers increases our credit risk. The failure of these customers to pay their balances, or any customer to pay future outstanding balances, would result in an operating expense and reduce our cash flows.

We generally do not have long-term purchase commitments from our customers and if our customers cancel or change their purchase commitments, our revenue and operating results could suffer.

Substantially all of our sales to date have been made on a purchase order basis. We generally do not have long-term commitments with our customers. As a result, our customers may cancel, change or delay product purchase commitments, which could cause our revenue to decline and materially and adversely affect our results of operations.

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

Our revenue and operating results have fluctuated in the past and may fluctuate from period to period in the future due to a variety of factors, many of which are beyond our control. Factors that may contribute to these fluctuations include those described in this "Risk Factors" section of this report, such as the timing, changes in or cancellation of orders by customers, market acceptance of our products and our customers' products and the timing and extent of product development costs. Additionally, our business is subject to seasonality related to the markets we serve and the location of our customers. For example, we have historically experienced higher revenue from the projector market in the third quarter of the year, and lower revenue in the first quarter of the year. As a result of these and other factors, the results of any prior quarterly or annual periods should not be relied upon as indications of our future revenue or operating performance. Fluctuations in our revenue and operating results could cause our share price to decline.

If we are unable to generate sufficient cash from operations and are forced to seek additional financing alternatives, or in the event we acquire or make an investment in companies that complement our business, our working capital may be adversely affected and our shareholders may experience dilution or our operations may be impaired.

We may be unable to generate or sustain positive cash flow from operating activities and would then be required to use existing cash and cash equivalents to support our working capital and other cash requirements. Additionally, from time to time, we may evaluate acquisitions of, or investments in, businesses, products or technologies that complement our business. Any transactions, if consummated, may consume a material portion of our working capital or require the issuance of equity securities that may result in dilution to existing shareholders.

In addition, any proceeds received by PWSH, one of our Chinese subsidiaries, from the private placement of shares (including the transaction that closed in August of 2021) or in connection with the future potential listing of PWSH shares on the STAR Market in Shanghai, are subject to certain PRC laws and regulations that may make it difficult, if not impossible, to use such proceeds to fund those operations of Pixelworks that are not part of PWSH. As a result, it is unlikely that funds raised or generated by PWSH will be readily distributable to Pixelworks.

If additional funds are required to support our working capital requirements, acquisitions or other purposes, we may seek to raise funds through debt and equity financing or from other sources. If we raise additional funds through the issuance of equity or convertible debt securities, the percentage ownership of our shareholders could be significantly diluted, and these newly-issued securities may have rights, preferences or privileges senior to those of existing shareholders. If we raise additional funds by obtaining loans from third parties, the terms of those financing arrangements may include negative covenants or other restrictions on our business that could impair our operating flexibility, and would also require us to incur interest expense. We can provide no assurance that additional financing will be available at all or, if available, that we would be able to obtain additional financing on terms favorable to us.

We license our intellectual property, which exposes us to risks of infringement or misappropriation, and may cause fluctuations in our operating results.

We have licensed certain intellectual property to third parties and may enter into additional license arrangements in the future. We cannot assure you, however, that others will be interested in licensing our intellectual property on commercially favorable terms or at all. We also cannot ensure that licensees will honor agreed-upon market restrictions, not infringe upon or misappropriate our intellectual property or maintain the confidentiality of our proprietary information.

IP license agreements are complex and earning and recognizing revenue under these agreements depends upon many factors, including completion of milestones, allocation of values to delivered items and customer acceptances. Many of these factors require significant judgments. Also, generating revenue from these arrangements is a lengthy and complex process that may last beyond the period in which efforts begin and, once an agreement is in place, the timing of revenue recognition may depend on events such as customer acceptance of deliverables, achievement of milestones, our ability to track and report progress on contracts, customer commercialization of the licensed technology and other factors, any or all of which may or may not be achieved. The accounting rules associated with recognizing revenue from these transactions are complex and subject to interpretation. Due to these factors, the amount of licensing revenue recognized in any period, if any, and our results of operations, may differ significantly from our expectations.

Finally, because licensing revenue typically has a higher margin compared to product sales, licensing revenue can have a disproportionate impact on our gross profit and results of operations. There is no assurance that we will be able to maintain a consistent level of licensing revenue or mix of licensing revenue and revenue from product sales, which could result in wide fluctuations in our results of operations from period to period, making it difficult to accurately measure the performance of our business.

Our net operating loss carryforwards may be limited or they may expire before utilization.

As of December 31, 2023, we had federal, state and foreign net operating loss carryforwards of approximately \$154.5 million, \$16.3 million, and \$89.0 million, respectively, which will begin to expire in 2024. These net operating loss carryforwards may be used to offset future taxable income and thereby reduce our income taxes otherwise payable. However, we cannot assure you that we will have taxable income in the future before all or a portion of these net operating loss carryforwards expire. Additionally, our federal net operating losses may be limited by Section 382 of the Internal Revenue Code of 1986, as amended (the "Code"), which imposes an annual limit on the ability of a corporation that undergoes an "ownership change" to use its net operating loss carryforwards to reduce its tax liability. An ownership change is generally defined as a greater than 50% increase in equity ownership by 5% shareholders in any three-year period. In the event of certain changes in our shareholder base, we may at some time in the future experience an "ownership change" and the use of our federal net operating loss carryforwards may be limited. In addition, the Tax Cuts and Jobs Act (the "TCJA"), limits the deduction for net operating loss carryforwards to 80 percent of taxable income for losses arising in taxable years beginning after December 31, 2020.

We face a number of risks as a result of the concentration of our operations and customers in Asia.

Many of our customers are located in Japan, China, or Taiwan. Sales outside the U.S. accounted for approximately 99.7% and 95.1% of revenue for the years ended December 31, 2023 and 2022, respectively. We anticipate that sales outside the U.S. will continue to account for a substantial portion of our revenue in future periods. In addition, customers who incorporate our products into their products sell a substantial portion of their products outside of the U.S. All of our products are also manufactured outside of the U.S. and most of our current manufacturers are located in Taiwan. Furthermore, most of our employees are located in China, Japan and Taiwan. Our Asian operations require significant management attention and resources, and we are subject to many risks associated with operations in Asia, including, but not limited to:

- outbreaks of health epidemics in China or other parts of Asia, such as the recent COVID-19 pandemic;
- difficulties in managing international distributors and manufacturers due to varying time zones, languages and business customs;
- compliance with U.S. laws affecting operations outside of the U.S., such as the Foreign Corrupt Practices Act;
- reduced or limited protection of our IP, particularly in software, which is more prone to design piracy;
- difficulties in collecting outstanding accounts receivable balances;
- changes in tax rates, tax laws and the interpretation of those laws;
- difficulties regarding timing and availability of export and import licenses;
- ensuring that we obtain complete and accurate information from our Asian operations to make proper disclosures in the United States;
- political and economic instability and tensions, including tensions between China and each of the U.S., Taiwan and Japan;
- difficulties in maintaining sales representatives outside of the U.S. that are knowledgeable about our industry and products;
- changes in the regulatory environment in China, Japan and Taiwan that may significantly impact purchases of our products by our customers or our customers' sales of their own products;
- imposition of new tariffs, quotas, trade barriers and similar trade restrictions on our sales;
- varying employment and labor laws; and
- greater vulnerability to infrastructure and labor disruptions than in established markets.

Any of these factors could require a disproportionate share of management's attention, result in increased costs or decreased revenues, and could materially affect our product sales, financial condition and results of operations.

Our operations in Asia expose us to heightened risks due to natural disasters.

The risk of natural disasters in the Pacific Rim region is significant. Natural disasters in countries where our manufacturers or customers are located could result in disruption of our manufacturers' and customers' operations, resulting in significant delays in shipment of, or significant reductions in orders for, our products. There can be no assurance that we can locate additional manufacturing capacity or markets on favorable terms, or find new customers, in a timely manner, if at all. Natural disasters in this region could also result in:

- reduced end user demand due to the economic impact of any natural disaster;
- a disruption to the global supply chain for products manufactured in areas affected by natural disasters that are included in products purchased either by us or by our customers;
- an increase in the cost of products that we purchase due to reduced supply; and
- other unforeseen impacts as a result of the uncertainty resulting from a natural disaster.

Our international operations expose us to risks resulting from the fluctuations of foreign currencies.

We are exposed to risks resulting from the fluctuations of foreign currencies, primarily those of Japan, Taiwan, China and Canada. We sell our products to OEMs that incorporate our products into other products that they sell outside of the U.S. While sales of our products to OEMs are denominated in U.S. dollars, the products sold by OEMs are denominated in foreign currencies. Accordingly, any strengthening of the U.S. dollar against these foreign currencies will increase the foreign currency price equivalent of our products, which could lead to a change in the competitive nature of these products in the marketplace. This, in turn, could lead to a reduction in revenue.

In addition, a portion of our operating expenses, such as employee salaries and foreign income taxes, are denominated in foreign currencies. Accordingly, our operating results are affected by changes in the exchange rate between the U.S. dollar and those currencies. Any future strengthening of those currencies against the U.S. dollar will negatively impact our operating results by increasing our operating expenses as measured in U.S. dollars.

Our cash reserves (including those of PWSH) may be held in part in foreign currencies in amounts that could materially impact the value of those reserves if the U.S. dollar strengthens or weakens against such currencies. In such an event, the corresponding income or expense that is dictated by U.S. GAAP accounting may impact our financial results.

We may engage in financial hedging techniques in the future as part of a strategy to address potential foreign currency exchange rate fluctuations. These hedging techniques, however, may not be successful at reducing our exposure to foreign currency exchange rate fluctuations and may increase costs and administrative complexity.

Failure to comply with anti-bribery, anti-corruption, and anti-money laundering laws could subject us to penalties and other adverse consequences.

We are subject to the Foreign Corrupt Practices Act ("FCPA") and other anti-corruption, anti-bribery and anti-money laundering laws in various jurisdictions. From time to time, we may leverage third parties to help conduct our businesses abroad. We and our third-party intermediaries may have direct or indirect interactions with officials and employees of government agencies or state-owned or affiliated entities and may be held liable for the corrupt or other illegal activities of these third-party business partners and intermediaries, our employees, representatives, contractors, channel partners, and agents, even if we do not explicitly authorize such activities. While we have policies and procedures to address compliance with such laws, we cannot assure you that all of our employees and agents will not take actions in violation of our policies and applicable law, for which we may be ultimately held responsible. Any violation of the FCPA or other applicable anti-bribery, anti-corruption laws, and anti-money laundering laws could result in whistleblower complaints, adverse media coverage, investigations, loss of export privileges, severe criminal or civil sanctions, or suspension or debarment from U.S. government contracts, all of which may have an adverse effect on our reputation, our business, results of operations and financial condition.

Our reported financial results may be materially and adversely affected by changes in accounting principles generally accepted in the United States.

Generally accepted accounting principles in the United States are subject to interpretation by the Financial Accounting Standards Board ("FASB"), the SEC, and various bodies formed to promulgate and interpret appropriate accounting principles. A change in these principles or interpretations could have a significant effect on our reported financial results and could materially and adversely affect the transactions completed before the announcement of a change. Additionally, the adoption of new or revised accounting principles may require that we make significant changes to our systems, processes and controls.

If we are unable to maintain effective disclosure controls and internal controls over financial reporting, investors may lose confidence in the accuracy and completeness of our financial reports, and the market price of our common stock may be materially and adversely affected.

If we are unable to maintain effective disclosure controls and internal controls over financial reporting, investors may lose confidence in the accuracy and completeness of our financial reports. For example, in the second quarter of 2019, we identified a material weakness in our internal controls over financial reporting related to the review of aged liabilities for possible extinguishment due to the expiration of the statute of limitation, which was remediated as of December 31, 2019. Additionally, if any new internal control procedures which may be adopted or our existing internal control procedures are deemed inadequate, or if we identify additional material weaknesses in our disclosure controls or internal controls over financial reporting in the future, we will be unable to assert that our internal controls are effective. If we are unable to do so, or if our auditors are unable to attest to the effectiveness of our internal controls, we could lose investor confidence in the accuracy and completeness of our financial reports, which would cause the price of our common stock to decline.

As we have limited insurance coverage, any incurred liability resulting from uncovered claims could adversely affect our financial condition and results of operations.

Our insurance policies may not be adequate to fully offset losses from covered incidents, and we do not have coverage for certain losses. For example, we do not have earthquake insurance related to our Asian operations because adequate coverage is not offered at economically justifiable rates. If our insurance coverage is inadequate to protect us against catastrophic losses, any uncovered losses could adversely affect our financial condition and results of operations.

Our dependence on selling to distributors and integrators increases the complexity of managing our supply chain and may result in excess inventory or inventory shortages.

Selling to distributors and OEMs that build display devices based on specifications provided by branded suppliers, also referred to as integrators, reduces our ability to forecast sales accurately and increases the complexity of our business. Our sales are generally made on the basis of customer purchase orders rather than long-term purchase commitments. Our distributors, integrators and customers may cancel or defer purchase orders at any time, but we must order wafer inventory from our contract manufacturers three to four months in advance.

The estimates we use for our advance orders from contract manufacturers are based, in part, on reports of inventory levels and production forecasts from our distributors and integrators, which act as intermediaries between us and the companies using our products. This process requires us to make numerous assumptions concerning demand and to rely on the accuracy of the reports and forecasts of our distributors and integrators, each of which may introduce error into our estimates of inventory requirements. Our failure to manage this challenge could result in excess inventory or inventory shortages that could materially impact our operating results or limit the ability of companies using our semiconductors to deliver their products. If we overestimate demand for our products, it could lead to significant charges for obsolete inventory. On the other hand, if we underestimate demand, we could forego revenue opportunities, lose market share and damage our customer relationships.

We may be unable to successfully manage any future growth, including the integration of any acquisition or equity investment, which could disrupt our business and severely harm our financial condition.

If we fail to effectively manage any future internal growth, our operating expenses may increase more rapidly than our revenue, adversely affecting our financial condition and results of operations. To manage any future growth effectively in a rapidly evolving market, we must be able to maintain and improve our operational and financial systems, train and manage our employee base and attract and retain qualified personnel with relevant experience. We could spend substantial amounts of time and money in connection with expansion efforts for which we may not realize any profit. Our systems, procedures, controls or financial resources may not be adequate to support our operations and we may not be able to grow quickly enough to exploit potential market opportunities. In addition, we may not be able to successfully integrate the businesses, products, technologies or personnel of any entity that we might acquire in the future, or we may fail to realize the anticipated benefits of any such acquisition. The successful integration of any acquired business as well as the retention of personnel may require significant attention from our management and could divert resources from our existing business, which in turn could have an adverse effect on our business operations. Acquired assets or businesses may not achieve the anticipated benefits we expect due to a number of factors including: unanticipated costs or liabilities associated with such acquisition, including in the case of acquisitions we may make outside of the United States, difficulty in operating in foreign countries or complying with foreign regulatory requirements, incurrence of acquisition-related costs, harm to our relationships with existing customers as a result of such acquisition, harm to our brand and reputation, the loss of key employees in the acquired businesses, use of resources that are needed in other parts of our business, and use of substantial portions of our available cash to consummate any such acquisition. Any failure to successfully integrate any entity we may acquire or any failure to achieve the anticipated benefits of any such acquisition could disrupt our business and seriously harm our financial condition.

Continued compliance with regulatory and accounting requirements will be challenging and will require significant resources.

We spend a significant amount of management time and external resources to comply with changing laws, regulations and standards relating to corporate governance and public disclosure, including evolving SEC rules and regulations, Nasdaq Global Market rules, the Dodd-Frank Wall Street Reform and Consumer Protection Act and the Sarbanes-Oxley Act of 2002, which requires management's annual review and evaluation of internal control over financial reporting. Failure to comply with these laws and rules could lead to investigation by regulatory authorities, de-listing from the Nasdaq Global Market, or penalties imposed on us.

Regulations related to conflict minerals may adversely impact our business.

The SEC has adopted disclosure and reporting rules intended to improve transparency and accountability concerning the supply of certain minerals, known as conflict minerals, originating from the Democratic Republic of Congo ("DRC") and adjoining countries. These rules require us to conduct a reasonable inquiry to determine the origin of certain materials used in our products and disclose whether our products use any materials containing conflict minerals originating from the DRC and adjoining countries. Since we do not own or operate a semiconductor fabrication facility and do not manufacture our products internally, we are dependent on the information provided by third-party foundries and production facilities regarding the materials used and the supply chains for the materials. Further, there are costs associated with complying with these rules, including costs incurred to conduct inquiries to determine the sources of any materials containing conflict minerals used in our products, to fulfill our reporting requirements and to develop and implement potential changes to products, processes or sources of supply if it is determined that our products contain or use any conflict minerals from the DRC or adjoining countries. The implementation of these rules could also affect the sourcing, supply and pricing of materials used in our products. For example, there may only be a limited number of suppliers offering "conflict free" materials and we cannot be sure that we will be able to obtain necessary "conflict free" materials from such suppliers in sufficient quantities or at reasonable prices. In addition, we may face reputational challenges if we determine that any of our products contain minerals that are not conflict free or if we are unable to sufficiently verify the origins for all materials containing conflict minerals used in our products through the procedures we may implement.

Our effective income tax rate is subject to unanticipated changes in, or different interpretations of, tax rules and regulations, and forecasting our effective income tax rate is complex and subject to uncertainty.

As a global company, we are subject to taxation by a number of taxing authorities and as such, our tax rates vary among the jurisdictions in which we operate. Unanticipated changes in our tax rates could affect our future results of operations. Our effective tax rates could be adversely affected by changes in the mix of earnings in countries with differing statutory tax rates, changes in tax laws or the interpretation of tax laws either in the U.S. or abroad, or by changes in the valuation of our deferred tax assets and liabilities. The ultimate outcomes of any future tax audits are uncertain, and we can give no assurance as to whether an adverse result from one or more of them would have a material effect on our operating results and financial position.

The computation of income tax expense is complex as it is based on the laws of numerous tax jurisdictions and requires significant judgment on the application of complicated rules governing accounting for tax provisions under U.S. generally accepted accounting principles. Income tax expense for interim quarters is based on our forecasted tax rate for the year, which includes forward looking financial projections, including the expectations of profit and loss by jurisdiction, and contains numerous assumptions. For these reasons, our tax rate may be materially different than our forecast.

We rely upon certain critical information systems for the operation of our business, and the failure of any critical information system may result in serious harm to our business.

We maintain and rely upon certain critical information systems for the effective operation of our business. These information systems include telecommunications, the Internet, our corporate intranet, various computer hardware and software applications, network communications and e-mail. These information systems are subject to attacks, failures and access denials from a number of potential sources including viruses, destructive or inadequate code, power failures, and physical damage to computers, communication lines and networking equipment. To the extent that these information systems are under our control, we have implemented security procedures, such as virus protection software and firewall monitoring, to address the outlined risks. Security procedures for information systems cannot be guaranteed to be failsafe and our inability to use or access these information systems at critical times could compromise the timely and efficient operation of our business. Additionally, any compromise of our information security could result in the unauthorized publication of our confidential business or proprietary information, cause an interruption in our operations, result in the unauthorized release of customer or employee data, result in a violation of privacy or other laws, or expose us to a risk of litigation or damage our reputation, any or all of which could harm our business and operating results.

Environmental laws and regulations may cause us to incur significant expenditures to comply with applicable laws and regulations, and we may be assessed considerable penalties for noncompliance.

We are subject to numerous environmental laws and regulations. Compliance with current or future environmental laws and regulations could require us to incur substantial expenses which could harm our business, financial condition and results of operations. We have worked, and will continue to work, with our suppliers and customers to ensure that our products are compliant with enacted laws and regulations. Failure by us or our contract manufacturers to comply with such legislation could result in customers refusing to purchase our products and could subject us to significant monetary penalties in connection with a violation, either of which would have a material adverse effect on our business, financial condition and results of operations.

Increasing attention on environmental, social and governance ("ESG") matters may have a negative impact on our business, impose additional costs on us, and expose us to additional risks.

Companies are facing increasing attention from investors, customers, partners, consumers and other stakeholders relating to ESG matters, including environmental stewardship, social responsibility, diversity and inclusion, racial justice and workplace conduct. In addition, organizations that provide information to investors on corporate governance and related matters have developed ratings processes for evaluating companies on their approach to ESG matters. Such ratings are used by some investors to inform their investment and voting decisions. Unfavorable ESG ratings may lead to negative investor sentiment toward the Company, which could have a negative impact on our stock price and our access to and costs of capital.

We have established corporate social responsibility programs aligned with sound environmental, social and governance principles. These programs reflect our current initiatives and are not guarantees that we will be able to achieve them. Our ability to successfully execute these initiatives and accurately report our progress presents numerous operational, financial, legal, reputational and other risks, many of which are outside our control, and all of which could have a material negative impact on our business. Additionally, the implementation of these initiatives imposes additional costs on us. If our ESG initiatives fail to satisfy investors, customers, partners and our other stakeholders, our reputation, our ability to sell products and services to customers, our ability to attract or retain employees, and our attractiveness as an investment, business partner or acquirer could be negatively impacted. Similarly, our failure or perceived failure to pursue or fulfill our goals, targets and objectives or to satisfy various reporting standards within the timelines we announce, or at all, could also have similar negative impacts and expose us to government enforcement actions and private litigation.

Company Risks Related to the Semiconductor Industry and Our Markets

Dependence on a limited number of sole-source, third-party manufacturers for our products exposes us to possible shortages based on low manufacturing yield, errors in manufacturing, uncontrollable lead-times for manufacturing, capacity allocation, price increases with little notice, volatile inventory levels and delays in product delivery, any of which could result in delays in satisfying customer demand, increased costs and loss of revenue.

We do not own or operate a semiconductor fabrication facility and do not have the resources to manufacture our products internally. We rely on a limited number of foundries and assembly and test vendors to produce all of our wafers and for completion of finished products. Our wafers are not fabricated at more than one foundry at any given time and our wafers typically are designed to be fabricated in a specific process at only one foundry. Sole sourcing each product increases our dependence on our suppliers. We have limited control over delivery schedules, quality assurance, manufacturing yields, potential errors in manufacturing and production costs. We do not have long-term supply contracts with our third-party manufacturers, so they are not obligated to supply us with products for any specific period of time, quantity or price, except as may be provided in a particular purchase order. Our suppliers can increase the prices of the products we purchase from them with little notice, which may cause us to increase the prices to our customers and harm our competitiveness. Because our requirements represent only a small portion of the total production capacity of our contract manufacturers, they could reallocate capacity to other customers during periods of high demand for our products, as they have done in the past. We expect this may occur again in the future.

Establishing a relationship with a new contract manufacturer in the event of delays or increased prices would be costly and burdensome. The lead time to make such a change would be at least nine months, and the estimated time for us to adapt a product's design to a particular contract manufacturer's process is at least four months. Additionally, we have chosen, and may continue to choose new foundries to manufacture our wafers which in turn, may require us to modify our design methodology flow for the process technology and intellectual property cores of the new foundry. If we have to qualify a new foundry or packaging, assembly and testing supplier for any of our products or if we are unable to obtain our products from our contract manufacturers on schedule, at costs that are acceptable to us, or at all, we could incur significant delays in shipping products, our ability to satisfy customer demand could be harmed, our revenue from the sale of products may be lost or delayed and our customer relationships and ability to obtain future design wins could be damaged.

Shortages of materials used in the manufacturing of our products and other key components of our customers' products may increase our costs, impair our ability to ship our products on time and delay our ability to sell our products.

We have in the past and may from time-to-time face shortages of components and materials that are critical to the manufacture of our products and our customers' products. Such critical components and materials may include semiconductor wafers and packages, double data rate memory die, display components, analog-to-digital converters, digital receivers, video decoders and voltage regulators. These shortages may result in additional costs to us and we may be unable to ship our products to our customers in a timely fashion, which could harm our business and adversely affect our results of operations.

Our highly integrated products and high-speed mixed signal products are difficult to manufacture without defects and the existence of defects could result in increased costs, delays in the availability of our products, reduced sales of products or claims against us.

The manufacture of semiconductors is a complex process and it is often difficult for semiconductor foundries to produce semiconductors free of defects. Because many of our products are more highly integrated than other semiconductors and incorporate mixed signal analog and digital signal processing, multi-chip modules and embedded memory technology, they are even more difficult to produce without defects. Defective products can be caused by design or manufacturing difficulties. Identifying quality problems can be performed only by analyzing and testing our semiconductors in a system after they have been manufactured. The difficulty in identifying defects is compounded because the process technology is unique to each of the multiple semiconductor foundries we contract with to manufacture our products. Despite testing by both our customers and us, errors or performance problems may be found in existing or new semiconductors. Failure to achieve defect-free products may result in increased costs and delays in the availability of our products. Defects may also divert the attention of our engineering personnel from our product development efforts to find and correct the issue, which would delay our product development efforts.

Additionally, customers could seek damages from us for their losses, and shipments of defective products may harm our reputation with our customers. If a product liability claim is brought against us, the cost of defending the claim could be significant and would divert the efforts of our technical and management personnel and harm our business. Further, our business liability insurance may be inadequate or future coverage may be unavailable on acceptable terms, which could adversely impact our financial results.

We experience a small number of semiconductor field failures infrequently in certain customer applications that required us to institute additional testing. As a result of these field failures, we have incurred warranty costs due to customers returning potentially affected products and have experienced reductions in revenues due to delays in production. Our customers have also experienced delays in receiving product shipments from us that resulted in the loss of revenue and profits. Additionally, shipments of defective products could cause us to lose customers or to incur significant replacement costs, either of which would harm our reputation and our business. Any defects, errors or bugs could also interrupt or delay sales of our new products to our customers, which would adversely affect our financial results.

The development of new products is extremely complex and we may be unable to develop our new products in a timely manner, which could result in a failure to obtain new design wins and/or maintain our current revenue levels.

In addition to the inherent difficulty of designing complex integrated circuits, product development delays may result from:

- difficulties in hiring and retaining necessary technical personnel;
- difficulties in reallocating engineering resources and overcoming resource limitations;
- difficulties with contract manufacturers;
- changes to product specifications and customer requirements;
- changes to market or competitive product requirements; and
- unanticipated engineering complexities.

If we are not successful in the timely development of new products, we may fail to obtain new design wins and our financial results will be adversely affected.

Intense competition in our markets may reduce sales of our products, reduce our market share, decrease our gross profit and result in large losses.

We compete with specialized and diversified electronics and semiconductor companies that offer display processors or scaling components including: Actions Microelectronics Co., Ltd., ARM Holdings PLC, Dolby Laboratories, Inc., EGiS Technologies, Inc., HiSilicon Technologies Co., Ltd., i-Chips Technology Inc., Lattice Semiconductor Corporation, MediaTek Inc., Novatek Microelectronics Corp., NVIDIA Corporation, Qualcomm Incorporated, Realtek Semiconductor Corp., Socionext Inc., Solomon Systech (International) Ltd., STMicroelectronics N.V., Sunplus Technology Co., Ltd., Synaptics Incorporated, Texas Instruments Incorporated, Unisoc (Shanghai) Technologies Co., Ltd., and other companies. Potential and current competitors may include diversified semiconductor manufacturers and the semiconductor divisions or affiliates of some of our customers, including: Apple Inc., Broadcom Inc., LG Electronics, Inc., MegaChips Corporation, Mitsubishi Digital Electronics America, Inc., NEC Corporation, Panasonic Corporation, Samsung Electronics Co., Ltd., Socionext Inc., ON Semiconductor Corporation, Seiko Epson Corporation, Sharp Corporation, Sony Group Corporation, and Toshiba America, Inc. In addition, start-up companies may seek to compete in our markets.

Many of our competitors have longer operating histories and greater resources to support development and marketing efforts than we do. Some of our competitors operate their own fabrication facilities. These competitors may be able to react more quickly and devote more resources to efforts that compete directly with our own. Additionally, any consolidation in the semiconductor industry may impact our competitive position. Our current or potential customers have developed, and may continue to develop, their own proprietary technologies and become our competitors. Increased competition from both competitors and our customers' internal development efforts could harm our business, financial condition and results of operations by, for example, increasing pressure on our profit margin or causing us to lose sales opportunities. For example, frame rate conversion technology similar to that used in our line of MotionEngine® advanced video co-processors continues to be integrated into the SoC and display timing controller products of our competitors. We cannot assure you that we can compete successfully against current or potential competitors.

Although our TrueCut Motion product is the first motion grading solution for the cinematic market, competitive solutions could arise rapidly. These competitive solutions could come from several sources, including companies that provide solutions for other post-processing needs (such as Dolby Laboratories, Inc., Epic Games, Inc., Unity Technologies, Adobe Inc., Soluciones Gráficas por Ordenador S.L. (SGO), The Foundry Visionmongers Limited, and Autodesk, Inc.) as well as visual effects studios that use digital effects to reduce artifacts before they are created (such as Wētā FX, DNEG Plc, Pixar Animation Studios, Digital Domain, and Industrial Light & Magic (ILM)).

If we are not able to respond to the rapid technological changes and evolving industry standards in the markets in which we compete, or seek to compete, our products may become less desirable or obsolete.

The markets in which we compete or seek to compete are subject to rapid technological change and miniaturization capabilities, frequent new product introductions, changing customer requirements for new products and features and evolving industry standards. The introduction of new technologies and emergence of new industry standards could render our products less desirable or obsolete, which could harm our business and significantly decrease our revenue. Examples include the increased adoption of artificial intelligence in visual processing systems, the growing use of broadband to deliver video content, increased display resolution and size, faster screen refresh rates, video capability such as High Dynamic Range, the proliferation of new display devices and the drive to network display devices together. Our failure to predict market needs accurately or to timely develop new competitively priced products or product enhancements that incorporate new industry standards and technologies, including integrated circuits with increasing levels of integration and new features, using smaller geometry process technologies, may harm market acceptance and sales of our products.

Our products are incorporated into our customers' products, which have different parts and specifications and utilize multiple protocols that allow them to be compatible with specific computers, video standards and other devices. If our customers' products are not compatible with these protocols and standards, consumers will return, or not purchase these products and the markets for our customers' products could be significantly reduced. Additionally, if the technology used by our customers becomes less competitive due to cost, customer preferences or other factors relative to alternative technologies, sales of our products could decline.

We use a customer-owned tooling process for manufacturing most of our products, which exposes us to the possibility of poor yields and unacceptably high product costs.

We build most of our products on a customer-owned tooling basis, whereby we directly contract the manufacture of our products, including wafer production, assembly and testing. As a result, we are subject to increased risks arising from wafer manufacturing yields and risks associated with coordination of the manufacturing, assembly and testing process. Poor product yields result in higher product costs, which could make our products less competitive if we increase our prices to compensate for our higher costs or could result in lower gross profit margins if we do not increase our prices.

We depend on the manufacturers of our semiconductor products not only to respond to changes in technology and industry standards but also to continue the manufacturing processes on which we rely.

To respond effectively to changes in technology and industry standards, we depend on our contracted foundries to implement advanced semiconductor technologies and our operations could be adversely affected if those technologies are unavailable, delayed or inefficiently implemented. In order to increase performance and functionality and reduce the size of our products, we are continuously developing new products using advanced technologies that further miniaturize semiconductors and we are dependent on our foundries to develop and provide access to the advanced processes that enable such miniaturization. We cannot be certain that future advanced manufacturing processes will be implemented without difficulties, delays or increased expenses. Our business, financial condition and results of operations could be materially adversely affected if advanced manufacturing processes are unavailable to us, substantially delayed or inefficiently implemented.

Creating the capacity for new technological changes may cause manufacturers to discontinue older manufacturing processes in favor of newer ones. We must then either retire the affected part or port (develop) a new version of the part that can be manufactured with a newer process technology. In the event that a manufacturing process is discontinued, our current suppliers may be unwilling or unable to manufacture our current products. We may not be able to place last time buy orders for the old technology or find alternate manufacturers of our products to allow us to continue to produce products with the older technology while we expend the significant costs for research and development and time to migrate to new, more advanced processes.

Because of our long product development process and sales cycles, we may incur substantial costs before we earn associated revenue and ultimately may not sell as many units of our products as we originally anticipated.

We develop products based on anticipated market and customer requirements and incur substantial product development expenditures, which can include the payment of large up-front, third-party license fees and royalties, prior to generating the associated revenue. Our work under these projects is technically challenging and places considerable demands on our limited resources, particularly on our most senior engineering talent. Additionally, the transition to smaller geometry process technologies continues to significantly increase the cost and complexity of new product development, particularly with regards to tooling, software tools, third party IP and engineering resources. Because the development of our products incorporates not only our complex and evolving technology, but also our customers' specific requirements, a lengthy sales process is often required before potential customers begin the technical evaluation of our products. Our customers typically perform numerous tests and extensively evaluate our products before incorporating them into their systems. The time required for testing, evaluation and design of our products into a customer's system can take nine months or more. It can take an additional nine months or longer before a customer commences volume shipments of systems that incorporate our products, if at all. Because of the lengthy development and sales cycles, we will experience delays between the time we incur expenditures for research and development, sales and marketing and inventory and the time we generate revenue, if any, from these expenditures.

Furthermore, we have entered into and may in the future enter into, co-development agreements that do not guarantee future sales volumes and limit our ability to sell the developed products to other customers. The exclusive nature of these development agreements increases our dependence on individual customers, particularly since we are limited in the number of products we are able to develop at any one time.

If actual sales volumes for a particular product are substantially less than originally anticipated, we may experience large write-offs of capitalized license fees, software development tools, product masks, inventories or other capitalized or deferred product-related costs, any of which would negatively affect our operating results.

Our developed software may be incompatible with industry standards and challenging and costly to implement, which could slow product development or cause us to lose customers and design wins.

We provide our customers with software development tools and with software that provides basic functionality for our integrated circuits and enables enhanced connectivity of our customers' products. Software development is a complex process and we are dependent on software development languages and operating systems from vendors that may limit our ability to design software in a timely manner. Also, as software tools and interfaces change rapidly, new software languages introduced to the market may be incompatible with our existing systems and tools, requiring significant engineering efforts to migrate our existing systems in order to be compatible with those new languages. Software development disruptions could slow our product development or cause us to lose customers and design wins. The integration of software with our products adds complexity, may extend our internal development programs and could impact our customers' development schedules. This complexity requires increased coordination between hardware and software development schedules and increases our operating expenses without a corresponding increase in product revenue. This additional level of complexity lengthens the sales cycle and may result in customers selecting competitive products requiring less software integration.

The competitiveness and viability of our products could be harmed if necessary licenses of third-party technology are not available to us on terms that are acceptable to us or at all.

We license technology from independent third parties that is incorporated into our products or product enhancements. Future products or product enhancements may require additional third-party licenses that may not be available to us on terms that are acceptable to us or at all. In addition, in the event of a change in control of one of our licensors, it may become difficult to maintain access to its licensed technology. If we are unable to obtain or maintain any third-party license required to develop new products and product enhancements, we may have to obtain substitute technology with lower quality or performance standards, or at greater cost, either of which could seriously harm the competitiveness of our products.

Our limited ability to protect our IP and proprietary rights could harm our competitive position by allowing our competitors to access our proprietary technology and to introduce similar products.

Our ability to compete effectively with other companies depends, in part, on our ability to maintain the proprietary nature of our technology, including our semiconductor designs and software code. We provide the computer programming code for our software to customers in connection with their product development efforts, thereby increasing the risk that customers will misappropriate our proprietary software. We rely on a combination of patent, copyright, trademark and trade secret laws, as well as nondisclosure agreements and other methods, to help protect our proprietary technologies. As of December 31, 2023, we held 280 patents and had 18 patent applications pending for protection of our significant technologies. Competitors in both the U.S. and foreign countries, many of whom have substantially greater resources than we do, may apply for and obtain patents that will prevent, limit or interfere with our ability to make and sell our products, or they may develop similar technology independently or design around our patents. Effective patent, copyright, trademark and trade secret protection may be unavailable or limited in foreign countries and, thus, make the possibility of piracy of our technology and products more likely in these countries.

We cannot assure you that the degree of protection offered by patent or trade secret laws will be sufficient. Furthermore, we cannot assure you that any patents will be issued as a result of any pending applications or that any claims allowed under issued patents will be sufficiently broad to protect our technology. We may incur significant costs to stop others from infringing our patents. In addition, it is possible that existing or future patents may be invalidated, diluted, circumvented, challenged or licensed to others.

Others may bring infringement or indemnification actions against us that could be time-consuming and expensive to defend.

We may become subject to claims involving patents or other intellectual property rights. In recent years, there has been significant litigation in the U.S. and in other jurisdictions involving patents and other intellectual property rights. This litigation is particularly prevalent in the semiconductor industry, in which a number of companies aggressively use their patent portfolios to bring infringement claims. In recent years, there has been an increase in the filing of so-called "nuisance suits," alleging infringement of intellectual property rights. These claims may be asserted initially or as counterclaims in response to claims made by a company alleging infringement of intellectual property rights. These suits pressure defendants into entering settlement arrangements to quickly dispose of such suits, regardless of merit. We may also face claims brought by companies that are organized solely to hold and enforce patents. In addition, we may be required to indemnify our customers against IP claims related to their usage of our products as certain of our agreements include indemnification provisions from third parties relating to our intellectual property.

IP claims could subject us to significant liability for damages and invalidate our proprietary rights. Responding to such claims, regardless of their merit, can be time-consuming, result in costly litigation, divert management's attention and resources and cause us to incur significant expenses. As each claim is evaluated, we may consider the desirability of entering into settlement or licensing agreements. No assurance can be given that settlements will occur or that licenses can be obtained on acceptable terms or that litigation will not occur. In the event there is a temporary or permanent injunction entered prohibiting us from marketing or selling certain of our products, or a successful claim of infringement against us requiring us to pay damages or royalties to a third-party and we fail to develop or license a substitute technology, our business, results of operations or financial condition could be materially adversely affected. Any IP litigation or claims also could force us to do one or more of the following:

- stop selling products using technology that contains the allegedly infringing IP;
- attempt to obtain a license to the relevant IP, which may not be available on terms that are acceptable to us or at all;
- attempt to redesign those products that contain the allegedly infringing IP; or
- pay damages for past infringement claims that are determined to be valid or which are arrived at in settlement of such litigation or threatened litigation.

If we are forced to take any of the foregoing actions, we may incur significant additional costs or be unable to manufacture and sell our products, which could seriously harm our business. In addition, we may not be able to develop, license or acquire non-infringing technology under reasonable terms. These developments could result in an inability to compete for customers or otherwise adversely affect our results of operations.

Our products are characterized by average selling prices that can decline over relatively short periods of time, which will negatively affect our financial results unless we are able to reduce our product costs or introduce new products with higher average selling prices.

Average selling prices for our products can decline over relatively short periods of time, while many of our product costs are relatively fixed. When our average selling prices decline, our gross profit declines unless we are able to sell more units or reduce the cost to manufacture our products. We have experienced declines in our average selling prices and expect that we will continue to experience them in the future, although we cannot predict when they may occur or how severe they will be. Our financial results will suffer if we are unable to offset any reductions in our average selling prices by increasing our sales volumes, reducing our costs, adding new features to our existing products or developing new or enhanced products in a timely manner with higher selling prices or gross profits.

The cyclical nature of the semiconductor industry may lead to significant variances in the demand for our products and could harm our operations.

In the past, the semiconductor industry has been characterized by significant downturns and wide fluctuations in supply and demand. Also, the industry has experienced significant fluctuations in anticipation of changes in general economic conditions, including economic conditions in Asia, Europe and North America. The cyclical nature of the semiconductor industry has also led to significant variances in product demand and production capacity. We have experienced, and may continue to experience, periodic fluctuations in our financial results because of changes in industry-wide conditions.

Our business is subject to the risks of earthquakes, fire, power outages, floods, and other catastrophic events, and to interruption by man-made problems such as acts of war and terrorism.

A significant natural disaster, such as an earthquake, fire, a flood, or significant power outage could have a material adverse impact on our business, operating results, and financial condition. Such events could result in physical damage to one or more facilities, the temporary closure of one or more facilities or those of our suppliers, a temporary lack of an adequate work force in a market, a temporary or long-term disruption in the supply of products from local and overseas suppliers, which may impact quality assurance, product costs, and product supply and timing. In the event our or our suppliers' information technology systems or manufacturing or logistics abilities are hindered by any of the events discussed above, shipments could be delayed, resulting in missed financial targets, such as revenue and shipment targets, and our operations could be disrupted for the affected quarter or quarters. In addition, large-scale cybersecurity attacks, acts of war or terrorism, global pandemics such as the COVID-19 pandemic, or other geo-political unrest could cause disruptions in our business or the business of our supply chain, manufacturers, suppliers, partners, or customers or the economy as a whole. Any disruption in the business of our supply chain, manufacturers, suppliers, partners or customers that impacts sales at the end of a quarter could have a significant adverse impact on our quarterly results. All of the aforementioned risks may be further increased if the disaster recovery plans for us and our suppliers prove to be inadequate. To the extent that any of the above should result in delays or cancellations of customer orders, or the delay in the manufacture, deployment or shipment of our products, our business, financial condition and operating results would be adversely affected.

Risks Related to Our Operations in China

We face additional risks associated with our operations in China, including the risk of changes in China's political, economic or social conditions or changes in U.S.-China relations, as well as liquidity risks, any of which may adversely and materially affect our results of operations, financial position and value of our securities.

We have, and expect to continue to have, more than a majority of our operations in China as PWSH, one of our Chinese subsidiaries, is a full profit-and-loss center underneath the Company for our Mobile and Home & Enterprise businesses. The economy of China differs from the economies of the United States in important respects such as structure, government involvement, level of development, growth rate, capital reinvestment, allocation of resources, self-sufficiency, rate of inflation, foreign currency flows and balance of payments position, among others. There can be no assurance that China's economic policies will be consistent or effective and because more than a majority of our operations are in China, our results of operations, financial position and value of our securities may be materially harmed by changes in China's political, economic or social conditions. Additionally, the political and economic relationship between the U.S. and China is uncertain, and any changes in policy as a result may adversely affect our business. For example, recent statements and actions by the United States regarding the export of certain semiconductor technology, although not applicable to our technology or products, could result in responsive actions taken by China that could adversely impact our operations, financial position, or the value of our securities.

In addition, the Company faces certain liquidity risks from its operations in China. PWSH has, in the past, and may decide in the future, to sell shares of its stock, such as in a private placement similar to that which closed in August 2021, in an initial public offering on a stock exchange located in China, such as the STAR Market, or otherwise. In addition, PWSH may, in the future, become profitable. Any proceeds raised or generated by PWSH are subject to certain PRC laws and regulations that may make it difficult, if not impossible, for the Company to use such proceeds to fund its operations outside of China. For example, China's government imposes control over the convertibility of RMB into foreign currencies, which can cause difficulties converting cash held in RMB to other currencies. It is therefore unlikely that funds raised or generated by PWSH will be readily distributable to the Company or its U.S. shareholders. To date, no dividends or distributions have been made by PWSH to either the Company or its U.S. investors. Additionally, cash is transferred through the Company between entities through settling cash owed between one entity and another, for example for services rendered, through intercompany agreements, and the Company intends to continue settling amounts owed in the ordinary course of business in this manner. During the fiscal years ended December 31, 2022 and December 31, 2023, an aggregate of \$8.6 million in cash was transferred from the Company to PWSH, and \$14.2 million from PWSH to the Company as part of such settlements. While currently the Company has been able to settle cash owed between PWSH and other entities within the Company, PRC laws and regulations could change so as to make it more difficult, if not impossible, to make such transfers in the future, which in turn would adversely affect our results of operations.

We face legal and operational risks related to the PRC legal system, including uncertainties regarding the enforcement of laws, and sudden or unexpected changes in laws, required approvals and permissions, and regulations in China, which could adversely affect us and limit the legal protections available to the Company and its shareholders, as well as materially and adversely affect our business and value of our securities.

While the overall effect of legislation over the past two decades has significantly enhanced the protections afforded to various foreign investments in China, China has not developed a fully integrated legal system based on the rule of law, and recently enacted laws and regulations may not sufficiently cover all aspects of economic activities in China. Because the PRC legal system continues to evolve rapidly, the interpretations of many laws, regulations and rules are not always uniform and enforcement of these laws, regulations and rules involves uncertainties, which may limit legal protections available to the Company. Uncertainties due to evolving laws and regulations could also impede the ability of an entity based in China, such as our Chinese subsidiaries, to obtain or maintain permits or licenses required to conduct business in China. In addition, some regulatory requirements issued by certain PRC government authorities may not be consistently applied by other PRC government authorities (including local government authorities), thus making strict compliance with all regulatory requirements impractical, or in some circumstances impossible. In addition, China's legal system is based in part on government policies and internal rules, some of which are not published on a timely basis or at all, which may have a retroactive effect. As a result, we may not be aware of our violation of these policies and rules until after the violation occurs. Any administrative and court proceedings in China may be protracted, resulting in substantial costs and diversion of resources and management attention. Further, since Chinese administrative and court authorities have significant discretion in interpreting and implementing statutory and contractual terms, it may be more difficult to evaluate the outcome of administrative and court proceedings. These uncertainties may also impede our ability to enforce the contracts entered into by our Chinese subsidiaries and could materially and adversely affect our business and results of operations.

The PRC government at times will exercise significant oversight and discretion over the conduct of business in the PRC and may intervene or influence business operations as the government deems appropriate to further regulatory, political and societal goals. Our Chinese subsidiaries are required to obtain certain permits and licenses from certain PRC government agencies to operate businesses in China, such as business licenses from the SAMR, registrations with PRC tax authorities, filings with PRC customs for carrying out export and import business activities and registrations with China's State Administration of Foreign Exchange (SAFE) for the ability to receive funds from offshore entities and transfer funds to offshore entities. The Company has determined, in consultation with its general counsel, that we are not currently required to obtain permissions or approvals from the CAC. The Company is also not currently required to obtain permissions or approvals from the CSRC, but would need to obtain approval from CSRC if PWSH applies for the Listing, and as a listed company PWSH would continue to be subject to CSRC rules and regulations. As of the date of this filing, our Chinese subsidiaries have obtained the required business licenses from the SAMR and complied with registration and filing requirements of other Chinese government agencies, and have not been denied such registrations or filings by any PRC authority, however, if we do not receive or maintain the necessary permissions or approvals, inadvertently conclude that such permissions or approvals are not required, or applicable laws, regulations or interpretations change and we become required to obtain such permissions or approvals in the future and we fail to do so, we may be subject to investigations, fines, penalties, suspensions in operations, or other punitive action which could result in a material adverse change in our PRC operations and our results of operation, which in turn could cause our stock price to be materially and adversely affected.

Additionally, rules and regulations in China can change quickly and with little advance notice. For example, the PRC government has recently initiated a series of regulatory actions and made a number of public statements on the regulation of businesses in China with little advance notice, including enhancing supervision over China-based companies listed overseas, adopting new measures to extend the scope of cybersecurity reviews, and expanding efforts in anti-monopoly enforcement. While we do not believe we are subject to these regulatory actions or statements, as we have not implemented the kind of monopolistic behavior that is the target of these rules, and our business does not involve large-scale collection of user data, implicate cybersecurity, or involve any other type of restricted industry, and therefore these regulatory actions and statements do not impact our ability to conduct our business, accept foreign investments into PWSH, or list our PWSH shares on the STAR Market, there is no guarantee that the PRC government will refrain from releasing regulations or policies regarding the Company's industry that could adversely affect our business, financial condition, results of operations or ability to list PWSH shares on the STAR Market.

If we are unable to implement our strategy to expand our PRC operations, including the positioning of PWSH to qualify and seek an initial public offering on the STAR Market, our ability to access capital, customers, and talent in China could suffer, which in turn may materially and adversely affect our worldwide growth and revenue potential.

In August 2021, we announced our strategic plan to transform PWSH into a profit center for our Mobile and Home & Enterprise businesses to improve our access to capital, customers, and talent in China. As part of this strategic plan, we intend to qualify PWSH to file an application for an initial public offering on the STAR Market to further improve our access to capital markets and to fund growth. We may not be successful in the implementation of our strategic plan, and we may not be able to complete the Listing for a number of reasons, including those related to the risks we face associated with our operations in China as detailed separately above, many of which are outside our control. With respect to the Listing, PWSH must succeed in obtaining PRC governmental approvals required to permit the Listing, and one or more of those approvals may be denied, or significantly delayed, by the PRC regulators for reasons outside our control or unknown to us, or may be conditioned on requirements that we deem would result in an undue burden or material adverse impact on our business. Similarly, the Listing application may be denied or delayed by the SSE in its discretion. Further, the COVID-19 outbreak, the tensions between the United States and China, or other geopolitical forces, including war, could negatively impact our currently planned projects and investments in the PRC, including the Listing.

Additionally, pursuant to our August 2021 Capital Increase Agreement and the agreements for the employee-owned entities that have invested in PWSH ("ESOP"), PWSH agreed to attempt to complete all requirements to qualify for a Listing such that the Listing is consummated prior to a certain date (for the private equity and strategic investors ("Investors"), June 30, 2024, and for the ESOP, December 31, 2024). If PWSH has not consummated the Listing before those dates, or if it seriously violates certain other restructuring actions required by the Capital Increase Agreement such that a Listing by such dates becomes impossible, the respective purchasers may elect to require that we repurchase the purchaser's respective equity interest for a price equal to the initial purchase price paid by the purchaser (and for the ESOP, plus annual simple interest at a rate of 5%). As noted above, various elements in the Listing process are outside our control or may be subject to conditions that are unacceptable to us, and if we fail to obtain the Listing, the provisions of the Capital Increase Agreement would require a use of cash for purposes not otherwise planned for, which in turn would negatively impact our plans for growth and our cash position.

The CSRC and the SSE have recently tightened the standards for the STAR Market and are currently advising companies that are not yet profitable under China generally accepted accounting principles, or China GAAP, standards against filing an IPO application in the present environment. The Company believes this is in large part due to the current economic conditions in China and the recent performance of companies already listed on the STAR Market that were not profitable at the time of their IPO. PWSH is not currently profitable under China GAAP standards. The CSRC and the SSE may relax the standards, but there is no guarantee that this will happen in any particular time frame. The Company continues to prepare our application so it is ready to file once the situation changes or PWSH achieves profitability under China GAAP standards, but there can be no assurances that the Listing will occur at all. In the interim, PWSH may require additional funding to augment its PRC operations, and we cannot give any assurance that such capital will be available on terms acceptable to us. Any such inability to obtain funds may impair the ability of PWSH to grow its operations, which could have a material adverse effect on our consolidated operating results and on the price of our common stock.

If we are unable to successfully implement our strategic plan, including the Listing, we may not realize the advantages to our PRC operations contemplated by our business strategy, including improving our access to capital markets, customers, and talent in China. Because it may be several years before we know whether the Listing will be completed, we may, in the interim, forego or postpone other alternative actions to strengthen our market position and operations in the PRC.

PRC companies are critical to the global semiconductor industry, and our current business is substantially concentrated in the PRC market. Our inability to build, or any delay in growing, our PRC-based operations over the next several years would materially and adversely limit our operations and operating results, including our revenue growth. In addition, during that time, the process underlying the Listing could result in significant diversion of management time as well as substantial out-of-pocket costs, which could further impair our ability to expand our business.

Even if we complete the Listing, we may not achieve the results contemplated by our business strategy and our strategy for growth in the PRC may not result in increases in the price of our common stock.

We cannot assure you that, even if the Listing is completed, we will realize any or all of our anticipated benefits of the Listing. Our completion of the Listing may not have the anticipated effects of providing access to new capital markets or strengthening our market position and operations in the PRC. If the Listing is completed, PWSH will have broad discretion in the use of the proceeds from the initial sales of shares to PWSH investors, and it may not spend or invest those proceeds in a manner that results in our operating success or with which the common shareholders of Pixelworks agree. Our failure to successfully leverage the completion of the Listing to enhance our access to new capital markets and expand our PRC business could result in a decrease in the price of our common stock, and we cannot assure you that the success of PWSH will have an associated positive effect on the price of our common stock.

If the Listing is completed, PWSH's status as a publicly traded company in China that is controlled, but less than wholly owned, by Pixelworks could have an adverse effect on us.

PWSH is not currently a wholly owned subsidiary of Pixelworks, and following the Listing, other holders may hold as much as 30% of the subsidiary. The interests of PWSH may diverge from the interests of Pixelworks and its other subsidiaries in the future. We may face conflicts of interest in managing, financing, or engaging in transactions with PWSH, or allocating business opportunities between our subsidiaries, including future arrangements for operating subsidiaries other than PWSH to license and use our intellectual property.

Pixelworks will retain majority ownership of PWSH after the Listing, but PWSH will be managed by a separate board of directors and officers and those directors and officers will owe fiduciary duties to the various stakeholders of PWSH, including shareholders other than Pixelworks. In the operation of PWSH's business, there may be situations that arise whereby the directors and officers of PWSH, in the exercise of their fiduciary duties, take actions that may be contrary to the best interests of Pixelworks or its shareholders. Additionally, because PWSH will be managed by a separate board of directors and officers, our organizational structure will become more complex, which may in turn require substantial financial, operational, and management resources.

In the future, PWSH may issue options, restricted shares, and other forms of share-based compensation to its directors, officers, and employees, which could dilute Pixelworks' ownership in PWSH. In addition, PWSH may engage in capital raising activities in the future that could further dilute Pixelworks' ownership interest.

The STAR Market is relatively new, and as a result, it is difficult to predict the effect of the proposed Listing, which may in turn negatively affect the price of our common stock on the Nasdaq Global Market.

The CSRC initially launched the STAR Market in June 2019 and trading on that market began in July 2019. No assurance can be given regarding the effect of the Listing on the market price of PWSH shares or on the price of our common stock on the Nasdaq Global Market. The market price of the PWSH shares and Pixelworks common stock may be volatile or may decline for reasons other than the risk and uncertainties described above, as the result of investor negativity or uncertainty with respect to the proposed Listing.

If the Listing is completed, Pixelworks and PWSH both will be public reporting companies, but each will be subject to separate, and potentially inconsistent, accounting and disclosure requirements, which may lead to investor confusion or uncertainty that could cause decreased demand for, or fluctuations in the price of, one or both of the companies' publicly traded shares.

If PWSH completes the Listing, it will be subject to accounting, disclosure, and other regulatory requirements of the CSRC and the STAR Market. At the same time, Pixelworks will remain subject to accounting, disclosure, and other regulatory requirements of the SEC and the Nasdaq Global Market. As a result, Pixelworks and PWSH periodically will disclose information simultaneously pursuant to differing laws and regulations. The information disclosed by the two companies will differ, and may differ materially from time to time, due to the distinct, and potentially inconsistent, accounting standards applicable to the two companies and disclosure requirements imposed by securities regulatory authorities, as well as differences in language, culture, and expression habit, in composition of investors in the United States and PRC, and in the capital markets of the United States and the PRC. Differing disclosures could lead to confusion or uncertainty among investors in the publicly traded shares of one or both companies. Differences between the price of PWSH shares on the STAR Market and the price of Pixelworks common stock on Nasdaq Global Market could lead to increased volatility, as some investors seek to arbitrage price differences. Additionally, news about PWSH may affect the price of Pixelworks' common stock, and vice versa, creating additional uncertainty and volatility.

General Risks

The price of our common stock has and may continue to fluctuate substantially.

Our stock price and the stock prices of technology companies similar to Pixelworks have been highly volatile. The price of our common stock may decline and the value of our shareholders' investment may be reduced regardless of our performance.

The daily trading volume of our common stock has historically been relatively low, although, in the three most recent years, trading volume increased compared to historical levels. As a result of the historically low volume, our shareholders may be unable to sell significant quantities of common stock in the public trading markets without a significant reduction in the price of our common shares. Additionally, market fluctuations, as well as general economic and political conditions, including recessions, interest rate changes or international currency fluctuations, may negatively impact the market price of our common stock. Other factors that could negatively impact our stock price include:

- actual or anticipated fluctuations in our operating results;
- changes in or failure to meet expectations as to our future financial performance;
- changes in or failure to meet financial estimates of securities analysts;
- announcements by us or our competitors of technological innovations, design wins, contracts, standards, acquisitions or divestitures;
- the operating and stock price performance of other comparable companies;
- issuances or proposed issuances of equity, debt or other securities by us, or sales of securities by our security holders; and
- changes in market valuations of other technology companies.

Any inability or perceived inability of investors to realize a gain on an investment in our common stock could have an adverse effect on our business, financial condition and results of operations by potentially limiting our ability to retain our customers, to attract and retain qualified employees and to raise capital. In addition, in the past, following periods of volatility in the overall market and the market price of a particular company's securities, securities class action litigation has often been instituted against these companies. This litigation, if instituted against us, could result in substantial costs and a diversion of our management's attention and resources.

The interest of our current or potential significant shareholders may conflict with other shareholders and they may attempt to effect changes or acquire control, which could adversely affect our results of operations and financial condition.

Our shareholders may from time to time engage in proxy solicitations, advance shareholder proposals, acquire control or otherwise attempt to effect changes, including by directly voting their shares on shareholder proposals. Campaigns by shareholders to effect changes at publicly traded companies are sometimes led by investors seeking to increase short-term shareholder value through actions such as financial restructuring, increased debt, special dividends, stock repurchases or sales of assets or the entire company. Responding to proxy contests and other actions by activist shareholders can be costly and time-consuming, disrupting our operations and diverting the attention of our Board of Directors and senior management from the pursuit of business strategies. Additionally, uncertainty over our direction and leadership may negatively impact our relationship with our customers and make it more difficult to attract and retain qualified personnel and business partners. As a result, shareholder campaigns could adversely affect our results of operations and financial condition.

Future sales of our equity could result in significant dilution to our existing shareholders and depress the market price of our common stock.

It is likely that we will need to seek additional capital in the future and from time to time. If this financing is obtained through the issuance of equity securities, debt convertible into equity securities, options or warrants to acquire equity securities or similar instruments or securities, our existing shareholders will experience dilution in their ownership percentage upon the issuance, conversion or exercise of such securities and such dilution could be significant. For example, in December 2020, we completed a private placement of 3,200,000 shares of common stock to certain accredited investors at a purchase price of \$2.071 per share. The issuance and sale of the shares in the private placement had a dilutive impact on our existing shareholders. Additionally, also in December 2020, we completed the sale of 4,900,000 shares of common stock in an underwritten registered offering and an additional 735,000 shares were issued pursuant to the 30-day over-allotment option exercised by the underwriter, at a price to the public of \$2.45 per share. Additionally, pursuant to our "at the market" equity offering program, we may sell shares of our common stock having aggregate sales proceeds of up to \$25.0 million from time to time through Cowen and Company, LLC, as our agent. Through December 31, 2023, we sold an aggregate of 1,808,484 shares of our common stock under this at the market offering. The issuance and sale of additional shares of our common stock pursuant to our "at the market" equity offering program or otherwise will have a dilutive impact on our existing shareholders. Additionally, any new equity securities issued by us could have rights, preferences or privileges senior to those of our common stock. Further, the issuance and sale of, or the perception that we may issue and sell, additional shares of common stock pursuant to our "at the market" equity offering program or an additional private placement or another offering could have the effect of depressing the market price of our common stock or increasing the volatility thereof.

Any issuance by us or sales of our securities by our security holders, including by any of our affiliates, or the perception that such issuances or sales could occur, could negatively impact the market price of our securities. For example, a number of shareholders own significant blocks of our common stock. If one or more of these large shareholders were to sell large portions of their holdings in a relatively short time, for liquidity or other reasons, the prevailing market price of our common stock could be negatively affected. This could result in further potential dilution to our existing shareholders and the impairment of our ability to raise capital through the sale of equity, debt or other securities.

We may be unable to maintain compliance with Nasdaq Marketplace Rules which could cause our common stock to be delisted from the Nasdaq Global Market. This could result in the lack of a market for our common stock, cause a decrease in the value of our common stock, and adversely affect our business, financial condition and results of operations.

Under the Nasdaq Marketplace Rules our common stock must maintain a minimum price of \$1.00 per share for continued inclusion on the Nasdaq Global Market. Our stock price was \$2.91 on March 8, 2024 and we cannot guarantee that our stock price will remain at or above \$1.00 per share. If the price drops below \$1.00 per share, our stock could become subject to delisting, and we may seek shareholder approval for a reverse stock split, which in turn could produce adverse effects and may not result in a long-term or permanent increase in the price of our common stock. Further, for continued listing on the Nasdaq Global Market we must have at least 400 total shareholders.

In addition to the minimum \$1.00 per share and 400 total shareholders requirements, the Nasdaq Global Market has other continued listing requirements, and we must meet all of the criteria under at least one of the following three standards: (i) a minimum of \$50.0 million in total asset value and \$50.0 million in revenues in the latest fiscal year or in two of the last three fiscal years, at least 1.1 million publicly held shares, at least \$15.0 million in market value of publicly held shares and at least four registered and active market makers (as such term is defined by the Nasdaq Marketplace Rules); (ii) a minimum of \$50.0 million in market value of listed securities, at least 1.1 million publicly held shares, at least \$15.0 million in market value of publicly held shares and at least four registered and active market makers; or (iii) a minimum of \$10.0 million in shareholders' equity, at least 750,000 publicly held shares, at least \$5.0 million in market value of publicly held shares and at least two registered and active market makers. As of December 31, 2023, we were in compliance with these listing requirements. Our stock price is volatile and we believe that we continue to remain susceptible to the market value of our listed securities and/or the market value of our publicly held securities falling below \$50.0 million and \$5.0 million, respectively. Accordingly, we cannot assure you that we will be able to continue to comply with Nasdaq Global Market's listing requirements. Should we be unable to remain in compliance with these requirements, our stock could become subject to delisting.

If our common stock is delisted, trading of the stock will most likely take place on an over-the-counter market established for unlisted securities. An investor is likely to find it less convenient to sell, or to obtain accurate quotations in seeking to buy, our common stock on an over-the-counter market, and many investors may not buy or sell our common stock due to difficulty in accessing over-the-counter markets, or due to policies preventing them from trading in securities not listed on a national exchange or other reasons. For these reasons and others, delisting would adversely affect the liquidity, trading volume and price of our common stock, causing the value of an investment in us to decrease and having an adverse effect on our business, financial condition and results of operations by limiting our ability to attract and retain qualified executives and employees and limiting our ability to raise capital.

The anti-takeover provisions of Oregon law and in our articles of incorporation could adversely affect the rights of the holders of our common stock, including by preventing a sale or takeover of us at a price or prices favorable to the holders of our common stock.

Provisions of our articles of incorporation and bylaws and provisions of Oregon law may have the effect of delaying or preventing a merger or acquisition of us, making a merger or acquisition of us less desirable to a potential acquirer or preventing a change in our management, even if our shareholders consider the merger, acquisition or change in management favorable or if doing so would benefit our shareholders. In addition, these provisions could limit the price that investors would be willing to pay in the future for shares of our common stock. The following are examples of such provisions:

- if the number of directors is fixed by the board at eight or more, our board of directors is divided into three classes serving staggered terms, which would make it more difficult for a group of shareholders to quickly replace a majority of directors;
- our board of directors is authorized, without prior shareholder approval, to create and issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to acquire us or to effect a change of control, commonly referred to as "blank check" preferred stock;
- members of our board of directors can be removed only for cause and at a meeting of shareholders called expressly for that purpose, by the vote of 75 percent of the votes then entitled to be cast for the election of directors;
- our board of directors may alter our bylaws without obtaining shareholder approval; and shareholders are required to provide advance notice for nominations for election to the board of directors or for proposing matters to be acted upon at a shareholder meeting;
- Oregon law permits our board to consider other factors beyond shareholder value in evaluating any acquisition offer (so-called "expanded constituency" provisions); and
- a supermajority (67%) vote of shareholders is required to approve certain fundamental transactions.

Item 1B. Unresolved Staff Comments.

Not applicable.

Item 1C. Cybersecurity.

We place the utmost importance on the security of our systems and the data we handle. We maintain a comprehensive process for identifying, assessing, and managing material risks from cybersecurity threats as part of our broader risk management system and processes.

To identify and assess risks from cybersecurity threats, we evaluate a variety of developments including threat intelligence, vulnerabilities of third parties, including any auditors or consultants who advise on our cybersecurity systems, evolving regulatory requirements, and observed cybersecurity incidents, among others. We regularly conduct risk assessments to evaluate the maturity and effectiveness of our systems and processes in addressing cybersecurity threats and to identify any areas for remediation and opportunities for enhancements. The results of such assessments are evaluated by management and reported to our board of directors and the audit committee, and we adjust our cybersecurity policies, standards, processes, and practices as necessary.

Our audit committee is responsible for the oversight of risks from cybersecurity threats and directly oversees our cybersecurity policies and practices, internal controls regarding information security, and compliance with legal and regulatory requirements regarding cybersecurity risks. The audit committee receives regular reports and updates on cybersecurity matters from the leaders of our dedicated security team and management, including developments on existing and new cybersecurity risks and how management is addressing and/or mitigating such risks, cybersecurity and data privacy incidents (if any), the status of key information security initiatives, vulnerability assessments, as well as on existing and emerging threat landscapes. Additionally, on at least an annual basis, the audit committee reviews and discusses with management our policies and programs with respect to the audit committee's oversight of cybersecurity threats, which enable the audit committee's effective oversight of our overall cybersecurity risk and compliance posture. The audit committee regularly reports to the board of directors on these matters.

We have a dedicated security team led by our Director of Worldwide IT, who, in coordination with management, including our Chief Executive Officer, Chief Financial Officer, and Chief Legal Officer, monitors the prevention, detection, mitigation, and remediation of cybersecurity threats and incidents in accordance with our incident response and recovery plans. Threats and incidents that are identified as potentially significant are promptly reported to the audit committee. Our dedicated security team has over 20 years of experience in managing and monitoring corporate cybersecurity programs.

While risks from cybersecurity threats, including as a result of any previous cybersecurity incidents, have not materially affected and are not reasonably likely to materially affect our Company, including our business strategy, results of operations, or financial condition,

we cannot provide assurance that they will not be materially affected in the future by such risks or any future material incidents. See "Risk Factors" in Part I, Item 1A of this Annual Report on Form 10-K for further information regarding cybersecurity risks.

Item 2. Properties.

We lease facilities around the world to house our engineering, sales, customer support, administrative and operations functions. We do not own any of our facilities. As of December 31, 2023, our major facilities consisted of the following:

Location	Function(s)	Square Feet Utilized	Lease Expiration
China	Engineering; sales; customer support; administration	46,000	Various dates through August 2026
Toronto	Engineering; administration	12,000	March 2027
California	Administration; engineering; sales	10,000	September 2024
Taiwan	Customer support; sales; operations; engineering	16,000	Various dates through May 2025
Oregon	Administration	5,000	December 2024
Japan	Sales; customer support	3,000	January 2025

Item 3. Legal Proceedings.

We are subject to legal matters that arise from time to time in the ordinary course of our business. Although we currently believe that resolving such matters, individually or in the aggregate, will not have a material adverse effect on our financial position, our results of operations, or our cash flows, these matters are subject to inherent uncertainties and our view of these matters may change in the future.

Item 4. Mine Safety Disclosures.

Not Applicable.

PART II

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

Market for Registrant's Common Equity and Related Stockholder Matters

Our common stock is listed for trading on the Nasdaq Global Market under the symbol "PXLW". Our stock began trading on May 19, 2000.

As of March 8, 2024, there were 115 shareholders of record of our common stock and the last per share sales price of the common stock on that date was \$2.80. The number of beneficial owners of our common stock is substantially greater than the number of shareholders of record because a significant portion of our outstanding common stock is held in broker "street name" for the benefit of individual investors.

Item 6. Reserved.

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

Overview

Pixelworks is a leading provider of high-performance and power-efficient visual processing semiconductor and software solutions that enable consistently high-quality and authentic viewing experiences in a wide variety of applications. We define our primary target markets as Mobile (smartphone and tablet), Home & Enterprise (projectors, personal video recorders ("PVR"), and over-the-air ("OTA") streaming devices), and Cinema (creation, remastering, and delivery of digital video content). Previously we classified our primary target markets as Mobile, Projector, Video Delivery and Cinema, but have since aggregated the Projector and Video Delivery categories into one called "Home & Enterprise".

Pixelworks has been a pioneer in visual processing technology for over 20 years. We were one of the first companies to commercially launch a video System on Chip ("SoC") capable of deinterlacing 1080i HDTV signals and one of the first companies with a commercial dual-channel 1080i deinterlacer integrated circuit. We launched one of the industry's first single-chip SoCs for digital projection. We were the first company to integrate motion estimation / motion compensation technology ("MEMC") as a mobile-optimized solution for smartphones. In 2019, we introduced our Hollywood award-winning TrueCut® video platform, the industry's first motion grading technology that allows fine tuning of motion appearance in cinematic content.

Our core visual processing technology intelligently processes digital images and video from a variety of sources and optimizes the content for a superior viewing experience. Rapid growth in video and gaming consumption, combined with the move towards bright, high resolution, high frame rate and high refresh rate displays, especially in mobile, is increasing the demand for our solutions. Our technologies can be applied across a wide range of applications: cinema theaters, low-power mobile tablets, smartphones, streaming devices, and digital projectors for the home, school, or the workplace. Our products are designed and optimized for power, cost, bandwidth, viewer experience, and overall system performance, according to the requirements of the specific application. On occasion, we have also licensed our technology.

During 2021, we engaged in a strategic plan to re-align our Mobile and Home & Enterprise businesses to improve their focus on their Asia-centered customers and employee stakeholders. One of our Chinese subsidiaries, Pixelworks Semiconductor Technology (Shanghai) Co., Ltd. (or "PWSH"), now operates these businesses as a full profit-and-loss center underneath Pixelworks. In connection with this strategic plan, the Company and PWSH closed three separate financing transactions in 2021 and 2022, which are further described in "Note 14: Redeemable Non-Controlling Interest and Equity Interest of PWSH Sold to Employees" and "Note 15: Non-Controlling Interest", which are incorporated by reference into this section. PWSH has a branch office located in Shenzhen, China (Pixelworks Semiconductor Technology (Shanghai) Co. Ltd. Shenzhen Branch Office No. 1), which is primarily for sales and customer support for PWSH, and a subsidiary located in Hong Kong (Pixelworks Hong Kong Limited), which has no employees and is used for distribution of PWSH products. Pixelworks has an additional subsidiary in China (Frame Shadow Technology (Shanghai) Co., Ltd. (formerly called Mucheng Huai Management Consulting (Shanghai) Co., Ltd)) which is a research and development center for our TrueCut business. This subsidiary does not operate under PWSH, but rather is owned by Pixelworks through our Oregon limited liability company, Pixelworks Semiconductor Technology Company, LLC.

We continue to prepare PWSH to file an application for an initial public offering of PWSH shares on the Shanghai Stock Exchange's Science Technology Innovation Board, known as the STAR Market (the "Listing") once market conditions in China are supportive. We believe that the Listing will have many benefits, including improved access to new capital markets and the funding of PWSH's growth worldwide. The process of going public on the STAR Market is lengthy and includes several periods of review by various government agencies of the People's Republic of China ("PRC"), such as the Shanghai Stock Exchange ("SSE") and the China Securities Regulatory Commission ("CSRC"). The CSRC and the SSE have recently tightened the standards for the STAR Market and are currently advising companies that are not yet profitable under China GAAP standards against filing an IPO application in the present environment. The Company believes this is in large part due to the current economic conditions in China and the recent performance of companies already listed on the STAR Market that were not profitable at the time of their IPO. PWSH is not currently profitable under China GAAP standards. There is no guarantee that PWSH will be approved for a Listing at any point in the future. The listing of PWSH on the STAR Market will not change the status of PXLW as a U.S. public company. More than a majority of our operations are in China, but our executive officers and all of our directors but one are located in the United States (and he resides in Singapore). We are neither a PRC operating company nor do we conduct our operations in China through the use of variable interest entities.

As of December 31, 2023, we had an intellectual property portfolio of 280 patents related to the visual display of digital image data. We focus our research and development efforts on developing video algorithms that improve quality and architectures that reduce system power, cost, bandwidth and increase overall system performance and device functionality. We seek to expand our technology portfolio through internal development and co-development with business partners, and we continually evaluate acquisition opportunities and other ways to leverage our technology into other high-value markets.

Pixelworks was founded in 1997 and is incorporated under the laws of the state of Oregon. On August 2, 2017, we acquired ViXS Systems Inc., a corporation organized in Canada ("ViXS").

Historically, significant portions of our revenue have been generated by sales to a relatively small number of end customers and distributors. We sell our products worldwide through a direct sales force, distributors and manufacturers' representatives. We sell to distributors in China, Japan and Taiwan. Our distributors often provide engineering support to our end customers and often have valuable and established relationships with our end customers. In certain countries in which we operate, it is customary to sell to distributors. While distributor payment to us is not dependent upon the distributor's ability to resell the product or to collect from the end customer, the distributors may provide longer payment terms to end customers than those we would offer.

Significant portions of our products are sold overseas. Sales outside the U.S. accounted for approximately 99.7% and 95.1% of revenue in 2023 and 2022, respectively. Our integrators, branded manufacturers and branded suppliers incorporate our products into systems that are sold worldwide. The majority of our revenue to date has been denominated in U.S. dollars.

Seasonality

Our business is subject to seasonality related to the markets we serve and the location of our customers. We have typically experienced higher revenue from the digital projector component of the Home & Enterprise market in the third quarter, and lower revenue in the first quarter, as our Japanese customers reduce inventories in anticipation of their March 31 fiscal year end. We have typically experienced higher revenue from the mobile market in the fourth quarter, and lower revenue in the first quarter, as mobile phone OEMs ramp production in advance of Chinese New Year.

Results of Operations

For the year ended December 31, 2023 compared with year ended December 31, 2022.

Revenue, net

Net revenue was as follows (in thousands):

	Year ended December 31,		2023 v. 2022	
	2023	2022	\$ change	% change
Revenue, net	\$ 59,677	\$ 70,146	\$ (10,469)	(15)%

Net revenue decreased \$10.5 million, or 15%, from 2022 to 2023.

Revenue recorded in 2023 consisted of \$58.6 million in revenue from the sale of integrated circuits ("IC") products and \$1.1 million in revenue related to engineering services, license revenue and other. Revenue recorded in 2022 consisted of \$68.2 million in revenue from the sale of IC products and \$1.9 million in revenue related to engineering services, license revenue and other.

The decrease in IC revenue from 2022 compared to 2023 is due to the following factors:

- Sales into the Home & Enterprise market decreased \$17.8 million or 38%, primarily due to a decrease in customer demand resulting from customers absorbing inventory purchased with long lead times during the supply shortage in 2022, as well as implementing an end-of-life in 2022 on some of our legacy products sold into what we previously referred to as the Video Delivery market.
- Sales into the Mobile market increased \$8.3 million or 39%, primarily due to increased average selling prices as our customers adopt and transition to our next generation mobile product.

Revenue related to engineering services, license revenue and other decreased \$0.9 million or 46% primarily due to a decrease in licensing revenue in the Mobile market. Revenue related to the Cinema market was not material in 2023 or 2022 and was therefore included in the engineering services, license revenue and other category within the Mobile market.

Cost of revenue and gross profit

Cost of revenue and gross profit were as follows (in thousands):

	Year ended December 31,			
	2023	% of revenue	2022	% of revenue
Direct product costs and related overhead ¹	\$ 33,599	56.3 %	\$ 34,070	48.6 %
Inventory charges ²	280	0.5	82	0.1
Stock-based compensation	89	0.1	41	0.1
Amortization of acquired developed technology	—	0.0	72	0.1
Total cost of revenue	\$ 33,968	56.9 %	\$ 34,265	48.8 %
Gross profit	\$ 25,709	43.1 %	\$ 35,881	51.2 %

¹ Includes purchased materials, assembly, test, labor, employee benefits and royalties.

² Includes charges to reduce inventory to lower of cost or net realizable value and a benefit for sales of previously written down inventory.

Gross profit margin decreased to 43% in 2023 compared to 51% in 2022, primarily due to product mix. The decrease in sales into the Home & Enterprise market as well as the increase in sales into the Mobile market both unfavorably impacted gross profit margin. The decrease was also due to lower absorption of fixed overhead costs.

Pixelworks' gross profit margin is subject to variability based on changes in revenue levels, product mix, average selling prices, startup costs, amortization related to acquired developed technology and the timing and execution of manufacturing ramps as well as other factors.

Research and development

Research and development expense includes compensation and related costs for personnel, development-related expenses including non-recurring engineering and fees for outside services, depreciation and amortization, expensed equipment, facilities and information technology expense allocations and travel and related expenses.

Co-Development Agreement

During 2021, we entered into a best-efforts co-development agreement with a customer to defray a portion of the research and development expenses we expect to incur in connection with our development of an integrated circuit product. We expect our development costs to exceed the amounts received from the customer, and although we expect to sell units of the product to the customer, there is no commitment or agreement from the customer for such sales at this time. Additionally, we retain ownership of any modifications or improvements to our pre-existing intellectual property and may use such improvements in products sold to other customers.

Under the co-development agreement, \$5.8 million was payable by the customer within 60 days of the date of the agreement and three additional payments of \$2.5 million, \$1.9 million and \$1.3 million are each payable upon completion of certain development milestones. As amounts become due and payable, they are offset against research and development expense on a pro rata basis. We recognized offsets to research and development expense of approximately \$3.2 and \$4.3 million during the years ended December 31, 2023 and 2022, respectively.

Research and development expense was as follows (in thousands):

	Year ended December 31,		2023 v. 2022	
	2023	2022	\$ change	% change
Research and development	\$ 30,878	\$ 30,521	\$ 357	1 %

Research and development expense increased \$0.4 million, or 1%, from 2022 to 2023 due to the following factors:

- Compensation expense increased \$1.0 million due to an increase in headcount and annual merit salary increases.
- The credit recognized related to the co-development agreement decreased by \$1.1 million in 2023 compared to the credit recognized in 2022.
- These increases were partially offset by a \$1.7 million decrease in non-recurring engineering expense due to the timing of development activities.

Selling, general and administrative

Selling, general and administrative expense includes compensation and related costs for personnel, sales commissions, allocations for facilities and information technology expenses, travel, outside services and other general expenses incurred in our sales, marketing, customer support, management, legal and other professional and administrative support functions.

Selling, general and administrative expense was as follows (in thousands):

	Year ended December 31,		2023 v. 2022	
	2023	2022	\$ change	% change
Selling, general and administrative	\$ 23,467	\$ 22,177	\$ 1,290	6 %

Selling, general and administrative expense increased \$1.3 million, or 6%, from 2022 to 2023 due to the following factors:

- Compensation expense increased \$0.8 million due to an increased management bonus accrual and one time reversal of a payroll tax accrual in 2022.
- Accounting and other professional fees increased \$0.5 million primarily due to fees incurred related to our strategic plan with our subsidiary, PWSH.

Interest income and other, net

Interest income and other, net, consisted of the following (in thousands):

	Year ended December 31,	
	2023	2022
Interest income	\$ 1,950	\$ 670
Other income	125	80
Interest expense	(25)	(50)
Total interest income and other, net	\$ 2,050	\$ 700

The increase in interest income in 2023 compared to 2022 is due to increased interest earned on our cash and cash equivalents balance due to the increase in the interest rate available throughout the full year in 2023 compared to the full year in 2022.

Provision (benefit) for income taxes

The benefit for income taxes was as follows (in thousands):

	Year ended December 31,	
	2023	2022
Provision (benefit) for income taxes	\$ 357	\$ (884)

The income tax expense of \$0.4 million recorded for the year ended December 31, 2023 is primarily composed of tax expense of \$0.1 million for our profitable cost-plus jurisdictions and deferred tax expense of approximately \$0.3 million.

The income tax benefit of \$0.9 million recorded for the year ended December 31, 2022 is primarily composed of \$1.8 million of tax benefit for the reversal of tax contingencies in foreign jurisdictions, partially offset by tax expense of \$0.3 million for our profitable cost-plus jurisdictions and deferred tax expense of approximately \$0.6 million related to a change in the realizability of our Canadian deferred tax assets.

We continue to record a full valuation allowance against our U.S., Canada and China net deferred tax assets as of December 31, 2023 and 2022, as it is not more likely than not that we will realize a benefit from these assets in a future period. As of December 31, 2022, we were no longer more-likely-than-not to realize our remaining Canadian deferred tax assets and have recorded a full valuation allowance. We have not provided a valuation allowance against our other foreign net deferred tax assets as we have concluded it is more-likely-than-not that we will realize a benefit from these assets in a future period because our subsidiaries in these jurisdictions are cost-plus taxpayers. The net valuation allowance decreased \$11.0 million for the year ended December 31, 2023 and decreased \$4.4 million for the year ended December 31, 2022.

As of December 31, 2023, we have federal, state and foreign net operating loss carryforwards of approximately \$154.5 million, \$16.3 million, and \$89.0 million respectively, which will begin expiring in 2024. As of December 31, 2023, we have available federal, state and foreign research and experimentation tax credit carryforwards of approximately \$5.7 million, \$5.4 million and \$21.9 million respectively. The federal tax credits will begin expiring in 2024 while the state and foreign tax credits have an indefinite life. In addition, our Canadian subsidiary has unclaimed scientific and experimental expenditures to be carried forward and applied against future income in Canada of approximately \$120.5 million. Our ability to utilize our federal net operating losses may be limited by Section 382 of the Internal Revenue Code of 1986, as amended, which imposes an annual limit on the ability of a corporation that undergoes an "ownership change" to use its net operating loss carryforwards to reduce its tax liability. An ownership change is generally defined as a greater than 50% increase in equity ownership by 5% shareholders in any three-year period.

Liquidity and Capital Resources

Cash and cash equivalents

Total cash and cash equivalents decreased \$9.3 million from \$56.8 million at December 31, 2022 to \$47.5 million at December 31, 2023. The net decrease was the result of \$18.8 million used in operating activities, \$4.0 million used for purchases of property and equipment and licensed technology and \$1.4 million used for payments on other asset financings. These decreases were partially offset by increases of \$14.6 million received in net proceeds from our non-controlling interest and certain entities owned by employees and \$0.3 million in proceeds from the issuances of common stock under our employee equity incentive plans.

As of December 31, 2023, our cash and cash equivalents balance consisted of \$36.5 million in cash and \$1.0 million in cash equivalents held in U.S. dollar denominated money market funds and \$10.0 million held in U.S. dollar denominated certificates of deposit. Our investment policy requires that our portfolio maintains a weighted average maturity of less than 12 months. Additionally, no maturities can extend beyond 24 months and concentrations with individual securities are limited. At the time of purchase, short-term credit rating must be rated at least A-2 / P-2 / F-2 by at least two Nationally Recognized Statistical Rating Organizations ("NRSRO") and securities of issuers with a long-term credit rating must be rated at least A or A3 by at least two NRSROs. Our investment policy is reviewed at least annually by our Audit Committee.

Accounts receivable, net

Accounts receivable, net increased to \$10.1 million at December 31, 2023 from \$10.0 million at December 31, 2022. Average number of days sales outstanding increased to 56 days at December 31, 2023 from 54 days at December 31, 2022.

Inventories

Inventories increased to \$4.0 million at December 31, 2023 from \$1.8 million at December 31, 2022. Inventory turnover decreased to 8.6 at December 31, 2023 from 16.6 at December 31, 2022 primarily due to higher average inventory balances in 2023 compared to 2022. Inventory turnover is calculated based on annual operating results and average inventory balances during the year.

Capital resources

At the Market Offering

On June 5, 2020, we entered into a sales agreement (the "Sales Agreement") with Cowen and Company, LLC ("Cowen"), pursuant to which we may issue and sell shares of the Company's common stock, par value \$0.001 per share, having an aggregate offering price of up to \$25.0 million, from time to time, through an "at the market" equity offering program under which Cowen will act as sales agent. Under the Sales Agreement, Cowen may sell the shares by methods deemed to be an "at the market offering" as defined in Rule 415(a)(4) promulgated under the Securities Act of 1933, as amended, including sales made by means of ordinary brokers' transactions on the Nasdaq Global Market or on any other existing trading market for the common stock or otherwise at market prices prevailing at the time of sale, in block transactions, or as otherwise directed by us. We pay Cowen a commission equal to three percent (3.0%) of the gross sales proceeds of any common stock sold through Cowen under the Sales Agreement. The Sales Agreement may be terminated by us upon prior notice to Cowen or by Cowen upon prior notice to us, or at any time under certain circumstances, including but not limited to the occurrence of a material adverse change in the Company. We are not obligated to sell any shares under the Sales Agreement.

There was no activity under this at the market offering during the years ended December 31, 2023 and December 31, 2022.

Capital Increase Agreements

We have entered into a Capital Increase Agreement pursuant to which PWSH, one of our Chinese subsidiaries, received net proceeds from the sale of its securities pursuant thereto in an amount of RMB 279.7 million (\$42.3 million USD). Additional information is provided in "Note 14: Redeemable Non-Controlling Interest and Equity Interest of PWSH Sold to Employees", which is incorporated by reference into this section.

We have entered into a Capital Increase Agreement pursuant to which PWSH, one of our Chinese subsidiaries, received net proceeds from the sale of its securities pursuant thereto in an amount of 99.0 million RMB (\$14.6 million USD). Additional information is provided in "Note 15: Non-Controlling Interest", which is incorporated by reference into this section.

Equity Transfer Agreement

We have entered into an Equity Transfer Agreement pursuant to which we received net proceeds of \$10.7 million in exchange for a 2.73% equity interest in PWSH. Additional information is provided in "Note 15: Non-Controlling Interest", which is incorporated by reference into this section.

Liquidity

As of December 31, 2023, our cash and cash equivalents balance of \$47.5 million was highly liquid. We currently anticipate that our existing working capital will be adequate to fund our operating, investing and financing needs for the twelve months following our 2023 fiscal year end and beyond. We may pursue financing arrangements including the issuance of debt or equity securities or reduce expenditures, or both, to meet the Company's cash requirements, including in the longer term. There is no assurance that, if required, we will be able to raise additional capital or reduce discretionary spending to provide the required liquidity which, in turn, may have an adverse effect on our results of operations, financial position and cash flows.

From time to time, we evaluate acquisitions of businesses, products or technologies that complement our business. Any transactions, if consummated, may consume a material portion of our working capital or require the issuance of equity securities that may result in dilution to existing shareholders. Our ability to generate cash from operations is also subject to substantial risks described in Part I, "Item 1A, Risk Factors." If any of these risks occur, we may be unable to generate or sustain positive cash flow from operating activities. We would then be required to use existing cash and cash equivalents to support our working capital and other cash requirements. If additional funds are required to support our working capital requirements, acquisitions or other purposes, we may seek to raise funds through debt financing, equity financing or from other sources. If we raise additional funds through the issuance of equity or convertible debt securities, the percentage ownership of our shareholders could be significantly diluted, and these newly-issued securities may have rights, preferences or privileges senior to those of existing shareholders. If we raise additional funds by obtaining loans from third parties, the terms of those financing arrangements may include negative covenants or other restrictions on our business that could impair our operating flexibility, and would also require us to incur interest expense. We can provide no assurance that additional financing will be available at all or, if available, that we would be able to obtain additional financing on terms favorable to us.

Critical Accounting Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires us to make estimates and judgments that affect the amounts reported. On an ongoing basis, we evaluate our estimates, including those related to revenue recognition, inventories, property and equipment, impairment of long-lived assets, valuation of goodwill, valuation of share-based payments, income taxes, litigation and other contingencies. We base our estimates on historical experience and various other assumptions that we believe to be reasonable under the circumstances. Actual results may differ from these estimates under different assumptions or conditions.

We believe the following critical accounting policies affect our more significant judgments and estimates used in the preparation of our consolidated financial statements:

Inventory Valuation. We value inventory at the lower of cost or net realizable value. In addition, we write down any obsolete, unmarketable or otherwise impaired inventory to net realizable value. The determination of obsolete or excess inventory requires us to estimate the future demand for our products. The estimate of future demand is compared to inventory levels to determine the amount, if any, of obsolete or excess inventory. If actual market conditions are less favorable than those we projected at the time the inventory was written down, additional inventory write-downs may be required. Inventory valuation is re-evaluated on a quarterly basis.

Goodwill. Goodwill is not amortized, rather tested, at least annually, for impairment at a reporting unit level. Impairment of goodwill is the condition that exists when the carrying amount of a reporting unit that includes goodwill exceeds its fair value. A goodwill impairment loss is recognized for the amount that the carrying amount of the reporting unit, including goodwill, exceeds its fair value, limited to the total amount of goodwill allocated to that reporting unit. If the fair value of a reporting unit exceeds the carrying amount, goodwill of the reporting unit is not considered impaired.

We evaluate impairment using the guidance set forth in FASB Accounting Standards Update ("ASU") No. 2017-04, *Intangibles-Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment* ("ASU 2017-04") which states that an entity may first assess qualitative factors to determine whether it is necessary to perform the quantitative goodwill impairment test. If determined to be necessary, the quantitative impairment test shall be used to identify goodwill impairment and measure the amount of goodwill impairment loss to be recognized. An entity has an unconditional option to bypass the qualitative assessment for any reporting unit in any period and proceed directly to the quantitative goodwill impairment test. We performed a qualitative assessment during the fourth quarter of 2023 and concluded that it was not more likely than not that the fair value of the reporting unit was less than its carrying amount. As a result, we concluded that a quantitative impairment test was not required and that goodwill was not impaired.

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

Not applicable.

Item 8. Financial Statements and Supplementary Data.

The following financial statements and reports are included in Item 8:

[Reports of Independent Registered Public Accounting Firms \(PCAOB IDS: 248 & 32\)](#)

[Consolidated Balance Sheets as of December 31, 2023 and 2022](#)

[Consolidated Statements of Operations for the years ended December 31, 2023 and 2022](#)

[Consolidated Statements of Comprehensive Loss for the years ended December 31, 2023 and 2022](#)

[Consolidated Statements of Cash Flows for the years ended December 31, 2023 and 2022](#)

[Consolidated Statements of Shareholders' Equity for the years ended December 31, 2023 and 2022](#)

[Notes to Consolidated Financial Statements](#)

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders
Pixelworks, Inc.

Opinion on the financial statements

We have audited the accompanying consolidated balance sheet of Pixelworks, Inc. and subsidiaries (the "Company") as of December 31, 2023, the related consolidated statements of operations, comprehensive loss, shareholders' equity, and cash flows for the year ended December 31, 2023, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2023, and the results of its operations and its cash flows for the year ended December 31, 2023, in conformity with accounting principles generally accepted in the United States of America.

Basis for opinion

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

We conducted our 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 the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audit we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

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

Critical audit matter

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

Net Realizable Value of Inventories - the Determination of Obsolete or Excess Inventories

As described further in Notes 2 and 3 to the consolidated financial statements, the Company writes down any obsolete, unmarketable, or otherwise impaired inventory to net realizable value. The determination of obsolete or excess inventory requires management to estimate the future demand for the Company's products. The estimate of future demand is compared to inventory levels to determine the amount, if any, of obsolete or excess inventory. We identified the net realizable value of inventories as a critical audit matter.

The principal considerations for our determination that the net realizable value of inventories is a critical audit matter are that significant judgement by management is needed when determining obsolete or excess inventories, including developing an estimate of future demand. The estimate of future demand requires management to make subjective and complex assumptions related to market conditions, business strategies and technology trends. Given this, significant auditor judgment and effort in performing procedures and evaluating management's significant assumptions are required for this estimate.

Our audit procedures related to the net realizable value of inventories included the following, among others:

- We obtained management's analysis for estimated excess or obsolete inventories. We evaluated the appropriateness of management's approach and tested the completeness and accuracy of the underlying data.
- We evaluated the reasonableness of management's significant assumptions related to future demand and market conditions considering current and past results, industry reports, and inquiries with management and employees outside of accounting function.
- We assessed management's ability to forecast by comparing the actual results with the respective forecast for the same period.

/s/ GRANT THORNTON LLP

We have served as the Company's auditor since 2023.

San Francisco, California

March 13, 2024

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders
Pixelworks, Inc.
Portland, Oregon

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheet of Pixelworks, Inc. and its subsidiaries (the "Company") as of December 31, 2022, and the related consolidated statements of operations, comprehensive loss, shareholders' equity, and cash flows for the year ended December 31, 2022, and the related notes (collectively referred to as the "consolidated financial statements").

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2022, and the results of its operations and its cash flows for the year ended December 31, 2022, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

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

We conducted our 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 the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audit also included performing such other procedures as we considered necessary in the circumstances.

Our audit of the consolidated financial statements 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 audit 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 audit provides a reasonable basis for our opinion.

/s/ Armanino LLP

San Ramon, California
March 8, 2023

We began serving as the Company's auditor in 2020. In 2023, we became the predecessor auditor.

PIXELWORKS, INC.
CONSOLIDATED BALANCE SHEETS
(In thousands, except share data)

	December 31,	
	2023	2022
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 47,544	\$ 56,821
Accounts receivable, net	10,075	10,047
Inventories	3,968	1,760
Prepaid expenses and other current assets	3,138	3,745
Total current assets	<u>64,725</u>	<u>72,373</u>
Property and equipment, net	5,997	4,632
Operating lease right-of-use assets	4,725	3,331
Other assets, net	2,115	3,580
Goodwill	18,407	18,407
Total assets	<u>\$ 95,969</u>	<u>\$ 102,323</u>
LIABILITIES, REDEEMABLE NON-CONTROLLING INTEREST AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 2,416	\$ 3,143
Accrued liabilities and current portion of long-term liabilities	9,692	8,849
Current portion of income taxes payable	189	519
Total current liabilities	<u>12,297</u>	<u>12,511</u>
Long-term liabilities, net of current portion	1,373	1,005
Deposit liability	13,781	13,537
Operating lease liabilities, net of current portion	2,567	2,148
Income taxes payable, net of current portion	939	872
Total liabilities	<u>30,957</u>	<u>30,073</u>
Commitments and contingencies (Note 10)		
Redeemable non-controlling interest	<u>28,214</u>	<u>28,919</u>
Shareholders' equity:		
Preferred stock, \$0.001 par value, 50,000,000 shares authorized, none issued	—	—
Common stock, \$0.001 par value; 250,000,000 shares authorized, 57,126,680 and 55,113,186 shares issued and outstanding as of December 31, 2023 and 2022, respectively.	486,324	481,229
Accumulated other comprehensive income	3,378	2,178
Accumulated deficit	(477,161)	(450,985)
Total Pixelworks, Inc. shareholders' equity	<u>12,541</u>	<u>32,422</u>
Non-controlling interest	24,257	10,909
Total shareholders' equity	<u>36,798</u>	<u>43,331</u>
Total liabilities, redeemable non-controlling interest and shareholders' equity	<u>\$ 95,969</u>	<u>\$ 102,323</u>

See accompanying notes to consolidated financial statements.

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

	Year Ended December 31,	
	2023	2022
Revenue, net	\$ 59,677	\$ 70,146
Cost of revenue (1)	33,968	34,265
Gross profit	25,709	35,881
Operating expenses:		
Research and development (2)	30,878	30,521
Selling, general and administrative (3)	23,467	22,177
Total operating expenses	54,345	52,698
Loss from operations	(28,636)	(16,817)
Interest income and other, net	2,050	700
Loss before income taxes	(26,586)	(16,117)
Provision (benefit) for income taxes	357	(884)
Net loss	(26,943)	(15,233)
Less: Net (income) loss attributable to non-controlling interests and redeemable non-controlling interests	767	(797)
Net loss attributable to Pixelworks, Inc.	\$ (26,176)	\$ (16,030)
Net loss attributable to Pixelworks, Inc. per share - basic and diluted	\$ (0.47)	\$ (0.30)
Weighted average shares outstanding - basic and diluted	<u>56,163</u>	<u>54,335</u>
(1) Includes:		
Stock-based compensation	\$ 89	\$ 41
Amortization of acquired intangible assets	—	72
(2) Includes stock-based compensation	1,866	2,351
(3) Includes:		
Stock-based compensation	2,841	2,806
Amortization of acquired intangible assets	—	18

See accompanying notes to consolidated financial statements.

PIXELWORKS, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(In thousands)

	Year Ended December 31,	
	2023	2022
Net loss	\$ (26,943)	\$ (15,233)
Other comprehensive loss:		
Foreign currency translation adjustment	1,192	2,612
Foreign pension adjustment	10	53
Tax effect of foreign pension adjustment	(2)	(19)
Comprehensive loss	(25,743)	(12,587)
Less: comprehensive (income) loss attributable to non-controlling interest and redeemable non-controlling interests	767	(797)
Total comprehensive loss attributable to Pixelworks, Inc.	\$ (24,976)	\$ (13,384)

See accompanying notes to consolidated financial statements.

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

	Year Ended December 31,	
	2023	2022
Cash flows from operating activities:		
Net loss	\$ (26,943)	\$ (15,233)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation	4,796	5,198
Depreciation and amortization	4,287	4,657
Deferred income tax expense	301	428
Reversal of uncertain tax positions	(2)	(2,171)
Amortization of acquired intangible assets	—	90
Other	—	8
Changes in operating assets and liabilities:		
Accounts receivable, net	(28)	(1,339)
Inventories	(2,208)	(291)
Prepaid expenses and other current and long-term assets, net	4,508	1,535
Accounts payable	(727)	486
Accrued current and long-term liabilities	(2,537)	(6,688)
Income taxes payable	(261)	486
Net cash used in operating activities	<u>(18,814)</u>	<u>(12,834)</u>
Cash flows from investing activities:		
Purchases of property and equipment	(3,832)	(1,592)
Purchases of licensed technology	(156)	(1,415)
Net cash used in investing activities	<u>(3,988)</u>	<u>(3,007)</u>
Cash flows from financing activities:		
Net proceeds from issuance of equity interest to non-controlling interest	14,596	10,738
Payments on asset financings	(1,370)	(1,457)
Proceeds from issuances of common stock under employee equity incentive plans	299	387
Net proceeds from issuance of equity interest to certain entities owned by employees	—	1,407
Net cash provided by financing activities	<u>13,525</u>	<u>11,075</u>
Net decrease in cash and cash equivalents	(9,277)	(4,766)
Cash and cash equivalents, beginning of period	56,821	61,587
Cash and cash equivalents, end of period	<u>\$ 47,544</u>	<u>\$ 56,821</u>
Supplemental disclosure of cash flow information:		
Cash paid for income taxes, net of refunds received	\$ 315	\$ 188
Cash paid during the year for interest	161	196
Non-cash investing and financing activities:		
Purchases of property and equipment and other assets under extended payment terms	\$ 1,922	\$ 1,674

See accompanying notes to consolidated financial statements.

PIXELWORKS, INC.
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY
(In thousands, except share data)

	Common Stock		Accumulated			Non-Controlling Interest	Total Shareholders' Equity
	Shares	Amount	Other Comprehensive Income (Loss)	Accumulated Deficit			
Balance as of December 31, 2021	53,367,136	\$ 475,644	\$ (468)	\$ (434,955)	\$ —	\$ —	\$ 40,221
Stock issued under employee equity incentive plans	1,746,050	387	—	—	—	—	387
Stock-based compensation expense	—	5,198	—	—	—	—	5,198
Foreign currency translation adjustment	—	—	2,612	—	—	—	2,612
Net proceeds from issuance of equity interest to non-controlling interest	—	—	—	—	—	10,738	10,738
Net income attributable to non-controlling interest	—	—	—	—	—	171	171
Net loss attributable to Pixelworks, Inc.	—	—	—	(16,030)	—	—	(16,030)
Foreign pension adjustment, net of tax of \$19	—	—	34	—	—	—	34
Balance as of December 31, 2022	55,113,186	481,229	2,178	(450,985)	10,909	—	43,331
Stock issued under employee equity incentive plans	2,013,494	299	—	—	—	—	299
Stock-based compensation expense	—	4,796	—	—	—	—	4,796
Foreign currency translation adjustment	—	—	1,192	—	—	(630)	562
Net proceeds from issuance of equity interest to non-controlling interest	—	—	—	—	—	14,596	14,596
Net loss attributable to non-controlling interest	—	—	—	—	—	(624)	(624)
Other	—	—	—	—	—	6	6
Net loss attributable to Pixelworks, Inc.	—	—	—	(26,176)	—	—	(26,176)
Foreign pension adjustment, net of tax of \$2	—	—	8	—	—	—	8
Balance as of December 31, 2023	57,126,680	\$ 486,324	\$ 3,378	\$ (477,161)	\$ 24,257	\$ —	\$ 36,798

See accompanying notes to consolidated financial statements.

PIXELWORKS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(In thousands, except share and per share data)

NOTE 1. BASIS OF PRESENTATION

Nature of Business

Pixelworks is a leading provider of high-performance and power-efficient visual processing semiconductor and software solutions that enable consistently high-quality and authentic viewing experiences in a wide variety of applications. We define our primary target markets as Mobile (smartphone and tablet), Home & Enterprise (projectors, personal video recorders ("PVR"), and over-the-air ("OTA") streaming devices), and Cinema (creation, remastering, and delivery of digital video content). Previously we classified our primary target markets as Mobile, Projector, Video Delivery and Cinema, but have since aggregated the Projector and Video Delivery categories into one called "Home & Enterprise".

During 2021, we engaged in a strategic plan to re-align our Mobile and Home & Enterprise businesses to improve their focus on their Asia-centered customers and employee stakeholders. One of our Chinese subsidiaries, Pixelworks Semiconductor Technology (Shanghai) Co., Ltd. (or "PWSH"), now operates these businesses as a full profit-and-loss center underneath Pixelworks. In connection with this strategic plan, the Company and PWSH closed three separate financing transactions in 2021 and 2022, which are further described in "Note 14: Redeemable Non-Controlling Interest and Equity Interest of PWSH Sold to Employees" and "Note 15: Non-Controlling Interest", below. PWSH has a branch office located in Shenzhen, China (Pixelworks Semiconductor Technology (Shanghai) Co. Ltd. Shenzhen Branch Office No. 1), which is primarily for sales and customer support for PWSH, and a subsidiary located in Hong Kong (Pixelworks Hong Kong Limited), which has no employees and is used for distribution of PWSH products. Pixelworks has an additional subsidiary in China (Frame Shadow Technology (Shanghai) Co., Ltd. (formerly called Mucheng Huai Management Consulting (Shanghai) Co., Ltd)) which is a research and development center for our TrueCut business. This subsidiary does not operate under PWSH, but rather is owned by Pixelworks through our Oregon limited liability company, Pixelworks Semiconductor Technology Company, LLC.

We continue to prepare PWSH to file an application for an initial public offering of PWSH shares on the Shanghai Stock Exchange's Science Technology Innovation Board, known as the STAR Market (the "Listing") once market conditions in China are supportive. We believe that the Listing will have many benefits, including improved access to new capital markets and the funding of PWSH's growth worldwide. The process of going public on the STAR Market is lengthy and includes several periods of review by various government agencies of the People's Republic of China ("PRC"), such as the Shanghai Stock Exchange ("SSE") and the China Securities Regulatory Commission ("CSRC"). The CSRC and the SSE have recently tightened the standards for the STAR Market and are currently advising companies that are not yet profitable under China GAAP standards against filing an IPO application in the present environment. The Company believes this is in large part due to the current economic conditions in China and the recent performance of companies already listed on the STAR Market that were not profitable at the time of their IPO. PWSH is not currently profitable under China GAAP standards. There is no guarantee that PWSH will be approved for a Listing at any point in the future. The listing of PWSH on the STAR Market will not change the status of PXLW as a U.S. public company. More than a majority of our operations are in China, but our executive officers and all of our directors but one are located in the United States (and he resides in Singapore). We are neither a PRC operating company nor do we conduct our operations in China through the use of variable interest entities.

Our consolidated financial statements include the accounts of Pixelworks and its subsidiaries. Intercompany accounts and transactions have been eliminated. All foreign subsidiaries use the U.S. dollar as the functional currency, and as a result, transaction gains and losses are included in the consolidated statements of operations. Transaction (gains) and losses were \$429 and \$394 for the years ended December 31, 2023 and 2022, respectively.

Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. generally accepted accounting principles ("U.S. GAAP") requires us to make estimates and judgments that affect amounts reported in the financial statements and accompanying notes. Our significant estimates and judgments include those related to revenue recognition, valuation of excess and obsolete inventory, lives and recoverability of equipment and other long-lived assets, valuation of goodwill, stock-based compensation and income taxes. The actual results experienced could differ materially from our estimates.

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Cash and Cash Equivalents

We classify all cash and highly liquid investments with original maturities of three months or less at the date of purchase as cash and cash equivalents. Cash equivalents totaled \$10,950 and \$23,836 as of December 31, 2023 and 2022, respectively and consisted of U.S. denominated money market funds and certificates of deposit.

Accounts Receivable, Net

Accounts receivable are recorded at invoiced amount and do not bear interest when recorded or accrue interest when past due. Accounts receivable are reduced by an allowance for credit losses, which is our best estimate of the expected credit losses in our existing accounts receivable. We determine the allowance based on historical experience and current economic conditions, among other factors. Allowances for doubtful accounts were not material as of December 31, 2023 or December 31, 2022.

We adopted ASC 326 using a modified retrospective approach which requires a cumulative effect adjustment as of the beginning of the reporting period in which the guidance is adopted. We adopted Topic 326 effective January 1, 2023. The adoption did not have a material impact on our consolidated financial statements.

Inventories

Inventories consist of finished goods and work-in-process, and are stated at the lower of standard cost (which approximates actual cost on a first-in, first-out basis) or net realizable value.

Property and Equipment

Property and equipment are stated at cost. Depreciation and amortization is calculated on a straight-line basis over the estimated useful life of the assets which are generally as follows:

Software	Lesser of 3 years or contractual license term
Equipment, furniture and fixtures	2 years
Tooling	2 to 5 years
Leasehold improvements	Lesser of lease term or estimated useful life

The cost of property and equipment repairs and maintenance is expensed as incurred.

Licensed Technology

We have capitalized licensed technology assets in other long-term assets. These assets are stated at cost and are amortized on a straight-line basis over the term of the license or the estimated life of the asset, if the license is not contractually limited, which is generally two to five years.

Useful Lives and Recoverability of Equipment and Other Long-Lived Assets

We evaluate the remaining useful life and recoverability of equipment and other assets, including identifiable intangible assets, whenever events or changes in circumstances indicate that the carrying amount of the assets may not be recoverable. If there is an indicator of impairment, we prepare an estimate of future, undiscounted cash flows expected to result from the use of each asset and its eventual disposition. If these cash flows are less than the carrying value of the asset, we adjust the carrying amount of the asset to its estimated fair value. We have concluded that the carrying value of our long-lived assets is recoverable as of December 31, 2023.

Goodwill

Goodwill is not amortized, rather it is tested, at least annually, for impairment at a reporting unit level. Impairment of goodwill is the condition that exists when the carrying amount of a reporting unit that includes goodwill exceeds its fair value. A goodwill impairment loss is recognized for the amount that the carrying amount of the reporting unit, including goodwill, exceeds its fair value, limited to the total amount of goodwill allocated to that reporting unit. If the fair value of a reporting unit exceeds the carrying amount, goodwill of the reporting unit is not considered impaired.

We evaluate impairment using the guidance set forth in FASB Accounting Standards Update No. 2017-04, Intangibles-Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment which states that an entity may first assess qualitative factors to determine whether it is necessary to perform the quantitative goodwill impairment test. If determined to be necessary, the quantitative impairment test shall be used to identify goodwill impairment and measure the amount of goodwill impairment loss to be recognized. An entity has an unconditional option to bypass the qualitative assessment for any reporting unit in any period and proceed directly to the quantitative goodwill impairment test. We performed a qualitative assessment during the fourth quarter of 2023 and concluded that it was not more likely than not that the fair value of the reporting unit was less than its carrying amount. As a result, we concluded that a quantitative impairment test was not required and that goodwill was not impaired.

Stock-Based Compensation

We currently sponsor a stock incentive plan that allows for issuance of employee stock options and restricted stock awards, including restricted stock units. We also have an employee stock purchase plan for all eligible employees. The fair value of share-based payment awards is expensed using the graded vesting method over the requisite service period, which is generally the vesting period, for each separately-vesting tranche of the entire award. Additionally, any modification of an award that increases its fair value will require us to recognize additional expense.

The fair value of our stock option grants and purchase rights under our employee stock purchase plan are estimated as of the grant date using the Black-Scholes option pricing model which is affected by our estimates of the risk free interest rate, our expected dividend yield, expected term and the expected share price volatility of our common shares over the expected term. The fair value of our restricted stock awards are based on the market value of our stock on the date of grant.

Research and Development

Costs associated with research and development activities are expensed as incurred, except for items with alternate future uses which are capitalized and depreciated over their estimated useful lives.

On occasion, we enter into co-development arrangements with current or prospective customers to defray a portion of the research and development expenses we expect to incur in connection with our development of an IC product. As amounts become due and payable, they are offset against research and development expense on a pro-rata basis.

Income Taxes

We account for income taxes under the asset and liability method. This approach requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of temporary differences between financial statement carrying amounts and tax bases of assets and liabilities. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. We establish a valuation allowance to reduce deferred tax assets if it is "more likely than not" that a portion or all of the asset will not be realized in future tax returns.

An uncertain tax position represents treatment of a tax position taken in a filed tax return, or planned to be taken in a future tax return, that has not been reflected in measuring income tax expense for financial reporting purposes. Until these positions are sustained by the taxing authorities, we do not recognize the tax benefits resulting from such positions and report the tax effects for uncertain tax positions in our consolidated balance sheets.

Risks and Uncertainties

Concentration of Suppliers

We do not own or operate a semiconductor fabrication facility and do not have the resources to manufacture our products internally. We rely on a limited number of foundries and assembly and test vendors to produce all of our wafers and for completion of finished products. We do not have any long-term agreements with any of these suppliers. In light of these dependencies, it is reasonably possible that failure to perform by one of these suppliers could have a severe impact on our results of operations. Additionally, the concentration of these vendors within Taiwan and the People's Republic of China increases our risk of supply disruption due to natural disasters, economic instability, political unrest or other regional disturbances.

Risk of Technological Change

The markets in which we compete, or seek to compete, are subject to rapid technological change, frequent new product introductions, changing customer requirements for new products and features, and evolving industry standards. The introduction of new technologies and the emergence of new industry standards could render our products less desirable or obsolete, which could harm our business.

Concentrations of Credit Risk

Financial instruments that potentially subject us to concentrations of credit risk consist of cash equivalents and accounts receivable. We limit our exposure to credit risk associated with cash equivalent balances by holding our funds in high quality, highly liquid money market accounts. We limit our exposure to credit risk associated with accounts receivable by carefully evaluating creditworthiness before offering terms to customers. To mitigate the risk of concentration associated with cash and cash equivalents, funds are held with creditworthy institutions and, at certain times, temporarily swept into insured programs overnight to reduce single firm concentration risk. Amounts on deposit may exceed federal deposit insurance limits.

Recent Accounting Pronouncements

In November 2023, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2023-07, *Improvements to Reportable Segment Disclosures* ("ASU 2023-07"). ASU 2023-07 expands the disclosures for reportable segments made by public entities. The amendments retain the existing disclosure requirements in ASC 280 and expand upon them to require public entities to disclose significant expenses for reportable segments in both interim and annual reporting periods, as well as items that were previously disclosed only annually on an interim basis, including disclosures related to a reportable segment's profit or loss and assets. In addition, entities with a single reportable segment must now provide all segment disclosures required in ASC 280, including the new disclosures for reportable segments under the amendments in ASU 2023-07. The amendments do not change the existing guidance on how a public entity identifies and determines its reportable segments. ASU 2023-07 will become effective for us in the year ending December 31, 2024, and early adoption is permitted. We are evaluating the impact that the adoption of ASU 2023-07 will have on our financial position, results of operations and cash flows.

NOTE 3. BALANCE SHEET COMPONENTS

Inventories

Inventories consist of the following:

	December 31,	
	2023	2022
Finished goods	\$ 2,719	\$ 480
Work-in-process	1,249	1,280
Inventories	<u>\$ 3,968</u>	<u>\$ 1,760</u>

We recorded inventory write-downs of \$280 and \$99 for the years ended December 31, 2023 and 2022, respectively. The inventory write-downs were for lower of cost or net realizable value and excess and obsolescence exposure. The inventory write-downs were offset by sales of previously written-down inventory of \$0 and \$17 for the years ended December 31, 2023 and 2022, respectively.

Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consist of current prepaid expenses, deposits, income taxes receivable and other receivables.

Property and Equipment, Net

Property and equipment consists of the following:

	December 31,	
	2023	2022
Equipment, furniture and fixtures	\$ 10,118	\$ 9,637
Software	5,613	6,739
Tooling	5,081	2,903
Leasehold improvements	1,707	1,513
	<u>22,519</u>	<u>20,792</u>
Accumulated depreciation and amortization	(16,522)	(16,160)
Property and equipment, net	<u>\$ 5,997</u>	<u>\$ 4,632</u>

Software amortization was \$1,420 and \$1,505 for the years ended December 31, 2023 and 2022, respectively. Depreciation and amortization expense for equipment, furniture, fixtures, tooling and leasehold improvements was \$2,253 and \$2,620 for the years ended December 31, 2023 and 2022, respectively.

Other Assets, Net

Other assets consist primarily of deposits, deferred tax assets and licensed technology. Amortization of licensed technology was \$ 615 and \$532 for the years ended December 31, 2023 and 2022, respectively.

Goodwill

Goodwill resulted from the Acquisition of ViXS Systems, Inc. in 2017, whereby we recorded goodwill of \$18,407. See Note 2: "Summary of Significant Accounting Policies" for information on our assessment of goodwill impairment.

Accrued Liabilities and Current Portion of Long-Term Liabilities

Accrued liabilities and current portion of long-term liabilities consist of the following:

	December 31,	
	2023	2022
Accrued payroll and related liabilities	\$ 4,286	\$ 3,632
Operating lease liability, current	2,381	1,391
Current portion of accrued liabilities for asset financings	1,124	876
Other accrued expenses	1,901	2,950
Accrued liabilities and current portion of long-term liabilities	<u><u>\$ 9,692</u></u>	<u><u>\$ 8,849</u></u>

NOTE 4. FAIR VALUE MEASUREMENTS

Fair Value Measurements

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Three levels of inputs may be used to measure fair value:

- Level 1: Valuations based on quoted prices in active markets for identical assets and liabilities.
- Level 2: Valuations based on inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.
- Level 3: Valuations based on unobservable inputs in which there is little or no market data available, which require the reporting entity to develop its own assumptions.

The following table presents information about our assets and liabilities measured at fair value on a recurring basis in the consolidated balance sheets as of December 31, 2023 and 2022:

	Level 1	Level 2	Level 3	Total
As of December 31, 2023:				
Assets:				
Cash equivalents:				
Money market funds	\$ 950	\$ —	\$ —	\$ 950
Certificates of deposit	10,000	—	—	10,000
As of December 31, 2022:				
Assets:				
Cash equivalents:				
Money market funds	\$ 18,836	\$ —	\$ —	\$ 18,836
Certificates of deposit	5,000	—	—	5,000

We primarily use the market approach to determine the fair value of our financial instruments. The fair value of our current assets and liabilities, including accounts receivable and accounts payable approximates the carrying value due to the short-term nature of these balances. We have currently chosen not to elect the fair value option for any items that are not already required to be measured at fair value in accordance with U.S. GAAP.

NOTE 5. LEASES

We determine if an arrangement is a lease at inception. Operating leases are included in operating lease right-of-use ("ROU") assets, other current liabilities, and operating lease liabilities in our consolidated balance sheets.

ROU assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. As most of our leases do not provide an implicit rate, we use our incremental borrowing rate based on the information available at commencement date in determining the present value of lease payments. Operating lease ROU assets also exclude lease incentives received. For purposes of calculating operating lease liabilities, lease terms may be deemed to include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option.

We have operating leases primarily for office buildings and spaces. Our leases have remaining lease terms of 1 year to 3 years. Supplemental information related to lease expense and valuation of the ROU assets and lease liabilities was as follows:

	Year Ended December 31,	
	2023	2022
Operating lease cost	\$ 2,884	\$ 2,657
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	2,762	2,676
Leased assets obtained in exchange for new operating lease liabilities	3,878	994
Weighted average remaining lease term (in years)	2.19	3.12
Weighted average discount rate	7.02 %	5.55 %

Future minimum lease payments under non-cancellable leases as of December 31, 2023 were as follows:

Operating Lease Payments

Years ending December 31:

2024	\$ 2,656
2025	1,907
2026	713
2027	87
Total operating lease payments	5,363
Less imputed interest	(415)
Total operating lease liabilities	\$ 4,948

As of December 31, 2023, the Company had no operating lease liabilities that had not commenced.

NOTE 6. REVENUE

Revenue is recognized when control of the promised good or service is transferred to our customers, in an amount that reflects the consideration we expect to be entitled to in exchange for those goods or services. Our principal revenue generating activities consist of the following:

Product Sales - We sell integrated circuit products, also known as "chips" or "ICs", based upon a customer purchase order, which includes a fixed price per unit. ICs are sold into two target end markets: Mobile and Home & Enterprise. We have elected to account for shipping and handling as activities to fulfill the promise to transfer the goods, and not evaluate whether these activities are promised services to the customer. We generally satisfy our single performance obligation upon shipment of the goods to the customer and recognize revenue at a point in time upon shipment of the underlying product.

Our shipments are subject to limited return rights subject to our limited warranty for our products sold. In addition, we may provide other credits to certain customers pursuant to price protection and stock rotation rights, all of which are considered variable consideration when estimating the amount of revenue to recognize. We use the "most likely amount" method to determine the amount of consideration to which we are entitled. Our estimate of variable consideration is reassessed at the end of each reporting period based on changes in facts and circumstances. Historically, returns and credits have not been material.

Engineering Services - We enter into contracts for professional engineering services that include software development and customization. We identify each performance obligation in our engineering services agreements ("ESAs") at contract inception. The ESA generally includes project deliverables specified by the customer. The performance obligations in the ESA are generally combined into one deliverable, with the pricing for services stated at a fixed amount. Services provided under the ESA generally result in the transfer of control over time. We recognize revenue on ESAs based on the proportion of labor hours expended to the total hours expected to complete the contract performance obligation. ESAs could include substantive customer acceptance provisions. In ESAs that include substantive customer acceptance provisions, we recognize revenue upon customer acceptance.

License Revenue - On occasion, we derive revenue from the license of our internally developed intellectual property ("IP"). Additionally, for certain IP license agreements, royalties are collected as customers sell their own products that incorporate our IP. IP licensing agreements that we enter into generally provide licensees the right to incorporate our IP components in their products with terms and conditions that vary by licensee. Fees under these agreements generally include license fees or royalty fees relating to our IP and support service fees, resulting in two performance obligations. We evaluate each performance obligation, which generally results in the transfer of control at a point in time for the license fee and over time for support services. Royalties are recognized as revenue is earned, generally when the customer sells its products that incorporate our IP.

Other - From time-to-time, we enter into arrangements for other revenue generating activities, such as providing technical support services to customers through technical support agreements. In each circumstance, we evaluate such arrangements for our performance obligations which generally results in the transfer of control for such services over time. Historically, such arrangements have not been material to our operating results.

The following table provides information about disaggregated revenue based on the preceding categories, with IC sales disaggregated further into net revenue from external customers for each group of similar products, for the years ended December 31, 2023 and 2022:

	Year ended December 31,	
	2023	2022
IC sales	\$ 58,603	\$ 68,168
Engineering services, license and other	1,074	1,978
Total revenues	\$ 59,677	\$ 70,146

IC sales by end market:

	Year ended December 31,	
	2023	2022
Mobile market	\$ 29,416	\$ 21,160
Home & Enterprise market	29,187	47,008
Total IC sales	\$ 58,603	\$ 68,168

For segment information, including revenue by geographic region, see "Note 13. Segment Information".

Revenue related to the Cinema market was not material in 2023 or 2022 and was therefore included in the engineering services, license revenue and other category within the Mobile market.

Contract Balances

Our contract balances include accounts receivable, deferred revenue and our liability for warranty returns.

Payment terms and conditions for goods and services provided vary by contract; however, payment is generally required within 30 to 60 days of invoicing.

We have not identified any material costs incurred associated with obtaining a contract with a customer which would meet the criteria to be capitalized, therefore, these costs are expensed as incurred.

The Company has elected the practical expedient of not accounting for significant financing components if the period between revenue recognition and when the customer pays for the product or service is one year or less. The aggregate amount of the transaction price allocated to unsatisfied performance obligations with an original expected duration of greater than one year is \$110, which we expect to recognize ratably over the next 11 months.

The following table presents the contract assets and contract liabilities recorded on the consolidated balance sheets as of December 31, 2023, 2022 and 2021:

	Balance Sheet Classification	Year Ended December 31,		
		2023	2022	2021
Accounts receivable	Accounts receivable, net	\$ 10,075	\$ 10,047	\$ 8,708
Deferred revenue	Accrued liabilities and current portion of long-term liabilities	146	230	50
Liability for Warranty returns	Accrued liabilities and current portion of long-term liabilities	13	15	17

During the years ended December 31, 2023 and 2022, the Company recognized \$ 120 and \$50, respectively, of revenue related to amounts that were previously included in deferred revenue at the beginning of the period. Deferred revenue fluctuates over time due to changes in the timing of payments received from customers and revenue recognized for services provided.

NOTE 7. INTEREST INCOME AND OTHER, NET

Interest income and other, net consists of the following:

	Year Ended December 31,	
	2023	2022
Interest income	\$ 1,950	\$ 670
Other income	125	80
Interest expense	(25)	(50)
Total interest income and other, net	\$ 2,050	\$ 700

The increase in interest income in 2023 compared to 2022 is due to increased interest earned on our cash and cash equivalents balance due to the increase in the interest rate available throughout the full year in 2023 compared to the full year in 2022.

NOTE 8. RESEARCH AND DEVELOPMENT

During 2021, we entered into a best-efforts co-development agreement with a customer to defray a portion of the research and development expenses we expect to incur in connection with our development of an integrated circuit product. We expect our development costs to exceed the amounts received from the customer, and although we expect to sell units of the product to the customer, there is no commitment or agreement from the customer for such sales at this time. Additionally, we retain ownership of any modifications or improvements to our pre-existing intellectual property and may use such improvements in products sold to other customers.

Under the co-development agreement, \$5,800 was payable by the customer within 60 days of the date of the agreement and three additional payments of \$2,500, \$1,900 and \$1,300 are each payable upon completion of certain development milestones. As amounts become due and payable, they are offset against research and development expense on a pro rata basis. We recognized offsets to research and development expense of \$3,243 and \$4,338 during the years ended December 31, 2023 and 2022, respectively.

NOTE 9. INCOME TAXES

Current and Deferred Income Tax Expense

Domestic and foreign pre-tax loss is as follows:

	Year Ended December 31,	
	2023	2022
Domestic	\$ (14,835)	\$ (20,196)
Foreign	(11,751)	4,079
Domestic and foreign pre-tax loss	\$ (26,586)	\$ (16,117)

Income tax expense (benefit) attributable to operations is comprised of the following:

	Year Ended December 31,	
	2023	2022
Current:		
Federal	\$ (325)	\$ 396
State	14	14
Foreign	367	(1,722)
Total current	56	(1,312)
Deferred:		
Federal	292	(364)
Foreign	9	792
Total deferred	301	428
Income tax expense (benefit)	\$ 357	\$ (884)

The reconciliation of the U.S. federal statutory income tax rate to our effective income tax rate is as follows:

	Year Ended December 31,	
	2023	2022
Federal statutory rate	21 %	21 %
Impact of foreign earnings	(10)	(27)
Change in valuation allowance	(43)	28
Tax contingencies, net of reversals	—	13
Corporate restructuring	—	(11)
Expiration of tax attributes	(5)	(12)
Permanent items	19	(2)
Research and development credits	1	4
Stock-based compensation	(3)	(4)
Adjustment to deferred balances	18	(4)
Other	1	(1)
Effective income tax rate	<u>(1)%</u>	<u>5 %</u>

Deferred Tax Assets, Liabilities and Valuation Allowance

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amount of assets and liabilities for financial reporting purposes and the amounts for income tax purposes. Significant components of our deferred tax assets and liabilities are as follows:

	December 31,	
	2023	2022
Deferred tax assets:		
Research and experimentation credit and deduction carryforwards	\$ 59,450	\$ 60,041
Net operating loss carryforwards	56,196	44,424
Depreciation and amortization	5,402	5,568
Reserves and accrued expenses	1,458	1,000
Deferred stock-based compensation	725	821
Foreign tax credit carryforwards	81	163
Other	454	1,201
Total gross deferred tax assets	123,766	113,218
Deferred tax liabilities:		
Foreign earnings	(248)	(212)
Other	(403)	(620)
Total gross deferred tax liabilities	(651)	(832)
Less valuation allowance	(122,975)	(111,941)
Net deferred tax assets	\$ 140	\$ 445

We continue to record a full valuation allowance against our U.S. Canada and China net deferred tax assets as of December 31, 2023 and 2022, as it is not more likely than not that we will realize a benefit from these assets in a future period. We have not provided a valuation allowance against our other net deferred tax assets as we have concluded it is more likely than not that we will realize a benefit from these assets in a future period because our subsidiaries in these jurisdictions are cost-plus taxpayers. The net valuation allowance increased \$11,034 for the year ended December 31, 2023 and decreased \$4,431 for the year ended December 31, 2022.

As of December 31, 2023, we had federal, state and foreign net operating loss carryforwards of \$ 154,456, \$16,324 and \$89,001 respectively, which will begin to expire in 2024 with \$31,705 of our federal net operating loss carryforward lasting indefinitely. As of December 31, 2023, we had available federal, state and foreign research and experimentation tax credit carryforwards of \$5,734, \$5,357, and \$21,898 respectively. The federal tax credits will begin expiring in 2024 while the state and foreign credits have an indefinite life. In addition, our Canadian subsidiary has unclaimed scientific and experimental expenditures to be carried forward and applied against future income in Canada of approximately \$120,458.

Our ability to utilize our federal net operating losses may be limited by Section 382 of the Internal Revenue Code of 1986, as amended, which imposes an annual limit on the ability of a corporation that undergoes an "ownership change" to use its net operating loss carryforwards to reduce its tax liability. An ownership change is generally defined as a greater than 50% increase in equity ownership by 5% shareholders in any three-year period.

We are not indefinitely reinvested in the earnings of our subsidiaries in China TrueCut, Japan and Taiwan and have accrued tax on the future repatriation of cash for jurisdictions where withholding taxes would apply.

The Tax Cuts and Jobs Act ("TCJA") was enacted on December 22, 2017. Included in the TCJA is the requirement to capitalize and amortize research and experimental expenditures starting with the first tax year after December 31, 2021. The required capitalization and amortization of these costs resulted in an increase to our taxable income before utilization of our operating loss carryforward. The capitalization did not have a significant impact to our income tax expense or benefit in the years ended December 31, 2023 and 2022.

Uncertain Tax Positions

We have recorded tax liabilities to address potential exposures involving positions that could be challenged by taxing authorities. As of December 31, 2023, the amount of our uncertain tax positions was a liability of \$376 and a reduction to deferred tax assets of \$1,370. As of December 31, 2022, the amount of our uncertain tax positions was a liability of \$378 and a reduction to deferred tax assets of \$1,353.

The following is a summary of the change in our liability for uncertain tax positions and interest and penalties:

	2023	2022
Uncertain tax positions:		
Balance at beginning of year	\$ 1,643	\$ 3,646
Reversal of accrual for positions taken in a prior year	(23)	(214)
Accrual for positions taken in current year	112	117
Reversals due to lapse of statute of limitations	(84)	(97)
Reversals due to positions taken in the current year	—	(1,809)
Balance at end of year	<u>\$ 1,648</u>	<u>\$ 1,643</u>
Interest and penalties:		
Balance at beginning of year	\$ 88	\$ 101
Accrual for positions taken in prior year	11	11
Accrual for positions taken in current year	—	—
Reversals due to lapse of statute of limitations	(1)	(24)
Balance at end of year	<u>\$ 98</u>	<u>\$ 88</u>

During both the years ended December 31, 2023 and 2022, we recognized \$ 11 of interest and penalties in income tax expense in our consolidated statements of operations.

During the year ended December 31, 2022, one of our Chinese subsidiaries, PWSH settled a portion of the outstanding intercompany debt with the US parent, Pixelworks, Inc. The portion that was not able to be settled was forgiven and was recognized as taxable income in China. We previously accrued for a long term liability in the event that the full amount of the intercompany debt would be recognized as taxable income in China. The related uncertain tax position was reversed as a part of the settlement of the intercompany debt.

We file income tax returns in the U.S. and various foreign jurisdictions. A number of years may elapse before an uncertain tax position is resolved by settlement or statutes of limitations. Settlement of any particular position could require the use of cash. If the uncertain tax positions we have accrued for are sustained by the taxing authorities in our favor, the reduction of the liability will reduce our effective tax rate. We reasonably expect reductions in unrecognized tax benefits of approximately \$81 within the next twelve months due to the expiration of statutes of limitation in federal, state, and foreign jurisdictions, \$3 of which is expected to impact our effective tax rate.

We are no longer subject to U.S. federal, state, and foreign examinations for years before 2020, 2019 and 2016, respectively. Our net operating loss and tax credit carryforwards from all years may be subject to adjustment for three years following the year in which utilized. We do not anticipate that any potential tax adjustments will have a significant impact on our financial position or results of operations.

In January 2024, we were notified that our 2019 and 2020 Canada income tax returns have been selected for audit by the Canadian tax authorities. We have not received any proposed assessments associated with the audit and do not expect any material impacts to our financial statements as a result of the audit. We were not subject to, nor have we received any notice of, income tax examinations in any other jurisdiction as of December 31, 2023.

NOTE 10. COMMITMENTS AND CONTINGENCIES

Royalties

We license technology from third parties and have agreed to pay certain suppliers a royalty based on the number of chips sold or manufactured, the net sales price of the chips containing the licensed technology or a fixed non-cancelable fee. Royalty expense is recognized based on our estimated average unit cost for royalty contracts with non-cancelable prepayments and the stated contractual per unit rate for all other agreements. Royalty expense was \$145 and \$272 for the years ended December 31, 2023 and 2022, respectively, which is included in cost of revenue in our consolidated statements of operations.

401(k) Plan

We sponsor a 401(k) plan for eligible employees. Participants may defer a percentage of their annual compensation on a pre-tax basis, not to exceed the dollar limit that is set by law. A discretionary matching contribution by the Company is allowed and is equal to a uniform percentage of the amount of salary reduction elected to be deferred, which percentage will be determined each year by the Company. We made contributions of \$50 and \$54 to the 401(k) plan during the years ended December 31, 2023 and 2022, respectively.

Software licenses

We acquire rights to use certain software engineer design tools under software licenses.

As of December 31, 2023, future minimum payments under non-cancelable software licenses are as follows:

Year Ending December 31,	Software licenses
2024	\$ 1,187
2025	1,067
2026	206
	2,460
Less: Interest component	(166)
Present value of minimum software license payments	2,294
Less: Current portion	(1,124)
Long-term portion of obligations	\$ 1,170

Other Contractual Obligation

As part of the acquisition of ViXS Systems, Inc. ("ViXS") in 2017, we acquired debt associated with an agreement with the Government of Canada called Technology Partnerships Canada ("TPC"). As part of the TPC agreement, ViXS was provided funding to assist in research and development expenses of which a portion was later required to be repaid because the conditions for repayment were met. The scheduled payments are made on a quarterly basis and end in January 2024. \$66 and \$308 are included in accrued liabilities and current portion of long-term liabilities in our consolidated balance sheet as of December 31, 2023 and 2022, respectively.

Contract Manufacturers

In the normal course of business, we commit to purchase products from our contract manufacturers to be delivered within the next 90 days. In certain situations, should we cancel an order, we could be required to pay cancellation fees. Such obligations could impact our immediate results of operations but would not materially affect our business.

Indemnifications

Certain of our agreements include limited indemnification provisions for claims from third-parties relating to our products and technology. It is not possible for us to predict the maximum potential amount of future payments or indemnification costs under these or similar agreements due to the conditional nature of our obligations and the unique facts and circumstances involved in each particular agreement. We have not made any payments under these agreements in the past, and as of December 31, 2023, we have not incurred any material liabilities arising from these indemnification obligations. In the future, however, such obligations could immediately impact our results of operations but are not expected to materially affect our business.

Legal Proceedings

We are subject to legal matters that arise from time to time in the ordinary course of our business. Although we currently believe that resolving such matters, individually or in the aggregate, will not have a material adverse effect on our financial position, our results of operations, or our cash flows, these matters are subject to inherent uncertainties and our view of these matters may change in the future.

NOTE 11. EARNINGS PER SHARE

Basic earnings per share amounts are computed based on the weighted average number of common shares outstanding. Diluted weighted average shares outstanding include the weighted average number of common shares outstanding plus potentially dilutive common shares outstanding during the period.

The following schedule reconciles the computation of basic and diluted net loss per share (in thousands, except per share data):

	Year Ended December 31,	
	2023	2022
Net loss	\$ (26,943)	\$ (15,233)
Less: Net (income) loss attributable to non-controlling interests and redeemable non-controlling interests	767	(797)
Less: Net income attributable to certain entities owned by employees	—	(89)
Net loss attributable to Pixelworks Inc. - for purposes of earnings per share calculation	\$ (26,176)	\$ (16,119)
Weighted average shares outstanding - basic and diluted	56,163	54,335
Net loss attributable to Pixelworks, Inc. per share - basic and diluted	\$ (0.47)	\$ (0.30)

Basic and diluted earnings (loss) per share was computed by dividing the net income (loss) by the weighted-average number of common shares outstanding for the period. The numerator adjustments include an allocation of PWSH income to the non-controlling interests, the redeemable non-controlling interests and the employee owned entities. The equity interest associated with the employee-owned entities are considered participating securities at PWSH and will be allocated income, however, they are not required to fund losses, and therefore, no allocations of losses will be made to the employee owned entities in periods of loss at PWSH. Potentially dilutive common shares from employee equity incentive plans are determined by applying the treasury stock method to the assumed exercise of outstanding stock options, the assumed vesting of outstanding restricted stock units, and the assumed issuance of common stock under the employee stock purchase plan.

The following shares were excluded from the calculation of diluted net loss per share as their effect would have been anti-dilutive:

	Year Ended December 31,	
	2023	2022
Employee equity incentive plans	4,163	4,071

Potentially dilutive common shares from employee equity incentive plans are determined by applying the treasury stock method to the assumed exercise of outstanding stock options, the assumed vesting of outstanding restricted stock units, and the assumed issuance of common stock under the employee stock purchase plan.

NOTE 12. SHAREHOLDERS' EQUITY

Preferred Stock

The Company is authorized to issue 50,000,000 shares of preferred stock with a par value of \$ 0.001 per share. The Board of Directors is authorized to fix or alter the rights, preferences, privileges and restrictions granted to, or imposed on, each series of preferred stock. There were no shares of preferred stock issued as of December 31, 2023 and 2022.

Common Stock

The Company is authorized to issue 250,000,000 shares of common stock with a par value of \$ 0.001 per share. Shareholders of common stock have unlimited voting rights and are entitled to receive the net assets of the Company upon dissolution, subject to the rights of the preferred shareholders, if any.

At the Market Offering

On June 5, 2020, we entered into a sales agreement (the "Sales Agreement") with Cowen and Company, LLC ("Cowen"), pursuant to which we may issue and sell shares of the Company's common stock, par value \$0.001 per share, having an aggregate offering price of up to \$25,000, from time to time, through an "at the market" equity offering program under which Cowen will act as sales agent. Under the Sales Agreement, Cowen may sell the shares by methods deemed to be an "at the market offering" as defined in Rule 415(a)(4) promulgated under the Securities Act of 1933, as amended, including sales made by means of ordinary brokers' transactions on the Nasdaq Global Market or on any other existing trading market for the common stock or otherwise at market prices prevailing at the time of sale, in block transactions, or as otherwise directed by the Company. We pay Cowen a commission equal to three percent (3.0%) of the gross sales proceeds of any common stock sold through Cowen under the Sales Agreement. The Sales Agreement may be terminated by us upon prior notice to Cowen or by Cowen upon prior notice to us, or at any time under certain circumstances, including but not limited to the occurrence of a material adverse change in the Company. We are not obligated to sell any shares under the Sales Agreement.

There was no activity under this at the market offering during the years ended December 31, 2023 and December 31, 2022.

Employee Equity Incentive Plans

On May 23, 2006, our shareholders approved the adoption of the Pixelworks, Inc. 2006 Stock Incentive Plan (the "2006 Plan"). The 2006 Plan has since been amended and restated on certain occasions, most recently on May 11, 2023 when our shareholders approved an increase to the total number of authorized shares to 27,433,333 shares. As of December 31, 2023, 2,509,390 shares were available for grant under the 2006 Plan.

Stock Options

The contractual life of newly issued stock option awards is six years. Our new hire vesting schedule provides that each option becomes exercisable at a rate of 25% on the first anniversary date of the grant and 2.083% on the last day of every month thereafter for a total of 36 additional increments. Our merit vesting schedule provides that merit-type awards become exercisable monthly over a period of three years.

The following is a summary of stock option activity:

	Number of shares	Weighted average exercise price
Options outstanding as of December 31, 2022:	400,000	\$ 2.33
Granted	—	—
Exercised	—	—
Canceled and forfeited	—	—
Expired	(9,000)	4.80
Options outstanding as of December 31, 2023:	<u>391,000</u>	\$ 2.28

The following table summarizes information about options outstanding as of December 31, 2023:

Range of exercise prices	Options Outstanding			Options Exercisable		
	Number outstanding as of December 31, 2023	Weighted average remaining contractual life		Weighted average exercise price	Number exercisable as of December 31, 2023	Weighted average exercise price
		2023	life			
\$1.86 - \$1.86	52,745		4.69	\$ 1.86	16,484	\$ 1.86
2.00 - 2.00	234,000		2.85	2.00	234,000	2.00
2.07- 6.05	104,255		2.78	3.11	70,334	3.62
\$1.86 - \$6.05	<u>391,000</u>		3.08	\$ 2.28	<u>320,818</u>	\$ 2.35

During the years ended December 31, 2023 and 2022, there were no options exercised. As of December 31, 2023, options outstanding had a total intrinsic value of \$0.

Options outstanding that have vested and are expected to vest as of December 31, 2023 are as follows:

	Number of shares	Weighted average exercise price	Weighted average remaining contractual term		Aggregate intrinsic value
			Remaining contractual term	Aggregate intrinsic value	
Vested	320,818	\$ 2.35	2.76	\$ —	—
Expected to vest	64,174	1.96	4.56	—	—
Total	<u>384,992</u>	\$ 2.28	3.06	\$ —	—

Restricted Stock

The 2006 Plan provides for the issuance of restricted stock, including restricted stock units. During the years ended December 31, 2023 and 2022 we granted 2,559,137 and 2,289,418 shares, respectively, of restricted stock with a weighted average grant date fair value of \$ 1.39 and \$2.58 per share, respectively.

The following is a summary of restricted stock activity:

	Number of shares	Weighted average grant date fair value
Unvested at December 31, 2022:	3,375,754	\$ 2.99
Granted	2,559,137	1.39
Vested	(1,828,835)	2.95
Canceled	(118,405)	2.91
Unvested at December 31, 2023:	<u>3,987,651</u>	\$ 1.98
Expected to vest after December 31, 2023	<u>3,705,585</u>	\$ 1.99

Employee Stock Purchase Plans

On May 18, 2010, our shareholders approved the adoption of the 2010 Pixelworks, Inc. Employee Stock Purchase Plan (the "ESPP") for U.S. employees and for certain foreign subsidiary employees. The ESPP provides for separate offering periods commencing on February 1 and August 1, with the first offering period beginning August 1, 2010. Each offering period continues for a period of 18 months with purchases every six months. Each eligible employee may purchase up to 3,000 shares of stock on each purchase date, with a maximum annual purchase amount of \$ 25. The purchase price is equal to 85% of the lesser of the fair market value of the shares on the offering date or on the purchase date. On May 15, 2020 the ESPP was amended when our shareholders approved an increase to the total number of shares of common stock reserved for issuance to 3,300,000. During the years ended December 31, 2023 and 2022, we issued 184,659 and 171,620 shares, respectively for proceeds of \$ 299 and \$388, respectively, under the ESPP.

Stock-Based Compensation Expense

The fair value of stock-based compensation was determined using the Black-Scholes option pricing model and the following weighted average assumptions:

	Year Ended December 31,	
	2023	2022
Stock Option Plans:		
Risk free interest rate	0 %	3.08 %
Expected dividend yield	0 %	0 %
Expected term (in years)	0.00	5.00
Volatility	— %	71 %
Employee Stock Purchase Plan:		
Risk free interest rate	6.70 %	2.30 %
Expected dividend yield	0 %	0 %
Expected term (in years)	1.56	1.33
Volatility	85 %	104 %

There were no options granted during the year ended December 31, 2023. The weighted average fair value of options granted during the year ended December 31, 2022 was \$1.19. The risk free interest rate is estimated using an average of treasury bill interest rates. The expected dividend yield is zero as we have not paid any dividends to date and do not expect to pay dividends in the future. Expected volatility is estimated based on the historical volatility of our common stock over the expected term as this represents our best estimate of future volatility. We recognize forfeitures as they occur. The contractual life of newly issued stock options is six years, and we have elected to use the "simplified method" to estimate expected term. Under the simplified method, an option's expected term is calculated as the average of its vesting period and original contractual life. The expected term of ESPP purchase rights is based on the estimated weighted average time to purchase. The vesting period for restricted stock units is approximately three years.

As of December 31, 2023, unrecognized stock-based compensation expense is \$ 3,373, which is expected to be recognized as stock-based compensation expense over a weighted average period of 0.97 years.

NOTE 13. SEGMENT INFORMATION

We operate in one segment: the design, development, marketing and sale of IC solutions for use in electronic display devices. We generate our revenue from two broad product markets: the Mobile market and the Home & Enterprise market. The chief operating decision maker, or CODM, is our CEO. Our CODM evaluates financial performance and allocates resources using financial information reported on a company-wide basis. The Cinema market does not contribute material revenue and is therefore being included in this one segment.

Geographic Information

Revenue by geographic region, was as follows:

	Year Ended December 31,	
	2023	2022
China	\$ 33,624	\$ 25,570
Japan	24,083	37,675
Taiwan	1,813	3,032
U.S.	157	3,442
Korea	—	277
Europe	—	150
	\$ 59,677	\$ 70,146

Significant Customers

The percentage of revenue attributable to our distributors, top five end customers, and individual distributors or end customers that represented more than 10% of revenue in at least one of the periods presented, is as follows:

	Year Ended December 31,	
	2023	2022
Distributors:		
All distributors	66 %	57 %
Distributor A	48 %	29 %
Distributor B	8 %	17 %
End Customers: ¹		
Top five end customers	87 %	76 %
End customer A	34 %	13 %
End customer B	32 %	37 %
End customer C	— %	14 %

¹ End customers include customers who purchase directly from us, as well as customers who purchase our products indirectly through distributors.

Each of the following accounts represented 10% or more of total accounts receivable in at least one of the periods presented:

	December 31,	
	2023	2022
Account W	46 %	31 %
Account X	33 %	27 %
Account Y	8 %	11 %
Account Z	— %	12 %

NOTE 14. REDEEMABLE NON-CONTROLLING INTEREST AND EQUITY INTEREST OF PWSH SOLD TO EMPLOYEES

During 2021, Pixelworks and PWSH entered into a capital increase agreement (the "Capital Increase Agreement") with certain private equity and strategic investors based in China (collectively, the "Investors") and certain entities which collectively are owned by approximately 75% of the employees of PWSH and its subsidiaries (collectively, the "ESOP") (together, the "Investors" and the "ESOP" are referred to below as the "Capital Contributors"). The ESOP entities do not qualify as Employee Share Ownership Programs under IRC 4975(e)(7), but do qualify as employee share ownership plans qualified under the laws of China, under which the employees hold a pro rata share of an ESOP partnership entity that then holds an equity ownership in trust for employees.

Under the Capital Increase Agreement, during 2021, the Investors invested approximately \$ 30,844 in exchange for a redeemable non-controlling equity interest of 10.45% of PWSH and the ESOP entities invested approximately \$ 12,329 in exchange for a redeemable non-controlling equity interest representing 5.95% of PWSH, which includes a discount of 30% from the valuation paid by the Investors. The agreement further provided that the Capital Contributors have a liquidation preference in PWSH, a right to co-sell their interest in PWSH along with Pixelworks on the same terms and conditions as Pixelworks, a right to participate on a pro rata basis in any future financing rounds of PWSH, and Pixelworks' agreement while it remains an owner of PWSH and for two (2) years thereafter to not compete with the business of PWSH, nor solicit or otherwise cause any of PWSH's core employees or customers to end their relationship with PWSH. These rights all expire upon initial public offering on the STAR Market.

Prior to entering into a certain supplemental agreement, each Investor had the option to require PWSH to redeem the entire equity interest held by such Investor, at the original purchase price paid plus 3% annual interest, if PWSH did not consummate an initial public offering on the STAR Market on or before June 30, 2024. Based on this contingency, the initial carrying amount of the redeemable non-controlling interests was recorded at fair value on the date of issuance of PWSH equity interests, net of issuance costs and presented in temporary equity on the consolidated balance sheets. Until the interest that was to accrue on the redeemable non-controlling interest was deleted with the Supplemental Agreement, the Company had elected to accrete changes in the redemption value of the redeemable non-controlling interests from the issuance date through the earliest redemption date of June 30, 2024 using the interest method (as the non-controlling interest was probable of becoming redeemable upon the passage of time for the original issuance price plus 3% annual interest).

On March 24, 2022, Pixelworks and PWSH entered into a supplemental agreement to the Capital Increase Agreement (the "Supplemental Agreement") with the Capital Contributors. The Supplemental Agreement, among other things, deletes the interest that was to accrue in connection with the redemption option, and adds a provision that will suspend the redemption option on the date PWSH files its initial public offering listing documents pending the approval of such documents by the applicable authorities. The suspension ends if PWSH withdraws the listing application or such application is finally rejected, at which point the redemption option will once again become effective with a deadline of the later of the date of the withdrawal/rejection and June 30, 2024. Given the current uncertain economic environment of China and its impact on the suitability of seeking a Listing at this present time, PWSH is engaged in and intends to continue discussions with the Investors regarding an extension or removal of this redemption option.

In connection with the Supplemental Agreement, on March 24, 2022, Pixelworks and the Capital Contributors entered into a side letter to the Capital Increase Agreement (the "Side Letter") which provides that, in the event of a change in control of Pixelworks, Pixelworks shall ensure that the definitive agreement related to such transaction includes a post-closing repurchase covenant that requires the successor entity in such transaction to repurchase all of PWSH's equity held by a Capital Contributor at the original subscription price plus 20% upon the request of the Capital Contributor within 60 days after (a) the change in control; or (b) if PWSH fails to consummate its initial public offering by June 30, 2024, because Pixelworks decides against pursuing the offering. If PWSH continues to diligently pursue the application but the initial public offering still fails to launch by June 30, 2024, the redemption obligation of the Supplemental Agreement would instead apply. The Side Letter terminates on the launch date of PWSH's initial public offering.

After entering into the Supplemental Agreement, the redeemable non-controlling interest will no longer accrete up to a redemption amount because the interest component has been removed. The Investors will continue to hold PWSH equity and be considered as a redeemable non-controlling interest, however, the redeemable non-controlling interest is only probable of becoming redeemable upon the passage of time for its original issuance price. Therefore, until the redemption feature expires, we will only allocate profits to the redeemable non-controlling interest and continue to recognize the non-controlling interest at an amount at least equal to its redemption value. Because the redeemable non-controlling interest is denominated in RMB, it will be revalued to USD at the end of each reporting period, with the changes in carrying value attributable to foreign currency being reflected within accumulated other comprehensive income on the consolidated balance sheets.

Each of the ESOP entities has the option to require a repurchase of the entire equity interest held by such ESOP entities at the original purchase price paid plus 5% annual interest, if PWSH does not achieve its Listing on or before December 31, 2024. Because the ESOP entities are owned by employees of PWSH and its subsidiaries and employees are required to render service until either the initial public offering on the STAR Market or repurchase date, the equity interest owned by the ESOP entities will be accounted for under ASC 718 (Compensation - Stock Compensation). The initial carrying amount of the investment has been recorded as a long-term deposit liability on the consolidated balance sheets as the initial public offering cannot be considered probable at this time. We will recognize the periodic interest component of the award as compensation expense and accrete the long-term deposit liability to its redemption value as of December 31, 2024. Because the long-term deposit liability is denominated in RMB and is considered a monetary liability as defined in ASC 255 (Changing Prices), it will be revalued to USD at the end of each reporting period, with the changes in carrying value recorded as foreign currency gain/loss in our consolidated statements of operations. The Supplemental Agreement does not remove the obligation to repurchase the ESOP interests if PWSH fails to consummate an initial public offering by December 31, 2024 along with the 5% annual simple interest.

On December 21, 2022, the Company and its subsidiary, PWSH, entered into a capital increase agreement (the "CIA") with Jing Xin Ying (Shanghai) Management Consulting Partnership (Limited Partnership), an entity owned by certain of the employees of PWSH (the "ESOP"). The ESOP invested approximately \$1,407 in exchange for an equity interest in PWSH of 0.54%, based on a pre-money valuation of PWSH of RMB 1,750,000 (\$251,256 USD), which includes a discount of 50%.

The CIA provides that if there is a change in control of PWSH that closes prior to its filing an application for the Listing, each capital contributor would be entitled to a minimum return of 10% on the price they paid for their respective equity interest, payable by the Company in cash at the close of the change in control transaction, with such right terminating automatically upon the filing by PWSH of the Listing. The ESOP has a redemption right that is identical to that held by the other ESOP investors from the financing round that closed in 2021: if the Listing is not consummated prior December 31, 2024, the 2022 ESOP may elect to require a repurchase of its respective equity interest for a price equal to the initial purchase price paid plus annual simple interest at a rate of 5%.

The process of going public on the STAR Market includes several periods of review and is therefore a lengthy process. There can be no assurances that PWSH will complete the Listing by June 30, 2024, or at all. In the event Pixelworks is required to redeem the entire equity interest held by the Investors or the ESOP entities, we may be required to seek additional capital in order to redeem their PWSH shares and there would be no assurances that such capital would be available on terms acceptable to us, if at all. Any redemptions could have a material adverse effect on our business, financial condition and results of operations. The listing of PWSH on China's STAR Market will not change our status as a U.S. public company.

The components of the change in redeemable non-controlling interests for the year ended December 31, 2023 are presented in the following table:

Carrying Value of Redeemable NCI as of January 1, 2023	\$	28,919
Net loss attributable to redeemable non-controlling interest		(143)
Effect of foreign currency translation attributable to redeemable non-controlling interest		(562)
Carrying Value of Redeemable NCI as of December 31, 2023	\$	<u>28,214</u>

NOTE 15: NON-CONTROLLING INTEREST

On August 15, 2022, the Company entered into an Equity Transfer Agreement with certain private equity investors based in China (Hainan Qixin Investment Partnership (Limited Partnership) and Suzhou Saixiang Equity Investment Partnership (Limited Partnership)) (collectively, the "Purchasers"). Under this agreement, the Purchasers agreed to pay to the Company, subject to customary closing conditions, a total of 87,500 RMB, approximately \$10,738 (net of issuance costs) at closing, in exchange for a 2.74% equity interest in PWSH. The Company incurred costs related to the sale of equity in PWSH of \$275 paid to a third party for assisting in the transaction close as well as 8,408 RMB to fulfill Chinese withholding tax requirements. Both of these costs are direct and incremental and related to the sale of equity in PWSH and as such will be included as costs that reduce proceeds and carrying amount of the NCI in the Company's balance sheet.

The Equity Transfer Agreement provides the Purchasers with some additional rights: (1) if there is a change in control of PWSH that closes prior to its filing an application for a listing on the STAR Board of the SSE (the "Listing Application"), each Purchaser would be entitled to a minimum return of 10% on the price they paid for their respective equity interest, payable by Company in cash at the close of the change in control transaction, with such right terminating automatically upon the filing by PWSH of the Listing Application; and (2) the Company would cause PWSH to give each Purchaser a right to participate on a pro rata basis in any future financing rounds of PWSH, which right also would expire on the filing of a Listing Application.

On December 21, 2022, the Company and its subsidiary, PWSH, entered into a capital increase agreement (the "CIA") with certain private equity investors based in China who have agreed to pay a total of 99,000 RMB, approximately \$14,596 (net of issuance costs) at closing, in exchange for an equity interest in PWSH of 2.76%, based on a pre-money value of PWSH of 3,500,000 RMB, approximately \$501,400. This transaction closed in February 2023.

The CIA provides that if there is a change in control of PWSH that closes prior to its filing an application for the Listing, each capital contributor would be entitled to a minimum return of 10% on the price they paid for their respective equity interest, payable by the Company in cash at the close of the change in control transaction, with such right terminating automatically upon the filing of PWSH of the Listing.

When the Company's relative ownership interest in PWSH changes, adjustments to non-controlling interest and paid-in capital, tax effected, will occur. Because these changes in the ownership interest in PWSH do not result in a change of control, the transactions are accounted for as equity transactions under ASC Topic 810, (-Consolidations), which requires that any differences between the carrying value of the Company's interest in PWSH and the fair value of the consideration received are recognized directly in equity and attributed to the controlling interest. Additionally, there are no substantive profit-sharing arrangements that would cause distributions to be other than pro rata. Therefore, profits and losses are attributed to the common shareholders of PWSH and non-controlling interest pro rata based on ownership interests in PWSH. The following table reconciles the initial investment by the Purchasers and the carrying value of their non-controlling interest as of the Closing Date (as defined in the Equity Transfer Agreement):

Carrying Value of Permanent Equity Non-Controlling Interest as of January 1, 2023	\$	10,909
Increase in additional paid-in capital		14,742
Net loss attributable to non-controlling interest		(624)
Closing and direct costs incurred		(146)
Effect of foreign currency translation attributable to non-controlling interest		(630)
Other		6
Carrying Value of Permanent Equity Non-Controlling Interest as of December 31, 2023	\$	24,257

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

None.

Item 9A. Controls and Procedures.

Disclosure Controls and Procedures

As of the end of the period covered by this report, we conducted an evaluation under the supervision and with the participation of our Chief Executive Officer (our Principal Executive Officer) and Chief Financial Officer (our Principal Accounting and Financial Officer) of our disclosure controls and procedures (as defined in Rule 13a-15(e) and Rule 15d-15(e) of the Securities Exchange Act of 1934, as amended (the "Exchange Act")). Based on this evaluation, the Chief Executive Officer and Chief Financial Officer concluded that, as of December 31, 2023, our disclosure controls and procedures were effective to ensure that information required to be disclosed in our periodic reports filed or submitted under the Securities Exchange Act is (i) recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms, and (ii) accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding disclosure.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining a system of internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles ("U.S. GAAP"). All internal control systems, no matter how well designed, have inherent limitations.

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, under the oversight of our Board of Directors, we evaluated the effectiveness of our internal control over financial reporting as of December 31, 2023, the last day of our fiscal year. This evaluation was based on the criteria established in *Internal Control - Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our assessment, management has concluded that our internal control over financial reporting was effective as of the end of the fiscal year to provide reasonable assurances regarding the reliability of financial reporting and the preparation of financial statements for external reporting purposes in accordance with U.S. GAAP.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting for external purposes in accordance with U.S. GAAP. A company's internal control over financial reporting includes those policies and procedures that:

- pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and
- 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. Accordingly, even effective internal control over financial reporting can only provide reasonable assurance of achieving its control objectives.

Management's assessment of the effectiveness of the Company's internal control over financial reporting as of December 31, 2023 has not been audited by the Company's independent registered public accounting firm. Management's report is not subject to attestation by the Company's independent registered public accounting firm pursuant to the rules of the Securities and Exchange Commission that permit the Company to provide only management's report in this Annual Report.

Changes in Internal Control Over Financial Reporting

There were no changes to our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the fourth quarter of 2023 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information.

Rule 10b5-1 and Non-Rule 10b5-1 Trading Arrangements

None of the Company's directors or officers adopted or terminated a "Rule 10b5-1 trading arrangement" or a "non-Rule 10b5-1 trading arrangement" during the Company's fiscal quarter ended December 31, 2023, as such terms are defined under Item 408(a) of Regulation S-K.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

Information required by Item 10 with respect to our directors and executive officers will be set forth under the captions "Proposal No. 1: Election of Directors - Director Nominees for Election" and "Information About Our Executive Officers" in our Proxy Statement for our 2024 Annual Meeting of Shareholders (the "2024 Proxy Statement") to be filed within 120 days after December 31, 2023 and pursuant to Regulation 14A and is incorporated herein by reference.

Item 405 of Regulation S-K calls for disclosure of any known late filing or failure by an insider to file a report required by Section 16(a) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). To the extent disclosure for delinquent reports is being made, it can be found under the caption "Delinquent Section 16(a) Reports" in the 2024 Proxy Statement and is herein incorporated by reference.

We have adopted a Code of Business Conduct and Ethics (the "Code of Business Conduct and Ethics") that applies to all directors and employees, including our Chief Executive Officer (our Principal Executive Officer) and our Chief Financial Officer (our Principal Accounting and Financial Officer). We have also adopted a Code of Ethics for Senior or Designated Financial Personnel (the "Code of Ethics for Senior or Designated Financial Personnel") that applies to our Chief Executive Officer (our Principal Executive Officer), our Chief Financial Officer (our Principal Accounting and Financial Officer) and other designated financial personnel. The Code of Business Conduct and Ethics and the Code of Ethics for Senior or Designated Financial Personnel are each available on our website free of charge at www.pixelworks.com. We intend to disclose any changes in or waivers from our Code of Business Conduct and Ethics or Code of Ethics for Senior or Designated Financial Personnel by posting such information on our website at www.pixelworks.com or by filing a Current Report on Form 8-K.

We have a separately designated standing audit committee established in accordance with the Securities Exchange Act of 1934. The members of the audit committee are Dean W. Butler, Daniel J. Heneghan, and C. Scott Gibson. The audit committee has the responsibility and authority described in the Pixelworks, Inc. Charter of the Audit Committee of the Board of Directors, which has been approved by our board of directors. A copy of the audit committee charter is available on our website at www.pixelworks.com. Our board of directors has determined that Mr. Butler, Mr. Heneghan and Mr. Gibson meet the independence requirements set forth in Rule 10A-3(b)(1) under the Exchange Act and in the applicable rules of Nasdaq. In addition, our board of directors has determined that Mr. Butler, Mr. Heneghan and Mr. Gibson each qualify as an audit committee financial expert as defined by Securities and Exchange Commission rules.

Item 11. Executive Compensation.

Information required by Item 11 with respect to executive compensation will be included under the captions "Executive Compensation" and "Information About Our Board of Directors - Director Compensation" in our 2024 Proxy Statement and is incorporated herein by reference.

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

Information required by Item 12 with respect to security ownership of certain beneficial owners and management and related shareholder matters will be included under the captions "Security Ownership of Certain Beneficial Owners and Management" and "Information About Our Equity Compensation Plans" in our 2024 Proxy Statement and is incorporated herein by reference.

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

Information required by Item 13 with respect to certain relationships and related transactions and director independence will be included under the captions "Certain Relationships and Related Person Transactions" and "Information About Our Board of Directors" in our 2024 Proxy Statement and is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services.

Information required by Item 14 with respect to principal accounting fees and services will be set forth under the captions "Principal Accounting Fees and Services" and "Pre-Approval of Audit and Permissible Non-Audit Services" in our 2024 Proxy Statement and is incorporated herein by reference.

PART IV

Item 15. Exhibits and Financial Statement Schedules.

(a) 1. Financial Statements.

The following financial statements are included in Part II, Item 8 Financial Statements and Supplementary Data:

[Reports of Independent Registered Public Accounting Firms \(PCAOB IDs: 32 & 248\)](#)

[Consolidated Balance Sheets as of December 31, 2023 and 2022](#)

[Consolidated Statements of Operations for the years ended December 31, 2023 and 2022](#)

[Consolidated Statements of Comprehensive Loss for the years ended December 31, 2023 and 2022](#)

[Consolidated Statements of Cash Flows for the years ended December 31, 2023 and 2022](#)

[Consolidated Statements of Shareholders' Equity for the years ended December 31, 2023 and 2022](#)

[Notes to Consolidated Financial Statements](#)

2. Financial Statement Schedules.

All schedules have been omitted because the required information is included in the consolidated financial statements or the notes thereto, or is not applicable or required.

3. Exhibits.

The exhibits listed below are either filed with this report or incorporated by reference into this report.

Exhibit Number	Description
3.1	Sixth Amended and Restated Articles of Incorporation of Pixelworks, Inc., as amended (incorporated by reference to Exhibit 3.1 to the Company's Annual Report on Form 10-K filed on March 9, 2022).
3.2	Third Amended and Restated Bylaws of Pixelworks, Inc. (incorporated by reference to Exhibit 3(ii).1 to the Company's Current Report on Form 8-K filed on February 2, 2023).
4.1	Description of securities registered pursuant to Section 12 of the Securities Exchange Act of 1934 (incorporated by reference to Exhibit 4.1 to the Company's Annual Report on Form 10-K filed on March 11, 2020).
10.1+	Form of Indemnity Agreement between Pixelworks, Inc. and each of the members of the Board and Haley Aman, the Company's Chief Financial Officer. (incorporated by reference to Exhibit 10.1 to the Company's Annual Report on Form 10-K filed on March 14, 2018).
10.2+	Pixelworks, Inc. Amended and Restated 2010 Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.2 to the Company's Annual Report on Form 10-K filed on March 9, 2022).
10.3+	Pixelworks, Inc. Amended and Restated 2006 Stock Incentive Plan.
10.4+	Pixelworks, Inc. Amended and Restated 2006 Stock Incentive Plan, Terms and Conditions of Restricted Stock Awards (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed on May 7, 2009).
10.5+	Pixelworks, Inc. Amended and Restated 2006 Stock Incentive Plan, Terms and Conditions of Option Grants (incorporated by reference to Exhibit 10.9 to the Company's Annual Report on Form 10-K filed on March 8, 2012).

10.6+ [Pixelworks, Inc. Amended and Restated 2006 Stock Incentive Plan, Terms and Conditions of Director Stock Unit Awards \(incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed on November 4, 2010\).](#)

10.7+ [Pixelworks, Inc. Amended and Restated 2006 Stock Incentive Plan, Terms and Conditions of Restricted Stock Unit Award. \(incorporated by reference to Exhibit 10.8 to the Company's Annual Report on Form 10-K filed on March 4, 2015\).](#)

10.8+ [Pixelworks, Inc. Amended and Restated 2006 Stock Incentive Plan, Form of Performance-Based Restricted Stock Unit Agreement \(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on April 13, 2021\).](#)

10.9+ [Summary of Pixelworks, Inc. Non-Employee Director Compensation \(incorporated by reference to Exhibit 10.9 to the Company's Annual Report on Form 10-K filed on March 9, 2022\).](#)

10.10+ [Form of Pixelworks, Inc. Senior Management Bonus Plan \(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on December 31, 2009\).](#)

10.11+ [Offer Letter with Todd A. DeBonis dated December 9, 2015 \(incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on February 2, 2016\).](#)

10.12+ [Change of Control and Severance Agreement effective January 4, 2016, by and between Pixelworks, Inc. and Todd A. DeBonis \(incorporated by reference to Exhibit 10.18 to the Company's Annual Report on Form 10-K filed on March 8, 2017\).](#)

10.13+ [Amended and Restated Change of Control and Severance Agreement by and between Pixelworks, Inc. and Todd A. DeBonis, dated April 11, 2019 \(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on April 15, 2019\).](#)

10.14+ [Form of Addendum to Change of Control Agreement for Officers \(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on May 23, 2014\).](#)

10.15 [Office Lease Agreement dated December 28, 2005, by and between CA-The Concourse Limited Partnership and Pixelworks, Inc. \(incorporated by reference to Exhibit 10.42 to the Company's Annual Report on Form 10-K filed on March 13, 2006\).](#)

10.16 [Office Lease Agreement dated September 10, 2008 and commencing December 1, 2008 by and between Pixelworks, Inc. and Durham Plaza, LLC \(incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed on November 7, 2008\).](#)

10.17 [First Amendment to Office Lease Agreement, dated April 16, 2013, by and between CA-The Concourse Limited Partnership and Pixelworks, Inc. \(incorporated by reference to Exhibit 10.19 to the Company's Annual Report on Form 10-K filed on March 4, 2015\).](#)

10.18 [Second Amendment to Office Lease Agreement, dated July 25, 2018, by and between Hudson Concourse, LLC, and Pixelworks, Inc. \(incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed on November 9, 2018\).](#)

10.19 [Third Amendment to Office Lease Agreement, dated January 31, 2024, by and between Hudson Concourse, LLC, and Pixelworks, Inc.](#)

10.20 [First Amendment to Lease, dated July 1, 2013, by and between Durham Plaza, LLC and Pixelworks, Inc. \(incorporated by reference to Exhibit 10.20 to the Company's Annual Report on Form 10-K filed on March 4, 2015\).](#)

10.21 [Second Amendment to Lease, dated May 18, 2016, by and between Kalberer Company and Pixelworks, Inc. \(incorporated by reference to Exhibit 10.25 to the Company's Annual Report on Form 10-K filed on March 8, 2017\).](#)

10.22 [Third Amendment to Lease, dated January 30, 2019, by and between Kalberer Company and Pixelworks, Inc. \(incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed on May 10, 2019\).](#)

10.23 [Sales Agreement, dated June 5, 2020, between Pixelworks, Inc. and Cowen and Company, LLC \(incorporated by reference to Exhibit 1.1 to the Company's Current Report on Form 8-K filed on June 5, 2020\).](#)

10.24* [Amended and Restated Securities Purchase Agreement dated December 4, 2020, between the Company and the investors named therein. \(incorporated by reference to Exhibit 10.39 to the Company's Annual Report on Form 10-K filed on March 10, 2021\).](#)

10.25* [Form of Capital Increase Agreement dated as of August 21, 2021 \(incorporated by reference to Exhibit 10.02 to the Company's Quarterly Report on Form 10-Q filed on August 11, 2021\).](#)

10.26 [Schedule identifying agreements substantially identical to the form of agreement in Exhibit 10.24 hereto \(incorporated by reference to Exhibit 10.02a to the Company's Quarterly Report on Form 10-Q filed on August 11, 2021\).](#)

10.27 [Change of Control and Severance Agreement by and between Pixelworks, Inc. and Haley F. Aman, dated January 28, 2022 \(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on January 31, 2022\).](#)

10.28 [Supplemental Agreement to Capital Increase Agreement dated as of March 24, 2022 between the Company and the other parties named therein \(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on March 28, 2022\).](#)

10.29 [Side Letter to Capital Increase Agreement dated as of March 24, 2022 between the Company and the other parties named therein \(incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on March 28, 2022\).](#)

10.30 [Form of Equity Transfer Agreement \(incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed on November 8, 2022\).](#)

10.31 [Schedule identifying agreements substantially identical to the form of agreement filed as Exhibit 10.30 hereto \(incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed on November 8, 2022\).](#)

10.32* [Form of Capital Increase Agreement \(incorporated by reference to Exhibit 10.32 to the Company's Annual Report on Form 10-K filed on March 8, 2023\).](#)

10.33 [Schedule identifying agreements substantially identical to the form of agreement in Exhibit 10.32 hereto. \(incorporated by reference to Exhibit 10.33 to the Company's Annual Report on Form 10-K filed on March 8, 2023\).](#)

21 [Subsidiaries of Pixelworks, Inc.](#)

23.1 [Consent of Grant Thornton LLP.](#)

23.2 [Consent of Armanino LLP.](#)

24.1 [Power of Attorney \(contained on the signature page to this Annual Report on Form 10-K\).](#)

31.1	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. Section 1350).
31.2	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. Section 1350).
32.1**	Certification of Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. Section 1350).
32.2**	Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. Section 1350).
97	Executive Compensation Recovery Policy, as amended and restated as of August 14, 2023 (incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on August 17, 2023).
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101)

- + Indicates a management contract or compensation arrangement.
- * Certain schedules and exhibits to this agreement have been omitted pursuant to Item 601(b) of Regulation S-K. The registrant hereby undertakes to furnish supplementally a copy of any omitted schedule or exhibit to such agreement to the SEC upon request.
- ** Exhibits 32.1 and 32.2 are being furnished and shall not be deemed to be "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liability of that section, nor shall such exhibits be deemed to be incorporated by reference in any registration statement or other document filed under the Securities Act of 1933, as amended, or the Exchange Act, except as otherwise stated in such filing.

(b) Exhibits.

See Item 15 (a) (3) above.

(c) Financial Statement Schedules.

See Item 15 (a) (2) above.

Item 16. Form 10-K Summary.

Not applicable.

SIGNATURES

Pursuant to the requirements of Sections 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.

PIXELWORKS, INC.

Dated: March 13, 2024

By: _____

/s/ Todd A. DeBonis

Todd A. DeBonis

*President and Chief Executive Officer
(Principal Executive Officer)*

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Todd A. DeBonis and Haley F. Aman, and each of them, his 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 by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
/s/ Todd A. DeBonis Todd A. DeBonis	President and Chief Executive Officer and Director (Principal Executive Officer)	March 13, 2024
/s/ Haley F. Aman Haley F. Aman	Chief Financial Officer (Principal Accounting and Financial Officer)	March 13, 2024
/s/ Daniel J. Heneghan Daniel J. Heneghan	Chairman of the Board	March 13, 2024
/s/ Amy Bunszel Amy Bunszel	Director	March 13, 2024
/s/ Dean W. Butler Dean W. Butler	Director	March 13, 2024
/s/ C. Scott Gibson C. Scott Gibson	Director	March 13, 2024
/s/ John Y. Liu John Y. Liu	Director	March 13, 2024
/s/ David J. Tupman David J. Tupman	Director	March 13, 2024

APPENDIX A

PIXELWORKS, INC.

AMENDED AND RESTATED 2006 STOCK INCENTIVE PLAN

1. Purposes of the Plan. The purposes of this Stock Incentive Plan are to attract, retain and reward individuals who can and do contribute to the Company's success by providing Employees and Consultants an opportunity to share in the equity of the Company and to more closely align their interests with the Company and its shareholders.

2. Definitions. As used herein, the following definitions shall apply:

2.1. **Administrator**" shall mean the Board or any of its Committees appointed to administer the Plan, in accordance with Section 4.1.

2.2. **Award**" shall mean an award of an Option, SAR or Sale of Shares under the Plan.

2.3. **Award Agreement**" shall mean a written agreement between the Company and a Grantee evidencing the terms and conditions of an individual Award grant. The Award Agreement is subject to the terms and conditions of the Plan.

2.4. **Board**" shall mean the Board of Directors of the Company.

2.5. **Code**" shall mean the Internal Revenue Code of 1986, as amended.

2.6. **Committee**" shall mean a committee appointed by the Board in accordance with Section 4.1 of the Plan.

2.7. **Common Stock**" shall mean the common stock of the Company.

2.8. **Company**" shall mean Pixelworks, Inc., an Oregon corporation.

2.9. **Consultant**" shall mean any non-Employee who is engaged by the Company or any Parent or Subsidiary to render consulting services and is compensated for such consulting services and any Director of the Company whether compensated for such services or not.

2.10. **Continuous Status as an Employee or Consultant**" shall mean the absence of any interruption or termination of service as an Employee or Consultant. Continuous Status as an Employee or Consultant shall not be considered interrupted in the case of: (i) any sick leave, military leave, or any other leave of absence approved by the Company; provided, however, that for purposes of Incentive Stock Options, any such leave is for a period of not more than ninety days or reemployment upon the expiration of such leave is guaranteed by contract or statute, provided, further, that on the ninety-first day of such leave (where re-employment is not guaranteed by contract or statute) the Grantee's Incentive Stock Option shall automatically convert to a Nonqualified Stock Option; or (ii) transfers between locations of the Company or between the Company, its Parent, its Subsidiaries or its successor.

2.11. **Director**" shall mean a member of the Board.

2.12. **Disability**" shall mean total and permanent disability as defined in Section 22(e)(3) of the Code.

2.13. **Employee**" shall mean any person, including Officers and Directors, employed by the Company or any Parent or Subsidiary. Neither the payment of a director's fee by the Company nor service as a Director or Consultant shall be sufficient to constitute "employment" by the Company.

2.14. **Exchange Act**" shall mean the Securities Exchange Act of 1934, as amended.

2.15. **Fair Market Value**" shall mean, as of any date, the value of a Share determined as follows:

2.15.1. If the Common Stock is listed on any established stock exchange or a national market system, including without limitation the Nasdaq National Market or the Nasdaq SmallCap Market of the Nasdaq Stock Market, Fair Market Value shall be the closing sales price for a Share (or the closing bid, if no sales were reported) as quoted on such exchange or system on the date of determination, as reported in *The Wall Street Journal* or such other source as the Administrator deems reliable; provided, if the date of determination does not fall on a day on which the Common Stock has traded on such securities exchange or market system, the date on which the Fair

Market Value shall be established shall be the last day on which the Common Stock was so traded prior to the date of determination, or such other appropriate day as shall be determined by the Administrator, in its sole discretion;

2.15.2. If the Common Stock is regularly quoted by a recognized securities dealer but selling prices are not reported, Fair Market Value shall be the mean between the high bid and low asked prices for a Share on the date of determination, as reported in *The Wall Street Journal* or such other source as the Administrator deems reliable; provided, if the date of determination does not fall on a day on which the Common Stock has been so quoted, the date on which the Fair Market Value shall be established shall be the last day on which the Common Stock was so quoted prior to the date of determination, or such other appropriate day as shall be determined by the Administrator, in its sole discretion;

2.15.3. In the absence of an established market for the Common Stock, the Fair Market Value of a Share shall be determined in good faith by the Administrator.

2.16. **"Grantee"** shall mean an Employee or Consultant who has been granted an Award hereunder, or the permitted successor or legal representative of such Employee or Consultant.

2.17. **"Incentive Stock Option"** shall mean an Option intended to qualify as an incentive stock option within the meaning of Section 422 of the Code.

2.18. **"Nonqualified Stock Option"** shall mean an Option not intended to qualify as an incentive stock option within the meaning of Section 422 of the Code.

2.19. **"Notice of Grant"** shall mean a written notice evidencing certain terms and conditions of an individual Award. The Notice of Grant is part of the Award Agreement.

2.20. **"Officer"** shall mean a person who is an officer of the Company within the meaning of Section 16 of the Exchange Act and the rules and regulations promulgated thereunder.

2.21. **"Option"** shall mean an Incentive Stock Option or a Nonqualified Stock Option granted pursuant to the Plan.

2.22. **"Optioned Stock"** shall mean the Shares subject to an Option or Stock Appreciation Right.

2.23. **"Parent"** shall mean a "parent corporation," whether now or hereafter existing, as defined in Section 424(e) of the Code.

2.24. **"Performance Criteria"** shall mean a formula or standard determined at the discretion of the Administrator with respect to a Performance Period utilizing one or more of the following factors, whether in absolute terms or relative to the performance of one or more similarly situated companies or a published index: (i) operating income, operating cash flow and operating expense; (ii) earnings before interest, taxes, depreciation and amortization; (iii) earnings; (iv) cash flow; (v) market share; (vi) sales; (vii) revenue; (viii) profits before interest and taxes; (ix) expenses; (x) cost of goods sold; (xi) profit/loss or profit margin; (xii) working capital; (xiii) return on capital, equity or assets; (xiv) earnings per share; (xv) economic value added; (xvi) stock price; (xvii) price/earnings ratio; (xviii) debt or debt-to-equity; (xix) accounts receivable; (xx) writeoffs; (xxi) cash; (xxii) assets; (xxiii) liquidity; (xxiv) operations; (xxv) intellectual property (e.g., patents); (xxvi) product development; (xxvii) regulatory activity; (xxviii) manufacturing, production or inventory; (xxix) mergers and acquisitions or divestitures; (xxx) financings; (xxxi) total shareholder return; and/or (xxxii) any other performance factor selected by the Administrator. Performance Criteria may be established on a Company-wide basis or with respect to one or more business units, divisions, or Subsidiaries. When establishing Performance Criteria for a Performance Period, the Administrator may exclude any or all "extraordinary items" as determined under U.S. generally accepted accounting principles including, without limitation, the charges or costs associated with restructurings of the Company or any Subsidiary, discontinued operations, other unusual or non-recurring items, and the cumulative effects of accounting changes. The Administrator may also adjust the Performance Criteria for any Performance Period as it deems equitable in recognition of unusual or non-recurring events affecting the Company, changes in applicable tax laws or accounting principles, or such other factors as the Administrator may determine.

2.25. **"Performance Period"** shall mean the period selected by the Administrator during which performance is measured for the purpose of determining the extent to which an Award subject to Performance Criteria has been earned.

2.26. **"Plan"** shall mean this Amended and Restated 2006 Stock Incentive Plan.

2.27. **"Rule 16b-3"** shall mean Rule 16b-3 of the Exchange Act or any successor to Rule 16b-3, as in effect when discretion is being exercised with respect to the Plan.

2.28. **"Sale"** or **"Sold"** shall include, with respect to the sale of Shares under the Plan, the sale of Shares for any form of consideration specified in Section 8.2, as well as a grant of Shares for consideration in the form of past or future services. For purposes of clarity, a "Sale" of Shares or Shares "Sold" shall include, without limitation, awards of stock bonuses, restricted stock, stock units, performance stock, performance units or similar rights to acquire Shares, whether upon the passage of time, the occurrence of one or more events, the satisfaction of Performance Criteria or other conditions, or any combination thereof.

2.29. **"Share"** shall mean a share of the Common Stock, as adjusted in accordance with Section 11 of the Plan.

2.30. **"Stock Appreciation Right"** or **"SAR"** shall mean a right to receive from the Company, with respect to each Share as to which the SAR is exercised, payment in an amount equal to the excess of the Share's Fair Market Value on the exercise date over its Fair Market Value on the date the SAR was granted. Such payment will be made solely in Shares valued at Fair Market Value on the exercise date.

2.31. **"Subsidiary"** shall mean a "subsidiary corporation," whether now or hereafter existing, as defined in Section 424(f) of the Code.

3. Stock Subject to the Plan.

3.1. Subject to the provisions of Section 3.2 below and the provisions of Section 11 of the Plan, the maximum aggregate number of Shares which may be subject to Awards under the Plan is 27,433,333 shares. (All share limits in the Plan are presented after giving effect to the Company's 1-for-3 stock split in June 2008.) The Shares may be authorized, but unissued, or reacquired Common Stock. Shares issued in respect of any "full-value award" granted under the Plan shall be counted against the foregoing share limit for the Plan as 1.33 shares for every one share issued in connection with such award. (For example, if a stock bonus of 100 shares of Common Stock is granted under the Plan, 133 shares shall be charged against the share limit in connection with that award.) For this purpose, a "full-value award" means any Award under the Plan that is not an Option or SAR.

3.2. If an Option or SAR should expire, or become unexercisable for any reason, or is otherwise terminated or forfeited, without having been exercised in full, the Optioned Stock which was subject thereto shall, unless the Plan shall have been terminated, become available for future Option or SAR grants and/or Sales under the Plan. If any Shares issued pursuant to a Sale or exercise of an Option or SAR shall be reacquired, canceled or forfeited for any reason, such Shares shall become available for future Option or SAR grants and/or Sales under the Plan, unless the Plan shall have been terminated. If any reacquired, canceled or forfeited Shares were originally issued upon exercise of an Incentive Stock Option, then once so reacquired, canceled or forfeited, such Shares shall not be considered to have been issued for purposes of applying the limitation set forth in Section 3.3 below. Notwithstanding the foregoing, the following shares of Stock may not again be made available for issuance as awards under the Plan: (i) shares of Stock not issued or delivered as a result of the net settlement of an outstanding Option or SAR, (ii) shares of Stock used to pay the exercise price or withholding taxes related to an outstanding award, or (iii) shares of Stock repurchased on the open market with the proceeds of the exercise price of an Option.

3.3. Notwithstanding any other provision of this Section 3, but subject to the adjustment provisions of Section 11.1 of the Plan, the maximum number of Shares that may be issued upon the exercise of Incentive Stock Options shall be 27,433,333.

4. Administration of the Plan.

4.1. Procedure.

4.1.1. **Multiple Administrative Committees.** If permitted by Rule 16b-3, the Plan may be administered by different Committees with respect to Directors, Officers who are not Directors, and Employees who are neither Directors nor Officers.

4.1.2. **Administration With Respect to Directors and Officers Subject to Section 16(b).** With respect to Award grants to Employees who are also Officers or Directors subject to Section 16(b) of the Exchange Act, the Plan shall be administered by (A) the Board, if the Board may administer the Plan in compliance with the rules governing a plan intended to qualify as a discretionary plan under Rule 16b-3, or (B) a Committee designated by the Board to administer the Plan, which Committee shall be constituted to comply with the rules, if any, governing a plan intended to qualify as a discretionary plan under Rule 16b-3. Once appointed, such Committee shall continue to serve in its designated capacity until otherwise directed by the Board. From time to time the Board may increase the size of the Committee and appoint additional members, remove members (with or without cause) and substitute new members, fill vacancies (however caused), and remove all members of the Committee and thereafter directly administer the Plan, all to the extent permitted by the rules, if any, governing a plan intended to qualify as a discretionary plan under Rule 16b-3. With respect to persons subject to Section 16 of the Exchange Act, transactions under the Plan are intended to comply with all applicable conditions of Rule 16b-3. To the extent any provision of the Plan or action by the Administrator fails to so comply, it shall be deemed null and void, to the extent permitted by law and deemed advisable by the Administrator.

4.1.3. Administration With Respect to Other Persons. With respect to Award grants to Employees or Consultants who are neither Directors nor Officers of the Company, the Plan shall be administered by the Board or a Committee designated by the Board, which Committee shall be constituted to satisfy the legal requirements relating to the administration of stock option plans under applicable corporate and securities laws and the Code. Once appointed, such Committee shall serve in its designated capacity until otherwise directed by the Board. The Board may increase the size of the Committee and appoint additional members, remove members (with or without cause) and substitute new members, fill vacancies (however caused), and remove all members of the Committee and thereafter directly administer the Plan, all to the extent permitted by the legal requirements relating to the administration of stock option plans under state corporate and securities laws and the Code.

4.2. Powers of the Administrator. Subject to the provisions of the Plan, and in the case of a Committee, subject to the specific duties delegated by the Board to such Committee, the Administrator shall have the authority, in its discretion:

- 4.2.1. to grant Awards or SARs;
- 4.2.2. to authorize Sales of Shares hereunder;
- 4.2.3. to determine, upon review of relevant information, the Fair Market Value of a Share;
- 4.2.4. to determine the exercise/purchase price per Share of Options or SARs to be granted or Shares to be Sold, which exercise/purchase price shall be determined in accordance with Section 8.1 of the Plan;
- 4.2.5. to determine the Employees or Consultants to whom, and the time or times at which, Options or SARs shall be granted and the number of Shares to be represented by each Option or SAR;
- 4.2.6. to determine the Employees or Consultants to whom, and the time or times at which, Shares shall be Sold and the number of Shares to be Sold;
- 4.2.7. to administer and interpret the Plan;
- 4.2.8. to prescribe, amend and rescind rules and regulations relating to the Plan;
- 4.2.9. to determine the terms and provisions of each Option or SAR granted (which need not be identical) and, with the consent of the holder thereof, modify or amend each Option or SAR;
- 4.2.10. to determine the terms and provisions of each Sale of Shares (which need not be identical) and, with the consent of the purchaser thereof, modify or amend each Sale;
- 4.2.11. to accelerate (with the consent of the Grantee) the exercise date of any Option;
- 4.2.12. to accelerate (with the consent of the Grantee or purchaser of Shares) the vesting restrictions applicable to Shares Sold or Options or SARs granted under the Plan;
- 4.2.13. to authorize any person to execute on behalf of the Company any instrument required to effectuate the grant of an Option, SAR or Sale of Shares previously granted or authorized by the Administrator;
- 4.2.14. to determine the transfer or vesting restrictions, repurchase rights or other restrictions applicable to Shares issued under the Plan;
- 4.2.15. to establish, on a case-by-case basis, different terms and conditions pertaining to exercise or vesting rights upon termination of employment, but only at the time of an Option or SAR grant or Sale of Shares;
- 4.2.16. to approve forms for use under the Plan; and
- 4.2.17. to make all other determinations deemed necessary or advisable for the administration of the Plan.

Notwithstanding any other provision herein, except in connection with a corporate transaction involving the Company (including, without limitation, any stock dividend, stock split, extraordinary cash dividend, recapitalization, reorganization, merger, consolidation, split-up, spin-off, combination, or exchange of shares), the terms of outstanding awards may not be amended to reduce the exercise price of outstanding Options or SARs or cancel outstanding Options or SARs in exchange for cash, other awards or Options or SARs with an exercise price that is less than the exercise price of the original Options or SARs without shareholder approval.

4.3. Effect of Administrator's Decision. All decisions, determinations and interpretations of the Administrator shall be final and binding on all Grantees and any other holders of any Shares Sold under the Plan.

5. Eligibility.

5.1. Persons Eligible. Awards may be granted only to Employees and Consultants. Incentive Stock Options may be granted only to Employees. An Employee or Consultant who has been granted an Award may, if he or she is otherwise eligible, be granted additional Awards.

5.2. ISO Limitation. To the extent that the aggregate Fair Market Value of Shares subject to a Grantee's Incentive Stock Options granted by the Company, any Parent or Subsidiary which become exercisable for the first time during any calendar year (under all plans of the Company or any Parent or Subsidiary) exceeds \$100,000, such excess Options shall be treated as Nonqualified Stock Options. For purposes of this Section 5.2, Incentive Stock Options shall be taken into account in the order in which they were granted, and the Fair Market Value of the Shares shall be determined as of the time of grant.

5.3. Section 5.2 Limitations. Section 5.2 of the Plan shall apply only to an Option evidenced by an Award Agreement which sets forth the intention of the Company and the Grantee that such Option shall qualify as an Incentive Stock Option. Section 5.2 of the Plan shall not apply to any Option evidenced by an Award Agreement which sets forth the intention of the Company and the Grantee that such Option shall be a Nonqualified Stock Option.

5.4. No Right to Continued Employment. The Plan shall not confer upon any Grantee any right with respect to continuation of employment or consulting relationship with the Company, nor shall it interfere in any way with his or her right or the Company's right to terminate their employment or consulting relationship at any time, with or without cause.

5.5. Other Limitations. The following limitations shall apply to grants of Options or SARs to Employees:

5.5.1. No Employee shall be granted, in any fiscal year of the Company, Options or SARs to acquire more than 250,000 Shares.

5.5.2. In connection with his or her initial employment, an Employee may be granted Options or SARs for up to an additional 250,000 Shares which shall not count against the limit set forth in subsection 5.5.1 above.

5.5.3. The foregoing limitations shall be adjusted proportionately in connection with any change in the Company's capitalization as described in Section 11.

6. Term of Plan. The Plan shall become effective upon the earlier to occur of its adoption by the Board or its approval by the shareholders of the Company as described in Section 17 of the Plan. It shall continue in effect for a term of ten (10) years, unless sooner terminated under Section 13 of the Plan. However, if the Company's shareholders approve an increase in the number of Shares available for issuance under section 3.1, such increase shall be deemed the adoption of a new plan with respect to the increased number of Shares, which may be issued for a term of ten (10) years following the date of such increase.

7. Term of Options and SARs. The term of each Option and SAR shall be stated in the Notice of Grant; provided, however, that in no event shall the term of any Option or SAR exceed six (6) years from the date of grant. However, in the case of an Incentive Stock Option granted to a Grantee who, on the date the Incentive Stock Option is granted, owns stock representing more than ten percent (10%) of the voting power of all classes of stock of the Company or any Parent or Subsidiary, the term of the Incentive Stock Option shall be five (5) years from the date of grant thereof or such shorter term as may be provided in the Notice of Grant.

8. Exercise/Purchase Price and Consideration.

8.1. Exercise/Purchase Price. The per Share exercise/purchase price for the Shares to be issued pursuant to exercise of an Option or SAR or a Sale of Shares shall be such price as is determined by the Administrator, but shall be subject to the following:

8.1.1. In the case of an Incentive Stock Option

(1) granted to an Employee who, at the time of the grant of such Incentive Stock Option, owns more than ten percent (10%) of the voting power of all classes of stock of the Company or any Parent or Subsidiary, the per Share exercise price shall be at least one hundred ten percent (110%) of the Fair Market Value on the date of the grant.

(2) granted to any other Employee, the per Share exercise price shall be at least one hundred percent (100%) of the Fair Market Value on the date of grant.

8.1.2. In the case of a Nonqualified Stock Option, SAR or Sale, the per Share exercise/purchase price shall be at least one hundred percent (100%) of the Fair Market Value on the date of grant or Sale, as the case may be.

8.2. **Consideration.** The consideration to be paid for the Shares to be issued upon exercise of an Option or pursuant to a Sale, including the method of payment, shall be determined by the Administrator. In the case of an Incentive Stock Option, the Administrator shall determine the acceptable form of consideration at the time of grant. Such consideration may consist of:

- 8.2.1. cash;
- 8.2.2. check;
- 8.2.3. promissory note;
- 8.2.4. transfer to the Company of Shares which

(1) in the case of Shares acquired upon exercise of an Option, have been owned by the Grantee for more than six months on the date of transfer, and

- (2) have a Fair Market Value on the date of transfer equal to the aggregate exercise price of the Shares to be acquired;

8.2.5. if and so long as the Common Stock is registered under Section 12(b) or 12(g) of the Exchange Act, delivery of a properly executed exercise notice together with irrevocable instructions to a broker to promptly deliver to the Company the amount of sale or loan proceeds required to pay the exercise price;

8.2.6. such other consideration and method of payment for the issuance of Shares to the extent permitted by legal requirements relating to the administration of stock option plans and issuances of capital stock under applicable corporate and securities laws and the Code; or

- 8.2.7. any combination of the foregoing methods of payment.

If the Fair Market Value of the number of whole Shares transferred or the number of whole Shares surrendered is less than the total exercise price of the Option, the shortfall must be made up in cash or by check. Notwithstanding the foregoing provisions of this Section 8.2, the consideration for Shares to be issued pursuant to a Sale may not include, in whole or in part, the consideration set forth in subsection 8.2.5 above.

9. Exercise of Option or SAR.

9.1. **Procedure for Exercise; Rights as a Shareholder.** Any Option or SAR granted hereunder shall be exercisable at such times and under such conditions as determined by the Administrator, including Performance Criteria with respect to the Company and/or the Grantee, and as shall be permissible under the terms of the Plan.

An Option or SAR may not be exercised for a fraction of a Share. If the exercise of a SAR would result in the issuance of a fractional Share, the Shares to be issued shall be rounded to the nearest whole Share.

An Option or SAR shall be deemed to be exercised when written notice of such exercise has been given to the Company in accordance with the terms of the Option or SAR by the Grantee and full payment for the Shares with respect to which the Option is exercised has been received by the Company. Full payment may, as authorized by the Administrator, consist of any consideration and method of payment allowable under the Award Agreement and Section 8.2 of the Plan. Each Grantee who exercises an Option or SAR shall, upon notification of the amount due (if any) and prior to or concurrent with delivery of the certificate representing the Shares, pay to the Company amounts necessary to satisfy applicable federal, state and local tax withholding requirements. A Grantee must also provide a duly executed copy of any stock transfer agreement then in effect and determined to be applicable by the Administrator. Until the issuance (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company) of the stock certificate evidencing such Shares, no right to vote or receive dividends or any other rights as a shareholder shall exist with respect to the Optioned Stock represented by such stock certificate, notwithstanding the exercise of the Option or SAR. No adjustment will be made for a dividend or other right for which the record date is prior to the date the stock certificate is issued, except as provided in Section 11 of the Plan. Subject to section 3, exercise of an Option or settlement of a SAR shall decrease the number of Shares thereafter available, both for purposes of the Plan and for issuance under the Option or SAR by the number of Shares issued upon such exercise.

9.2. **Termination of Employment or Consulting Relationship.** In the event that a Grantee's Continuous Status as an Employee or Consultant terminates (other than upon the Grantee's death or Disability), the Grantee may exercise his or her Option or SAR, but only within such period of time as is determined by the Administrator, and only to the extent that the Grantee was entitled to exercise it at the date of termination (but in no event later than the

expiration of the term of such Option or SAR as set forth in the Notice of Grant). In the case of an Incentive Stock Option, the Administrator shall determine such period of time (in no event to exceed three (3) months from the date of termination) when the Option is granted. If, at the date of termination, the Grantee is not entitled to exercise his or her entire Option or SAR, the unexercisable portion of the Option or SAR shall, unless otherwise expressly provided by the Administrator, terminate on the date of such termination and the Shares covered by such portion shall revert to the Plan. If, after termination, the Grantee does not exercise the remaining portion of his or her Option or SAR within the time specified by the Administrator, such portion of the Option or SAR shall terminate, and the Shares covered by such portion shall revert to the Plan.

9.3. Disability of Grantee. In the event that a Grantee's Continuous Status as an Employee or Consultant terminates as a result of the Grantee's Disability, the Grantee may exercise his or her Option or SAR at any time within twelve (12) months from the date of such termination, but only to the extent that the Grantee was entitled to exercise it at the date of such termination (but in no event later than the expiration of the term of such Option or SAR as set forth in the Notice of Grant). If, at the date of termination, the Grantee is not entitled to exercise his or her entire Option or SAR, the unexercisable portion of the Option or SAR shall, unless otherwise expressly provided by the Administrator, terminate on the date of such termination and the Shares covered by such portion shall revert to the Plan. If, after termination, the Grantee does not exercise the remaining portion of his or her Option or SAR within the time specified herein, such portion of the Option or SAR shall terminate, and the Shares covered by such portion shall revert to the Plan.

9.4. Death of Grantee. In the event of the death of a Grantee, the Option or SAR may be exercised at any time within twelve (12) months following the date of death (but in no event later than the expiration of the term of such Option or SAR as set forth in the Notice of Grant), by the Grantee's estate or by a person who acquired the right to exercise the Option or SAR by bequest or inheritance, but only to the extent that the Grantee was entitled to exercise the Option or SAR at the date of death. If, at the time of death, the Grantee was not entitled to exercise his or her entire Option or SAR, the unexercisable portion of the Option or SAR shall, unless otherwise expressly provided by the Administrator, terminate on the date of such termination and the Shares covered by such portion shall revert to the Plan. If, after death, the Grantee's estate or a person who acquired the right to exercise the Option or SAR by bequest or inheritance does not exercise the remaining portion of the Option or SAR within the time specified herein, such portion of the Option or SAR shall terminate, and the Shares covered by such portion shall revert to the Plan.

9.5. Rule 16b-3. Options or SARs, as well as Sales of Shares, granted to persons subject to Section 16(b) of the Exchange Act must comply with Rule 16b-3 and shall contain such additional conditions or restrictions as may be required thereunder to qualify for the maximum exemption from Section 16 of the Exchange Act with respect to Plan transactions.

10. Nontransferability of Awards. Except as otherwise specifically provided in the Award Agreement, an Award may not be sold, pledged, assigned, hypothecated, transferred or disposed of in any manner other than by will, or by the laws of descent and distribution, and may be exercised during the lifetime of the Grantee only by the Grantee or, if incapacitated, by his or her legal guardian or legal representative.

11. Adjustments Upon Changes in Capitalization or Merger.

11.1. Changes in Capitalization. Subject to any required action by the shareholders of the Company, the number of shares of Common Stock covered by each outstanding Award and the number of shares of Common Stock which have been authorized for issuance under the Plan but as to which no Awards have yet been granted or which have been returned to the Plan upon cancellation or expiration of an Award, as well as the price per share of Common Stock covered by each such outstanding Award, shall be proportionately adjusted for any increase or decrease in the number of issued shares of Common Stock resulting from a stock split, reverse stock split, stock dividend, combination or reclassification of the Common Stock, or any other increase or decrease in the number of issued shares of Common Stock effected without receipt of consideration by the Company; provided, however, that conversion of any convertible securities of the Company shall not be deemed to have been "effected without receipt of consideration." Such adjustment shall be made by the Administrator, whose determination in that respect shall be final, binding and conclusive. Except as expressly provided herein, no issuance by the Company of shares of stock of any class, or securities convertible into shares of stock of any class, shall affect, and no adjustment by reason thereof shall be made with respect to, the number or price of Shares subject to an Award.

11.2. Dissolution or Liquidation. In the event of the proposed dissolution or liquidation of the Company, each outstanding Award will terminate immediately prior to the consummation of such proposed action, unless otherwise provided by the Administrator. The Administrator may, in the exercise of its sole discretion in such instances, declare that any Award shall terminate as of a date fixed by the Board and, in the case of Options and SARs, give each Grantee the right to exercise Grantee's Option or SAR as to all or any part of the Optioned Stock subject to the Option or SAR, including Shares as to which the Option or SAR would not otherwise be exercisable.

11.3. Merger or Asset Sale. Except as otherwise provided in an Award Agreement, in the event of a proposed sale of all or substantially all of the assets of the Company, or the merger of the Company with or into another corporation, each outstanding Award shall be assumed or an equivalent award shall be substituted by such successor corporation or a Parent or Subsidiary of such successor corporation, unless the Administrator determines, in the exercise of its sole discretion and in lieu of such assumption or substitution, that, in the case of Options and SARs, each Grantee shall have the right to exercise the Grantee's Options or SARs as to all or any part of the Optioned Stock subject to the Option or SAR, including Shares as to which the Option or SAR would not otherwise be exercisable. If the Administrator determines that an Option or SAR shall be exercisable in lieu of assumption or substitution in the event of a merger or sale of assets, the Administrator shall notify the Grantee that the Option or SAR shall be so exercisable for a period of thirty (30) days from the date of such notice or such shorter period as the Administrator may specify in the notice, and the Option or SAR will terminate upon the expiration of such period. For the purposes of this paragraph, the Option or SAR shall be considered assumed or substituted if, following the merger or sale of assets, the Option or SAR confers the right to purchase, for each Share of Optioned Stock subject to the Option or SAR immediately prior to the merger or sale of assets, the consideration (whether stock, cash, or other securities or property) received in the merger or sale of assets by holders of Common Stock for each Share held on the effective date of the transaction (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding Shares); provided, however, that if such consideration received in the merger or sale of assets was not solely common stock of the successor corporation or its Parent, the Administrator may, with the consent of the successor corporation, provide for the consideration to be received upon the exercise of the Option or SAR, for each Share of Optioned Stock subject to the Option or SAR, to be solely common stock of the successor corporation or its Parent substantially equal in Fair Market Value to the per share consideration received by holders of Common Stock in the merger or sale of assets. The determination of such substantial equality of value of consideration shall be made by the Administrator and its determination shall be conclusive and binding.

12. Time of Granting Awards. The date of grant of an Award shall, for all purposes, be the date on which the Administrator makes the determination granting such Award (or such later date as the Administrator may establish at the time of granting the Award). Notice of the determination shall be given to each Grantee within a reasonable time after the date of such grant.

13. Amendment and Termination of the Plan.

13.1. Amendment and Termination. The Board may amend or terminate the Plan from time to time in such respects as the Board may deem advisable.

13.2. Shareholder Approval. The Company shall obtain shareholder approval of any Plan amendment to the extent necessary and desirable to comply with Rule 16b-3 or with Section 422 of the Code (or any successor rule or statute or other applicable law, rule or regulation, including the requirements of any exchange or quotation system on which the Common Stock is listed or quoted). Such shareholder approval, if required, shall be obtained in such a manner and to such a degree as is required by the applicable law, rule or regulation.

13.3. Effect of Amendment or Termination. Any such amendment or termination of the Plan shall not affect Awards already granted, and such Awards shall remain in full force and effect as if this Plan had not been amended or terminated, unless mutually agreed otherwise between the Grantee and the Administrator, which agreement must be in writing and signed by the Grantee and the Administrator.

14. Conditions Upon Issuance of Shares. Shares shall not be issued pursuant to the exercise of an Option, SAR or a Sale unless the exercise of such Option, SAR or consummation of the Sale and the issuance and delivery of such Shares pursuant thereto shall comply with all relevant provisions of law, including, without limitation, the Securities Act of 1933, as amended, applicable state securities laws, the Exchange Act, the rules and regulations promulgated thereunder, and the requirements of any stock exchange (including Nasdaq) upon which the Shares may then be listed, and shall be further subject to the approval of counsel for the Company with respect to such compliance.

15. Reservation of Shares. The Company, during the term of this Plan, will at all times reserve and keep available such number of Shares as shall be sufficient to satisfy the requirements of the Plan.

16. Liability of Company.

16.1. **Inability to Obtain Authority.** Inability of the Company to obtain authority from any regulatory body having jurisdiction, which authority is deemed by the Company's counsel to be necessary to the lawful issuance and sale of any Shares hereunder, shall relieve the Company of any liability in respect of the failure to issue or sell such Shares as to which such requisite authority shall not have been obtained.

As a condition to the exercise of an Option or SAR or a Sale, the Company may require the person exercising such Option or SAR or to whom Shares are being Sold to represent and warrant at the time of any such exercise or Sale that the Shares are being purchased only for investment and without any present intention to sell or distribute such Shares if, in the opinion of counsel for the Company, such a representation is required by any of the aforementioned relevant provisions of law.

16.2. **Grants Exceeding Allotted Shares.** If the grant of an Award causes the aggregate number of Shares previously issued under the Plan and subject to then-outstanding Awards under the Plan to exceed, as of the date of grant, the number of Shares which may be issued under the Plan without additional shareholder approval, such Award shall be void with respect to such excess Shares, unless shareholder approval of an amendment sufficiently increasing the number of Shares subject to the Plan is timely obtained in accordance with Section 13 of the Plan.

17. Shareholder Approval. Continuance of the Plan shall be subject to approval by the shareholders of the Company within twelve (12) months before or after the date the Plan is adopted. Such shareholder approval shall be obtained in the manner and to the degree required under applicable federal and state law.

18. Tax Withholding. Upon any exercise, vesting, or payment of any Award, or upon the disposition of shares of Common Stock acquired pursuant to the exercise of an Incentive Stock Option prior to satisfaction of the holding period requirements of Section 422 of the Code, or upon any other tax withholding event with respect to any award, the Company or one of its Subsidiaries shall have the right at its option to:

- (a) require the Grantee (or the Grantee's personal representative or beneficiary, as the case may be) to pay or provide for payment of at least the minimum amount of any taxes which the Company or one of its Subsidiaries may be required to withhold with respect to such Award event or payment; or
- (b) deduct from any amount otherwise payable in cash (whether related to the Award or otherwise) to the Grantee (or the Grantee's personal representative or beneficiary, as the case may be) the minimum amount of any taxes which the Company or one of its Subsidiaries may be required to withhold with respect to such Award event or payment, except to the extent additional withholding does not result in adverse accounting treatment to the Company.

In any case where a tax is required to be withheld in connection with the delivery of shares of Common Stock under the Plan, the Administrator may in its sole discretion (subject to Section 14) require or grant (either at the time of the Award or thereafter) to the Grantee the right to elect, pursuant to such rules and subject to such conditions as the Administrator may establish, that the Company reduce the number of shares to be delivered by (or otherwise reacquire) the appropriate number of shares, valued in a consistent manner at their Fair Market Value or at the sales price in accordance with authorized procedures for cashless exercises, necessary to satisfy the minimum applicable withholding obligation on exercise, vesting or payment. In no event shall the shares withheld exceed the minimum whole number of shares required for tax withholding under applicable law.

19. Plan Not Funded. Awards payable under the Plan shall be payable in shares or from the general assets of the Company, and no special or separate reserve, fund or deposit shall be made to assure payment of such awards. No Grantee, beneficiary or other person shall have any right, title or interest in any fund or in any specific asset (including shares of Common Stock, except as expressly otherwise provided) of the Company or one of its Subsidiaries by reason of any Award hereunder. Neither the provisions of the Plan (or of any related documents), nor the creation or adoption of the Plan, nor any action taken pursuant to the provisions of the Plan shall create, or be construed to create, a trust of any kind or a fiduciary relationship between the Company or one of its Subsidiaries and any Grantee, beneficiary or other person. To the extent that a Grantee, beneficiary or other person acquires a right to receive payment pursuant to any Award hereunder, such right shall be no greater than the right of any unsecured general creditor of the Company.

20. Privileges of Stock Ownership. Except as otherwise expressly authorized by the Administrator, a Grantee shall not be entitled to any privilege of stock ownership as to any shares of Common Stock not actually delivered to and held of record by the participant. Except as expressly required by Section 11.1 or otherwise expressly provided by the Administrator, no adjustment will be made for dividends or other rights as a shareholder for which a record date is prior to such date of delivery.

21. Governing Law; Severability; Headings. The Plan, the Awards, all documents evidencing awards and all other related documents shall be governed by, and construed in accordance with the laws of the State of Oregon. If a court of competent jurisdiction holds any provision invalid and unenforceable, the remaining provisions of the Plan shall continue in effect. Captions and headings are given to the sections and subsections of the Plan solely as a convenience to facilitate reference. Such headings shall not be deemed in any way material or relevant to the construction or interpretation of the Plan or any provision thereof.

22. No Corporate Action Restriction. The existence of the Plan, the Award Agreements and the Awards granted hereunder shall not limit, affect or restrict in any way the right or power of the Board or the shareholders of the Company to make or authorize: (a) any adjustment, recapitalization, reorganization or other change in the capital structure or business of the Company or any Subsidiary, (b) any merger, amalgamation, consolidation or change in the ownership of the Company or any Subsidiary, (c) any issue of bonds, debentures, capital, preferred or prior preference stock ahead of or affecting the capital stock (or the rights thereof) of the Company or any Subsidiary, (d) any dissolution or liquidation of the Company or any Subsidiary, (e) any sale or transfer of all or any part of the assets or business of the Company or any Subsidiary, or (f) any other corporate act or proceeding by the Company or any Subsidiary. No participant, beneficiary or any other person shall have any claim under any award or award agreement against any member of the Board or the Administrator, or the Company or any employees, officers or agents of the Company or any Subsidiary, as a result of any such action.

23. Stock Retention Requirement for Executive Officers. The Award Agreement providing for an Award under the Plan to a participant who is the principal executive officer, principal financial officer or chief operating officer, if any, of the Company shall provide that the participant shall continue to hold the Shares issued in connection with the Award (net of Shares withheld or disposed of to pay applicable income and employment taxes due by the participant) for a period of twelve (12) months following the later of the date of issuance of the Shares to the participant or, in the case of Shares issued as restricted stock, the date of vesting of such Shares. This holding period requirement shall cease to apply (i) following the participant's termination of employment with the Company, (ii) at such time as the participant has met such share ownership guidelines as may be adopted by the Board and as are applicable to the participant, or (iii) the occurrence of an event described in Section 11.3 (relating to a Merger or Asset Sale) or similar event involving the sale of the Company.

THIRD AMENDMENT

THIS THIRD AMENDMENT (this "Amendment") is made and entered into as of January 31, 2024, by and between **HUDSON CONCOURSE, LLC, a Delaware Limited Liability Company ("Landlord")**, and **PIXELWORKS, INC., an Oregon corporation ("Tenant")**.

RECITALS

- A. Landlord (as successor in interest to CA-The Concourse Limited Partnership, a Delaware limited partnership) and Tenant are parties to that certain Office Lease dated December 28, 2005, as amended by that certain First Amendment ("First Amendment") dated April 16, 2013 and that certain Second Amendment ("Second Amendment") dated July 25, 2018 (as amended, the "Lease"). Pursuant to the Lease, Landlord has leased to Tenant space currently containing approximately **10,051** rentable square feet (for purposes of this Amendment, the "Existing Premises") described as Suite 595 on the fifth floor of the building commonly known as Concourse I located at 226 Airport Parkway, San Jose, California (the "Building").
- B. The Lease will expire by its terms on September 30, 2024 (the "Second Extended Expiration Date"). Except as provided in Recital C below, the parties wish to extend the term of the Lease on the following terms and conditions.
- C. Other than with respect to the portion of the Existing Premises containing approximately 4,189 rentable square feet described as Suite 595 on the fifth floor of the Building and shown on Exhibit A attached hereto (for purposes of this Amendment, the "Reduction Space"), the parties wish to extend the expiration date of the Lease on the following terms and conditions.

NOW, THEREFORE, in consideration of the above recitals which by this reference are incorporated herein, the mutual covenants and conditions contained herein and other valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Landlord and Tenant agree as follows:

1. **Extension.** Except as provided in Section 2 below, the term of the Lease is hereby extended through February 29, 2028 (the "Third Extended Expiration Date"). The portion of the term of the Lease beginning on the date immediately following the Second Extended Expiration Date (the "Third Extension Date") and ending on the Third Extended Expiration Date shall be referred to herein as the "Third Extended Term".
2. **Reduction.**
 - 2.1. **Reduction Space Expiration Date.** Subject to the terms hereof, the term of the Lease shall expire, with respect to the Reduction Space only, on Second Extended Expiration Date (for purposes of this Amendment, the "Reduction"). Without limiting the foregoing:
 - A. From and after the date immediately following the Second Extended Expiration Date (for purposes of this Amendment, the "Reduction Effective Date"), the Premises shall consist solely of the Existing Premises less the Reduction Space (for purposes of this Amendment, the "Remaining Premises") and shall be deemed to contain **5,862** rentable square feet.
 - B. Tenant shall surrender the Reduction Space to Landlord in accordance with the terms of the Lease on or before the Second Extended Expiration Date.
 - C. Tenant shall remain liable for all Rent and other amounts payable under the Lease with respect to the Reduction Space for the period up to and including the Second Extended Expiration Date, even though billings for such amounts may occur after the Second Extended Expiration Date.
 - D. Tenant's restoration obligations with respect to the Reduction Space shall be as set forth in the Lease, as amended.
 - E. If Tenant fails to surrender any portion of the Reduction Space on or before the Second Extended Expiration Date, Tenant's tenancy with respect to the Reduction Space shall be subject to Section 22 of the Lease.
 - F. Any other rights or obligations of Landlord or Tenant under the Lease relating to the Reduction Space that, in the absence of the Reduction, would have survived the Second Extended Expiration Date shall survive the Second Extended Expiration Date.

3. **Base Rent.** With respect to the Remaining Premises during the Third Extended Term, the schedule of Base Rent shall be as follows:

Period of Third Extended Term	Annual Rate Per Square Foot (rounded to the nearest 100 th of a dollar)	Monthly Base Rent
10/1/24 - 9/30/25	\$46.20	\$22,568.70
10/1/25 - 9/30/26	\$47.59	\$23,245.76
10/1/26 - 9/30/27	\$49.01	\$23,943.13
10/1/27 – 2/29/28	\$50.48	\$24,661.43

All such Base Rent shall be payable by Tenant in accordance with the terms of the Lease, as amended.

Notwithstanding the foregoing, Base Rent for the Remaining Premises shall be abated, in the following amounts; provided, however, that if a Default exists when any such abatement would otherwise apply, such abatement shall be deferred until the date, if any, on which such Default is cured:

- (i) \$22,568.70 per month for the each of the following full calendar months of October 2024, January 2025 and February 2025;
- (ii) \$23,943.13 for the full calendar month of October 2026; and
- (iii) \$24,661.43 for the full calendar month of November 2027.

4. **Additional Security Deposit.**

- 4.1. No additional Security Deposit shall be required in connection with this Amendment.
- 4.2. Due to a scrivener's error, the reference to "\$80,000.00 in Section 5 of the First Amendment is hereby amended and restated as "\$79,999.80".
- 4.3. Effective as of date hereof, and so long as Tenant is not in Default, the Security Deposit held by Landlord as provided under Sections 1.08 and 6 of the Lease shall be reduced from \$79,999.80 to \$24,661.43 (for purposes of this Amendment, the "**Deposit Reduction**") and Landlord shall deliver the amount of \$55,338.37 to Tenant within 30 days of the date hereof.

5. **Tenant's Pro Rata Share.** With respect to the Remaining Premises during the Extended Term, Tenant's Pro Rata Share shall be 4.5029%.

6. **Expenses and Taxes.** With respect to the Remaining Premises during the Third Extended Term, Tenant shall pay for Tenant's Pro Rata Share of Expenses and Taxes in accordance with the terms of the Lease; provided, however, that, with respect to the Remaining Premises during the Third Extended Term the Base Year for Expenses and Taxes shall be 2025.

7. **Improvements to Remaining Premises.**

- 7.1. **Configuration and Condition of Remaining Premises.** Tenant acknowledges that it is in possession of the Remaining Premises and agrees to accept them "as is" without any representation by Landlord regarding their configuration or condition and without any obligation on the part of Landlord to perform or pay for any alteration or improvement, except as may be otherwise expressly provided in this Amendment.
- 7.2. **Responsibility for Improvements to Remaining Premises.** Landlord shall perform improvements to the Remaining Premises in accordance with the Third Extension Work Letter attached hereto as **Exhibit B**.
- 8. **Representations.** Tenant represents and warrants that, as of the date hereof and the Second Extended Expiration Date:
 - (a) Tenant is the rightful owner of all of the Tenant's interest in the Lease; (b) Tenant has not subleased the Reduction Space or made any disposition, assignment or conveyance of the Lease or Tenant's interest therein; (c) Tenant has no knowledge of any fact or circumstance which would give rise to any claim, demand, obligation, liability, action or cause of action arising out of or in connection with Tenant's occupancy of the Reduction Space; (d) no other person or entity has an interest in the Lease, collateral or otherwise; and (e) there are no outstanding contracts for the supply of labor or material and no work has been done or is being done in, to or about the Reduction Space which has not been fully paid for and for which appropriate waivers of mechanic's liens have not been obtained.
- 9. **Other Pertinent Provisions.** Landlord and Tenant agree that, effective as of the date of this Amendment (unless different effective date(s) is/are specifically referenced in this Section), the Lease shall be amended in the following additional

respects:

9.1. **Permitted Use.** Section 1.11 of the Lease is hereby amended and restated as the following:

"1.11. **'Permitted Use'**: General office use, including, without limitation, (a) software related engineering, design, and product testing, (b) semiconductor related engineering and design, and (c) building, assembling, and physically constructing products related thereto; provided, however, that no more than 20% of the Premises (measured against the total Rentable Square Footage of the Premises) shall be used for building, assembling, and/or physically constructing any products and that Tenant shall neither use, nor permit (pursuant to a sublease or otherwise) any other party to use, any portion of the Premises for a retail bank."

9.2. **Landlord's Notice Address**. The Landlord's Notice Address set forth in Section 1.12 of the Lease (as further amended) is hereby deleted in its entirety and is replaced with the following:

"Hudson Concourse, LLC,
c/o Hudson Pacific Properties
2055 Gateway Place, Suite 200
San Jose, California 95110
Attn: Building Manager

with copies to:

Hudson Concourse, LLC,
c/o Hudson Pacific Properties
333 Twin Dolphin Drive, Suite 100
Redwood City, California 94065
Attn: Managing Counsel

and

Hudson Concourse, LLC,
c/o Hudson Pacific Properties
11601 Wilshire Boulevard, Suite 900
Los Angeles, California 90025
Attn: Lease Administration"

Notwithstanding anything to the contrary contained in the Lease, as amended hereby, Rent shall be made payable to the entity, and sent to the address, Landlord designates and shall be made by good and sufficient check or by other means acceptable to Landlord.

9.3. **Parking**. Effective as of the Reduction Effective Date, Section 1 of Exhibit G to the Lease (as was further amended by Section 9.1 of the First Amendment and Section 8.7 of the Second Amendment) is hereby amended and restated as the following shall be deemed amended and restated as "17 non-reserved parking spaces"

9.5. **Demising Wall**. Tenant acknowledges that there is currently no demising wall between the Remaining Premises and the Reduction Space; provided, however that Tenant agrees that Tenant shall have no right to use or occupy (nor permit others to use or occupy) any portion of the Reduction Space from and after the Second Extended Expiration Date. Tenant specifically agrees that its release, waiver, indemnity and insurance obligations set forth in the Lease shall apply to the Reduction Space (as if it were a portion of the Premises) with respect to that period of time (1) commencing on the Reduction Effective Date, and (2) ending on the date a demising wall is constructed to separate the Remaining Premises from the Reduction Space (as more particularly described in Section 2.1 hereof and Exhibit B hereto). Effective immediately upon Tenant or any of its agents, employees, contractors, officers, directors, shareholders, visitors, invitees, or customers entering the Reduction Space after the Second Extended Expiration Date for any reason whatsoever or placing any personal property therein, then without limiting any of Landlord's other rights, Landlord shall be entitled, at Landlord's option, (a) to receive from Tenant, on a go-forward basis, Base Rent on the entire Reduction Space in an amount equal to the then applicable per rentable square foot amount payable per month with respect to the Remaining Premises and/or (b) to declare an immediate Default under the terms of the Lease (as amended).

9.6. **Exposure to Pathogens; Release and Waiver**. Tenant hereby acknowledges and agrees that (a) there is a risk of exposure to pathogens (including, without limitation, the novel coronavirus SARS-CoV-2 and mutations, adaptations or variations thereof) (collectively, ("**Contagions**")) everywhere people are present, including at the Property; (b) no precautions, including those implemented by Landlord and/or third parties (e.g., the CDC and applicable governmental agencies), can entirely eliminate the risk of exposure to Contagions and (c) a governmental restriction of the use and/or occupancy of the Premises in an effort to address the potential or the actual presence of Contagions shall not be deemed a Casualty pursuant to Section 16 of the Lease nor a Taking pursuant to Section 17 of the Lease. Accordingly, by entering into the Property, Tenant and all Tenant Related Parties knowingly and voluntarily assume

the risk of exposure to Contagions. Tenant, on behalf of itself and, to the fullest extent permitted by applicable Law, the Tenant Related Parties, hereby waives all Losses against the Landlord and any other Landlord Related Party arising out of or in connection with exposure to Contagions at the Property, including, without limitation any damages due to illness, short- or long-

term adverse health effects, disability and/or death (the '**Released Claims**'). With regard to the Released Claims, Tenant expressly waives the provisions of California Civil Code Section 1542, which provides:

A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS THAT THE CREDITOR OR RELEASING PARTY DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE AND THAT, IF KNOWN BY HIM OR HER, WOULD HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR OR RELEASED PARTY.

Tenant acknowledges that it has received the advice of legal counsel with respect to the aforementioned waiver and understands the terms thereof.

10. Fourth Extension Option.

10.1. Grant of Option; Conditions. Tenant shall have the right (the "**Fourth Extension Option**") to extend the term of the Lease for one (1) additional period of two (2) years beginning on the day immediately following the Third Extended Expiration Date and ending on the second anniversary of such expiration date (the "**Fourth Extension Term**"), if:

- (a) not less than 9 and not more than 12 full calendar months before Third Extended Expiration Date, Tenant delivers written notice to Landlord (for purposes of this Section 10, the "**Extension Notice**") electing to exercise the Fourth Extension Option;
- (b) no Default exists when Tenant delivers the Extension Notice;
- (c) no part of the Premises is sublet (other than to an Affiliate of Tenant) when Tenant delivers the Extension Notice; and
- (d) the Lease, as amended, has not been assigned (other than pursuant to a Permitted Transfer) before Tenant delivers the Extension Notice.

10.2. Terms Applicable to Fourth Extension Term.

- A. During the Fourth Extension Term, (a) the Base Rent rate per rentable square foot shall be equal to the Prevailing Market rate per rentable square foot; (b) Base Rent shall increase, if at all, in accordance with the increases assumed in the determination of Prevailing Market rate; and (c) Base Rent shall be payable in monthly installments in accordance with the terms and conditions of the Lease, as amended.
- B. During the Fourth Extension Term Tenant shall pay Tenant's Pro Rata Share of Expenses and Taxes for the Premises in accordance with the Lease, as amended.

10.3. Procedure for Determining Prevailing Market.

A. **Initial Procedure.** Within 30 days after receiving the Extension Notice, Landlord shall give Tenant written notice of Landlord's estimate of the Prevailing Market rate for the Fourth Extension Term (for purposes of this Section 10, "**Landlord's Estimate**"). Within 30 days of receiving Landlord's Estimate, Tenant shall give Landlord either (i) written notice (for purposes of this Section 10, "**Tenant's Binding Notice**") accepting Landlord's Estimate, or (ii) written notice (for purposes of this Section 10, "**Tenant's Rejection Notice**") rejecting such estimate and stating Tenant's estimate of the Prevailing Market rate for the Fourth Extension Term. If Tenant gives Landlord a Tenant's Rejection Notice, Landlord, within 15 days thereafter, shall give Tenant either (i) written notice (for purposes of this Section 10, "**Landlord's Binding Notice**") accepting Tenant's estimate of the Prevailing Market rate for the Fourth Extension Term stated in Tenant's Rejection Notice, or (ii) written notice (for purposes of this Section 10, "**Landlord's Rejection Notice**") rejecting such estimate. If Landlord gives Tenant a Landlord's Rejection Notice, Landlord and Tenant shall work together in good faith to agree in writing upon the Prevailing Market rate for the Fourth Extension Term. If, within 30 days after delivery of a Landlord's Rejection Notice, the parties fail to agree in writing upon the Prevailing Market rate, the provisions of Section 10.3.B below shall apply.

B. Dispute Resolution Procedure.

1. If, within 30 days after delivery of a Landlord's Rejection Notice, the parties fail to agree in writing upon the Prevailing Market rate, Landlord and Tenant, within five (5) days thereafter, shall each simultaneously submit to the other, in a sealed envelope, its good faith estimate of the Prevailing Market rate for the Fourth Extension Term (for purposes of

this Section 10, collectively, the “**Estimates**”). Within seven (7) days after the exchange of Estimates, Landlord and Tenant shall each select a broker or agent (for purposes of this Section 10, an “**Agent**”) to determine which of the two Estimates most closely reflects the Prevailing Market rate for the Fourth Extension Term. Each Agent so selected shall be licensed as a real estate broker or agent and in good standing with the California Bureau of Real Estate Appraisers, and shall have had at least five (5) years’ experience within the previous 10 years as a commercial real estate broker or agent working in San Jose, California with working knowledge of current rental rates and leasing practices relating to buildings similar to the Building.

2. If each party selects an Agent in accordance with Section 10.3.B.1 above, the parties shall cause their respective Agents to work together in good faith to agree upon which of the two Estimates most closely reflects the Prevailing Market rate for the Fourth Extension Term. The Estimate, if any, so agreed upon by such Agents shall be final and binding on both parties as the Prevailing Market rate for the Fourth Extension Term and may be entered in a court of competent jurisdiction. If the Agents fail to reach such agreement within 20 days after their selection, then, within 10 days after the expiration of such 20-day period, the parties shall instruct the Agents to select a third Agent meeting the above criteria (and if the Agents fail to agree upon such third Agent within 10 days after being so instructed, either party may cause a court of competent jurisdiction to select such third Agent). Promptly upon selection of such third Agent, the parties shall instruct such Agent (or, if only one of the parties has selected an Agent within the 7-day period described above, then promptly after the expiration of such 7-day period the parties shall instruct such Agent) to determine, as soon as practicable but in any case within 14 days after his selection, which of the two Estimates most closely reflects the Prevailing Market rate. Such determination by such Agent (for purposes of this Section 10, the “**Final Agent**”) shall be final and binding on both parties as the Prevailing Market rate for the Fourth Extension Term and may be entered in a court of competent jurisdiction. If the Final Agent believes that expert advice would materially assist him, he may retain one or more qualified persons to provide such expert advice. The parties shall share equally in the costs of the Final Agent and of any experts retained by the Final Agent. Any fees of any other broker, agent, counsel or expert engaged by Landlord or Tenant shall be borne by the party retaining such broker, agent, counsel or expert.

C . **Adjustment.** If the Prevailing Market rate has not been determined by the commencement date of the Fourth Extension Term, Tenant shall pay Base Rent for the Fourth Extension Term upon the terms and conditions in effect during the last month ending on or before the expiration date of the Lease until such time as the Prevailing Market rate has been determined. Upon such determination, the Base Rent for the Fourth Extension Term shall be retroactively adjusted. If such adjustment results in an under- or overpayment of Base Rent by Tenant, Tenant shall pay Landlord the amount of such underpayment, or receive a credit in the amount of such overpayment, with or against the next Base Rent due under the Lease.

10.4. **Extension Amendment.** If Tenant is entitled to and properly exercises its Fourth Extension Option, and if the Prevailing Market rate for the Fourth Extension Term is determined in accordance with Section 10.3 above, Landlord, within a reasonable time thereafter, shall prepare and deliver to Tenant an amendment (for purposes of this Section 10, the “**Extension Amendment**”) reflecting changes in the Base Rent, the term of the Lease, the expiration date of the Lease, and other appropriate terms in accordance with this Section 10, and Tenant shall execute and return (or provide Landlord with reasonable objections to) the Extension Amendment within 15 days after receiving it. Notwithstanding the foregoing, upon determination of the Prevailing Market rate for the Fourth Extension Term in accordance with Section 10.3 above, an otherwise valid exercise of the Fourth Extension Option shall be fully effective whether or not the Extension Amendment is executed.

10.5. **Definition of Prevailing Market.** For purposes of this Fourth Extension Option, “**Prevailing Market**” shall mean the arms-length, fair-market, annual rental rate per rentable square foot under extension and renewal leases and amendments entered into on or about the date on which the Prevailing Market is being determined hereunder for space comparable to the Premises in the Building and office buildings comparable to the Building in the San Jose, California area. The determination of Prevailing Market shall take into account (i) any material economic differences between the terms of the Lease and any comparison lease or amendment, such as rent abatements, construction costs and other concessions, and the manner, if any, in which the landlord under any such lease is reimbursed for operating expenses and taxes; (ii) any material differences in configuration or condition between the Premises and any comparison space, including any cost that would have to be incurred in order to make the configuration or condition of the comparison space similar to that of the Premises; and (iii) any reasonably anticipated

changes in the Prevailing Market rate from the time such Prevailing Market rate is being determined and the time such Prevailing Market rate will become effective under the Lease.

10.6. [Intentionally Omitted].

12. **Miscellaneous.**

- 12.1. This Amendment and the attached exhibits, which are hereby incorporated into and made a part of this Amendment, set forth the entire agreement between the parties with respect to the matters set forth herein. There have been no additional oral or written representations or agreements. Tenant shall not be entitled, in connection with entering into this Amendment, to any free rent, allowance, alteration, improvement or similar economic incentive to which Tenant may have been entitled in connection with entering into the Lease, except as may be otherwise expressly provided in this Amendment.
- 12.2. Except as herein modified or amended, the provisions, conditions and terms of the Lease shall remain unchanged and in full force and effect.
- 12.3. In the case of any inconsistency between the provisions of the Lease and this Amendment, the provisions of this Amendment shall govern and control.
- 12.4. Submission of this Amendment by Landlord is not an offer to enter into this Amendment but rather is a solicitation for such an offer by Tenant. Landlord shall not be bound by this Amendment until Landlord has executed and delivered it to Tenant.
- 12.5. Each party hereto, and their respective successors and assigns shall be authorized to rely upon the signatures of all of the parties hereto which are delivered by facsimile, PDF or DocuSign (or the like) as constituting a duly authorized, irrevocable, actual, current delivery hereof with original ink signatures of each person and entity. This Amendment may be executed in counterparts, each of which shall be deemed an original part and all of which together shall constitute a single agreement.
- 12.6. Capitalized terms used but not defined in this Amendment shall have the meanings given in the Lease.
- 12.7. Tenant shall indemnify and hold Landlord, its trustees, members, principals, beneficiaries, partners, officers, directors, employees, mortgagee(s) and agents, and the respective principals and members of any such agents harmless from all claims of any brokers (other than Newmark) claiming to have represented Tenant in connection with this Amendment. Landlord shall indemnify and hold Tenant, its trustees, members, principals, beneficiaries, partners, officers, directors, employees, and agents, and the respective principals and members of any such agents harmless from all claims of any brokers claiming to have represented Landlord in connection with this Amendment. Tenant acknowledges that any assistance rendered by any agent or employee of any affiliate of Landlord in connection with this Amendment has been made as an accommodation to Tenant solely in furtherance of consummating the transaction on behalf of Landlord, and not as agent for Tenant.

[SIGNATURES ARE ON FOLLOWING PAGE]

IN WITNESS WHEREOF, Landlord and Tenant have duly executed this Amendment as of the day and year first above written.

LANDLORD:

HUDSON CONCOURSE, LLC, a Delaware limited liability company

By: Hudson Pacific Properties, L.P.,
a Maryland limited partnership,
its sole member

By: Hudson Pacific Properties, Inc.,
a Maryland corporation,
its general partner

By:
Name:
Title:

/s/ Kenneth Young
Kenneth Young
Senior Vice President, Leasing

TENANT:

PIXELWORKS, INC., an Oregon corporation

By:
Name:
Title:

/s/ Haley Aman
Haley Aman
CFO

EXHIBIT A

OUTLINE AND LOCATION OF REDUCTION SPACE

EXHIBIT B

THIRD EXTENSION WORK LETTER

As used in this **Exhibit B** (this “**Third Extension Work Letter**”), the following terms shall have the following meanings:

- (i) “**Premises**” means the Remaining Premises and the Reduction Space.
- (ii) For purposes of this **Exhibit B**, “**Tenant Improvements**” means all improvements to be constructed in the Premises pursuant to this Third Extension Work Letter;
- (iii) For purposes of this **Exhibit B**, “**Tenant Improvement Work**” means the construction of the Tenant Improvements, together with any related work (including demolition) that is necessary to construct the Tenant Improvements;
- (iv) “**Agreement**” means the Amendment of which this Third Extension Work Letter is a part.

1 COST OF TENANT IMPROVEMENT WORK. Except as provided in Section 2.7 below, the Tenant Improvement Work shall be performed at Landlord’s expense.

2 WORK LIST.

1.1 **Work List.** Landlord shall perform improvements to the Premises in accordance with the following work list (for purposes of this **Exhibit B**, the “**Work List**”) using Building-standard methods, materials and finishes.

WORK LIST

	ITEM
1.	Install a demising wall in the Premises per the Plans by HGA and dated October 12, 2023 (the “Plans”), attached hereto as <u>Exhibit B-1</u> . Notwithstanding any provision herein to the contrary, the Plans shall include any alterations to the Existing Premises or the Building that, in the Landlord’s good faith judgement, are necessary to separate the Reduction Space from the Remaining Premises or the Reduction from causing any portion of the Reduction Space or the Remaining Premises to (a) lack reasonable access to multi-tenant corridors or the elevator lobby, (b) violate any Law, or (c) be unmarketable in any respect (for purposes of this Exhibit B , the “Demising Work”).
2.	Clean the carpet in the interior of the Premises.
3.	Touch-up painted where needed (as reasonably determined by Landlord) in the interior of the Premises.

1.2 [Intentionally Omitted]

1.3 [Intentionally Omitted]

1.4 [Intentionally Omitted]

1.5 [Intentionally Omitted]

1.6 [Intentionally Omitted]

1.7 **Revisions to Work List.** The Work List shall not be revised without Landlord’s agreement, which agreement may be withheld or conditioned in Landlord’s sole and absolute discretion. If Tenant requests any revision to the Work List, Landlord shall provide Tenant with notice approving or disapproving such revision, and, if Landlord approves such revision, Landlord shall have such revision made and delivered to Tenant, together with notice of any resulting change in the cost of the Tenant Improvement Work, within 10 business days after the later of Landlord’s receipt of such request or the mutual execution and delivery of this Agreement if such revision is not material, and within such longer period of time as may be reasonably necessary (but not more than 15 business days after the later of such receipt or such execution and delivery) if such revision is material, whereupon Tenant, within one (1) business day, shall notify Landlord whether it desires to proceed with such revision. If Landlord has begun performing the Tenant Improvement Work, then, in the absence of such authorization, Landlord shall have the option to continue such performance disregarding such revision. Landlord shall not revise the Work List without Tenant’s consent, which shall not be unreasonably withheld or conditioned. Tenant shall approve, or reasonably disapprove (and state, with reasonable specificity, its reasons for disapproving), any revision to the Work List within two (2) business days after receiving Landlord’s request for approval thereof. Any change order affecting the Work List shall be deemed a revision to the Work List. Tenant shall reimburse Landlord, immediately upon

demand, for any increase in the total cost associated with the Tenant Improvement Work that results from any revision to the Work List requested by Tenant, including the cost of preparing such revision.

1.8 [Intentionally Omitted]

3 CONSTRUCTION.

1.1 **Contractor.** Landlord shall retain a contractor of its choice (for purposes of this **Exhibit B**, the “**Contractor**”) to perform the Tenant Improvement Work. In addition, Landlord may select and/or approve of any subcontractors, mechanics and materialmen used in connection with the performance of the Tenant Improvement Work.

1.2 [Intentionally Omitted]

1.3 **Permits.** Landlord shall cause the Contractor to apply to the appropriate municipal authorities for, and obtain from such authorities, all permits necessary for the Contractor to complete the Tenant Improvement Work (for purposes of this **Exhibit B**, the “**Permits**”).

1.4 Construction

1.1.1 **Performance of Tenant Improvement Work.** Landlord shall cause the Contractor to perform the Tenant Improvement Work in accordance with the Work List.

1.1.2 **Contractor’s Warranties.** Tenant waives all claims against Landlord relating to any defects in the Tenant Improvements; provided, however, that if, within 30 days after substantial completion of the Tenant Improvement Work, Tenant provides notice to Landlord of any non-latent defect in the Tenant Improvements, or if, within 11 months after substantial completion of the Tenant Improvement Work, Tenant provides notice to Landlord of any latent defect in the Tenant Improvements, then Landlord shall promptly cause such defect to be corrected.

4 **COMPLIANCE WITH LAW; SUITABILITY FOR TENANT’S USE.** Landlord shall cause the Work List to comply with law. Except as provided in the preceding sentence, Tenant shall be responsible for ensuring that the Work List is suitable for Tenant’s use of the Premises, and neither the preparation nor the approval of the Work List by Landlord or its consultants shall relieve Tenant from such responsibility. Landlord may contest any alleged violation of law in good faith, including by seeking a waiver or deferment of compliance, asserting any defense allowed by law, and exercising any right of appeal (provided that, after completing such contest, Landlord makes any modification to the Work List or any alteration to the Premises that is necessary to comply with any final order or judgment).

5 **COMPLETION.** Tenant acknowledges and agrees that the Tenant Improvement Work may be performed during Building Service Hours before or after the Third Extension Date. Landlord and Tenant shall cooperate with each other in order to enable the Tenant Improvement Work to be performed in a timely manner and with as little inconvenience to the operation of Tenant’s business as is reasonably possible. Notwithstanding any contrary provision of this Agreement, any delay in the completion of the Tenant Improvement Work or inconvenience suffered by Tenant during the performance of the Tenant Improvement Work shall not delay the Third Extension Date, nor shall it subject Landlord to any liability for any loss or damage resulting therefrom or entitle Tenant to any credit, abatement or adjustment of rent or other sums payable under the Lease.

6 **MISCELLANEOUS.** Notwithstanding any contrary provision of this Agreement, if Tenant Defaults under this Agreement before the Tenant Improvement Work is completed, Landlord’s obligations under this Third Extension Work Letter shall be excused until such Default is cured and Tenant shall be responsible for any resulting delay in the completion of the Tenant Improvement Work. This Third Extension Work Letter shall not apply to any space other than the Premises.

EXHIBIT B-1

ADDITIONAL DESCRIPTION OF WORK LIST ITEMS

Subsidiaries of Pixelworks, Inc.

Equator Technologies, Inc. — a Delaware corporation

Pixelworks Semiconductor Technology (Shanghai) Co. Ltd. — a China company

Pixelworks Japan Inc. — a Japan company

Pixelworks Semiconductor Technology (Taiwan) Inc. — a Taiwan company

Pixelworks Semiconductor Technology (Shanghai) Co. Ltd. Shenzhen Branch Office No. 1 – a China company

Pixelworks Hong Kong Limited (Hong Kong) – a Hong Kong company

Pixelworks Semiconductor Technology California LLC (California) – a California company

ViXS Systems Inc. dba Pixelworks Canada (Canada) – a Canadian company

Frame Shadow Technology (Shanghai) Co., Ltd – A China company

Pixelworks Taiwan LLC - an Oregon company

Pixelworks Semiconductor Technology Company, LLC - an Oregon company

Consent of Independent Registered Public Accounting Firm

We have issued our report dated March 13, 2024, with respect to the consolidated financial statements included in the Annual Report of Pixelworks, Inc. on Form 10-K for the year ended December 31, 2023. We consent to the incorporation by reference of said report in the Registration Statement of Pixelworks, Inc. on Form S-3 (File No. 333-275569) and on Form S-8 (File No. 333-273250, File No. 333-265686, File No. 333-256606, File No. 333-239466, File No. 333-233210, File No. 333-227352, File No. 333-219418, File No. 333-212650, File No. 333-205856, File No. 333-197644, File No. 333-190037, File No. 333-182701, File No. 333-168175, File No. 333-161125, File No. 333-152945 and File No. 333-136553).

/s/ GRANT THORNTON LLP

San Francisco, California
March 13, 2024

Consent of Independent Registered Public Accounting Firm

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (Nos. 333-256606, 333-239466, 333-233210, 333-227352, 333-219418, 333-212650, 333-205856, 333-197644, 333-190037, 333-182701, 333-168175, 333-161125, 333-152945, 333-136553, 333-265686, 333-273250 and 333-265686) and Form S-3 (No. 333-275569) of Pixelworks, Inc. and subsidiaries of our report dated March 8, 2023 relating to the consolidated financial statements appearing in this Form 10-K for the year ended December 31, 2022.

/s/ Armanino LLP

San Ramon, California
March 13, 2024

CERTIFICATION

I, Todd A. DeBonis, certify that:

1. I have reviewed this annual report on Form 10-K of Pixelworks, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 13, 2024

By: /s/ Todd A. DeBonis

Todd A. DeBonis

*President and Chief Executive Officer
(Principal Executive Officer)*

CERTIFICATION

I, Haley F. Aman, certify that:

1. I have reviewed this annual report on Form 10-K of Pixelworks, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 13, 2024

By: /s/ Haley F. Aman

Haley F. Aman

Chief Financial Officer (Principal Financial Officer)

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

In connection with the Annual Report of Pixelworks, Inc. (the "Company") on Form 10-K for the year ended December 31, 2023 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Todd A. DeBonis, President and Chief Executive Officer of the Company, certify, pursuant to Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. 1350), as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

By: /s/ Todd A. DeBonis
Todd A. DeBonis
*President and Chief Executive Officer
(Principal Executive Officer)*

Date: March 13, 2024

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

In connection with the Annual Report of Pixelworks, Inc. (the "Company") on Form 10-K for the year ended December 31, 2023 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Haley F. Aman, Chief Financial Officer of the Company, certify, pursuant to Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. 1350), as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

By: /s/ Haley F. Aman
Haley F. Aman
Chief Financial Officer (Principal Financial Officer)

Date: March 13, 2024