

SEMTECH CORP

FORM 10-K (Annual Report)

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**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

FORM 10-K

(Mark One)

Annual report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
For the fiscal year ended January 26, 2020
or

Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
For the transition period from _____ to _____
Commission File Number 001-06395

SEMTECH CORPORATION

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

95-2119684
(I.R.S. Employer
Identification No.)

200 Flynn Road, Camarillo, California, 93012-8790
(Address of principal executive offices, Zip Code)

Registrant's telephone number, including area code: (805) 498-2111

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 \$0.01 per share	SMTC	The Nasdaq Global Select Market

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

None
(Title of Class)

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

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

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

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

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

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

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

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

The aggregate market value of the common stock held by non-affiliates of the registrant (based upon the closing sale price of \$53.63 on The Nasdaq Global Select Market) as of July 28, 2019 was approximately \$2.6 billion. Stock held by directors, officers and stockholders owning 10% or more of the outstanding common stock (as reported by stockholders on Schedules 13D and 13G) were excluded as they may be deemed affiliates. This determination of affiliate status is not a

conclusive determination for any other purpose.

Number of shares of our common stock, \$0.01 par value per share, outstanding at March 18, 2020: 65,795,172.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Proxy Statement in connection with registrant's annual meeting of stockholders to be held on June 11, 2020 to be filed with the Securities and Exchange Commission no later than 120 days after the end of the registrant's fiscal year ended January 26, 2020 are incorporated by reference into Part III hereof.

SEMTECH CORPORATION
INDEX TO FORM 10-K
FOR THE YEAR ENDED JANUARY 26, 2020

[PART I](#)

Item 1	<u>Business</u>	<u>4</u>
Item 1A	<u>Risk Factors</u>	<u>12</u>
Item 1B	<u>Unresolved Staff Comments</u>	<u>29</u>
Item 2	<u>Properties</u>	<u>29</u>
Item 3	<u>Legal Proceedings</u>	<u>29</u>
Item 4	<u>Mine Safety Disclosure</u>	<u>29</u>

[PART II](#)

Item 5	<u>Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities</u>	<u>30</u>
Item 6	<u>Selected Financial Data</u>	<u>31</u>
Item 7	<u>Management’s Discussion and Analysis of Financial Condition and Results of Operations</u>	<u>33</u>
Item 7A	<u>Quantitative and Qualitative Disclosures About Market Risk</u>	<u>43</u>
Item 8	<u>Financial Statements and Supplementary Data</u>	<u>45</u>
Item 9	<u>Changes in and Disagreements with Accountants on Accounting and Financial Disclosure</u>	<u>96</u>
Item 9A	<u>Controls and Procedures</u>	<u>96</u>
Item 9B	<u>Other Information</u>	<u>97</u>

[PART III](#)

Item 10	<u>Directors, Executive Officers and Corporate Governance</u>	<u>98</u>
Item 11	<u>Executive Compensation</u>	<u>98</u>
Item 12	<u>Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters</u>	<u>98</u>
Item 13	<u>Certain Relationships and Related Transactions, and Director Independence</u>	<u>98</u>
Item 14	<u>Principal Accounting Fees and Services</u>	<u>98</u>

[PART IV](#)

Item 15	<u>Exhibits, Financial Statement Schedules</u>	<u>99</u>
Item 16	<u>Form 10-K Summary</u>	<u>102</u>
	<u>Signatures</u>	<u>103</u>

Unless the context otherwise requires, the use of the terms "Semtech," "the Company," "we," "us" and "our" in this Annual Report on Form 10-K refers to Semtech Corporation and, as applicable, its consolidated subsidiaries.

*Special Note
Regarding Forward-Looking and Cautionary Statements*

This Annual Report on Form 10-K contains "forward-looking statements" within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995, as amended, based on our current expectations, estimates and projections about our operations, industry, financial condition, performance, operating results, and liquidity. Forward-looking statements are statements other than historical information or statements of current condition and relate to matters such as future financial performance, future operational performance, the anticipated impact of specific items on future earnings, and our plans, objectives and expectations. Statements containing words such as "may," "believe," "anticipate," "expect," "intend," "plan," "project," "estimate," "should," "will," "designed to," "projections," or "business outlook," or other similar expressions constitute forward-looking statements. Forward-looking statements involve known and unknown risks and uncertainties that could cause actual results and events to differ materially from those projected. Potential factors that could cause actual results to differ materially from those in the forward-looking statements include, but are not limited to: the uncertainty surrounding the impact and duration of the novel coronavirus outbreak on global economic conditions and on the Company's business and results of operations; export restrictions and laws affecting the Company's trade and investments including with respect to Huawei, and tariffs or the occurrence of trade wars; competitive changes in the marketplace including, but not limited to, the pace of growth or adoption rates of applicable products or technologies; downturns in the business cycle; decreased average selling prices of the Company's products; the Company's reliance on a limited number of suppliers and subcontractors for components and materials; changes in projected or anticipated end-user markets; and the Company's ability to forecast its effective tax rates due to changing income in higher or lower tax jurisdictions and other factors that contribute to the volatility of the Company's effective tax rates and impact anticipated tax benefits. Additionally, forward-looking statements should be considered in conjunction with the cautionary statements contained in this Annual Report on Form 10-K, including, without limitation, information under the captions "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Risk Factors" and additional factors that accompany the related forward-looking statements in this Annual Report on Form 10-K, in the Company's other filings with the Securities and Exchange Commission ("SEC"), and in material incorporated herein and therein by reference. In light of the significant risks and uncertainties inherent in the forward-looking information included herein that may cause actual performance and results to differ materially from those predicted, any such forward-looking information should not be regarded as representations or guarantees by the Company of future performance or results, or that its objectives or plans will be achieved, or that any of its operating expectations or financial forecasts will be realized. Reported results should not be considered an indication of future performance. Investors are cautioned not to place undue reliance on any forward-looking information contained herein, which reflect management's analysis only as of the date hereof. Except as required by law, the Company assumes no obligation to publicly release the results of any update or revision to any forward-looking statement that may be made to reflect new information, events or circumstances after the date hereof or to reflect the occurrence of unanticipated or future events, or otherwise.

In addition to regarding forward-looking statements with caution, you should consider that the preparation of the consolidated financial statements requires us to draw conclusions and make interpretations, judgments, assumptions and estimates with respect to certain factual, legal, and accounting matters. Our consolidated financial statements might have been materially impacted if we had reached different conclusions or made different interpretations, judgments, assumptions or estimates.

PART I

Item 1. Business

General

We are a leading global supplier of high-performance analog and mixed-signal semiconductors and advanced algorithms and were incorporated in Delaware in 1960. We design, develop, manufacture and market a wide range of products for commercial applications, the majority of which are sold into the enterprise computing, communications, high-end consumer and industrial end markets.

Enterprise Computing: data centers, passive optical networks, desktops, notebooks, servers, monitors, printers and other computer peripherals.

Communications: base stations, optical networks, carrier networks, switches and routers, cable modems, wireless LAN and other communication infrastructure equipment.

High-End Consumer: handheld products, smartphones, wireless charging, set-top boxes, digital televisions, monitors and displays, tablets, wearables, digital video recorders and other consumer equipment.

Industrial: analog and digital video broadcast equipment, video-over-IP solutions, automated meter reading, Internet of Things ("IoT"), smart grid, wireless charging, military and aerospace, medical, security systems, automotive, industrial and home automation and other industrial equipment.

Our end customers are primarily original equipment manufacturers ("OEMs") and their suppliers.

Overview of the Semiconductor Industry

The semiconductor industry is broadly divided into analog and digital semiconductor products. Analog semiconductors condition and regulate "real world" functions such as temperature, speed, sound and electrical current. Digital semiconductors process binary information, such as that used by computers. Mixed-signal devices incorporate both analog and digital functions into a single chip and provide the ability for digital electronics to interface with the outside world.

The market for analog and mixed-signal semiconductors differs from the market for digital semiconductors. The analog and mixed-signal industry is typically characterized by longer product life cycles than the digital industry. In addition, analog semiconductor manufacturers tend to have lower capital investment requirements for manufacturing because their facilities tend to be less dependent than digital producers on state-of-the-art production equipment to manufacture leading edge process technologies. The end-product markets for analog and mixed-signal semiconductors are more varied and more specialized than the relatively standardized digital semiconductor product markets.

Another difference between the analog and digital markets is the amount of available talented labor. The analog industry relies more heavily than the digital industry on design and applications talent to distinguish its products from one another. Digital expertise is extensively taught in universities due to its overall market size, while analog and mixed-signal expertise tends to be learned over time based on experience and hands-on training. Consequently, personnel with analog training are scarcer than digital trained engineers. This has historically made it more difficult for new suppliers in the analog market to quickly develop products and gain significant market share.

Advancements in digital signal processing technology typically drive the need for corresponding advancements in analog and mixed-signal solutions. We believe that the diversity of our applications allows us to take advantage of areas of relative market strength and reduces our vulnerability to competitive pressure in any one area.

Business Strategy

Our objective is to be a leading supplier of high-performance analog and mixed-signal semiconductors and advanced algorithms to the fastest growing segments of our target markets. We intend to leverage our pool of skilled technical personnel to develop new products or, where appropriate, use strategic acquisitions or small strategic investments to either accelerate our position in the fastest growing areas or to gain entry into these areas. In order to capitalize on our strengths in analog and mixed-signal processing design, development and marketing, we intend to pursue the following strategies:

Leverage our rare analog and mixed-signal design expertise

We have developed a strategy to invest heavily in human resources needed to define, design and market high-performance analog and mixed-signal platform products. We have built a team of experienced engineers who combine industry expertise with advanced semiconductor design expertise to meet customer requirements and enable our customers to get their products to market rapidly. We intend to leverage this strategy to achieve new levels of integration, power reduction and performance, enabling our customers to achieve differentiation in their end systems.

Continue to release proprietary new products, achieve new design wins and cross-sell products

We are focused on developing unique, new, and proprietary products that bring value to our target customers in our target markets. These products are typically differentiated in performance but are priced competitively. We also focus on achieving design wins for our products with current and future customers. Design wins are indications by the customer that they intend to incorporate our products into their product designs. Although we believe that a design win is an indicator of future potential growth, it does not inevitably result in us being awarded business or receiving a purchase commitment. Our technical talent works closely with our customers in securing design wins, defining new products and in implementing and integrating our products into their systems. We also focus on selling our complete portfolio of products to our existing customers, as we believe the technical expertise of our marketing and sales teams allows us to identify and capitalize on cross-selling opportunities.

Focus on fast-growing market segments and regions

We have chosen to target the analog and mixed-signal sub-segments of some of the most exciting and fastest growing end markets. We participate in these markets by focusing on specific product areas within the analog and mixed-signal market, including products for enterprise computing equipment, communications infrastructure, high-end consumer equipment and certain broad-based industrial markets. All of these markets are characterized by their need for leading-edge, high-performance analog and mixed-signal semiconductor technologies.

The enterprise computing, communications, high-end consumer, and industrial end markets we supply are characterized by several trends that we believe drive demand for our products. The key trends that we believe are significant for our future growth include:

- Increasing bandwidth over high-speed networks, fueling growth in high speed multimedia transmission;
- Increasing electronic system requirements for smaller, lighter, more highly integrated and feature-rich mobile devices;
- Increasing need for more efficient energy management in the home and in industrial environments and the proliferation of "green" standards; and
- Increasing demands for Internet connectivity to low power sensors.

Our products address these market trends by providing solutions that are ultra-low power thereby extending battery life, small form factor enabling smaller more mobile devices, highly integrated enabling more functionality within devices, and high-performance enabling product differentiation within our customer base. Additionally, as communications functions are increasingly integrated into a range of systems and devices, these products require analog sensing, processing and control capabilities, which increases the number and size of our targeted end markets.

Leverage outsourced semiconductor fabrication capacity

We outsource most of our manufacturing in order to focus more of our resources on designing, developing and marketing our products. Our primary outside wafer foundries are based in China, Israel, South Korea and the United States ("U.S."). We believe that outsourcing provides us numerous benefits including, capital efficiency, the flexibility to adopt and leverage emerging process technologies without significant investment risk, and a more variable cost of goods, which provides us with greater operating flexibility.

Products and Technology

We design, develop, manufacture and market high-performance analog and mixed-signal semiconductors and advanced algorithms. We currently operate and account for results in one reportable segment through three product lines: Signal Integrity, Protection, and Wireless and Sensing.

Signal Integrity. We design, develop and market a portfolio of optical data communications and video transport products used in a wide variety of enterprise computing, communications, and industrial applications. Our comprehensive portfolio of integrated circuits ("ICs") for data centers, enterprise networks, passive optical networks ("PON"), and wireless base station optical transceivers and high-speed interfaces ranges from 100Mbps to 400Gbps and supports key industry standards such as Fibre Channel, Infiniband, Ethernet, PON and synchronous optical networks. Our video products offer advanced solutions for next generation high-definition broadcast applications, as well as highly differentiated video-over-IP technology for professional audio video ("Pro AV") applications.

Protection. We design, develop and market high-performance protection devices, which are often referred to as transient voltage suppressors ("TVS"). TVS devices provide protection for electronic systems where voltage spikes (called transients), such as electrostatic discharge, electrical over stress or secondary lightning surge energy, can permanently damage sensitive ICs. Our portfolio of protection solutions include filter and termination devices that are integrated with the TVS device. Our products provide robust protection while preserving signal integrity in high-speed communications, networking and video interfaces. These products also operate at very low voltage. Our protection products can be found in a broad range of

applications including smart phones, LCD and organic light-emitting diode TVs, set-top boxes, monitors and displays, tablets, computers, notebooks, base stations, routers, automobile and industrial instruments.

Wireless and Sensing. We design, develop and market a portfolio of specialized radio frequency products used in a wide variety of industrial, medical and communications applications, and specialized sensing products used in industrial and consumer applications. Our wireless products, which include our LoRa® devices and wireless radio frequency technology ("LoRa Technology"), feature industry leading and longest range industrial, scientific and medical radio, enabling a lower total cost of ownership and increased reliability in all environments. This makes these products particularly suitable for machine to machine and IoT applications. Our unique sensing technology enables smart proximity sensing and advanced user interface solutions for our mobile and consumer products. Our wireless and sensing products can be found in a broad range of applications in the industrial, medical, and consumer markets. We also design, develop, and market power product devices that control, alter, regulate, and condition the power within electronic systems focused on the LoRa and IoT infrastructure segment. The highest volume product types within this category are switching voltage regulators, combination switching and linear regulators, smart regulators, isolated switches, and wireless charging.

Our sales by product line were as follows:

(in thousands)	Fiscal Years		
	2020	2019	2018
Signal Integrity	\$ 222,846	\$ 276,040	\$ 263,015
Wireless and Sensing	167,454	190,589	164,569
Protection	157,212	182,068	176,482
Other: Warrant Shares ⁽¹⁾	—	(21,501)	(16,219)
Total	\$ 547,512	\$ 627,196	\$ 587,847

⁽¹⁾On October 5, 2016, we issued a warrant (the "Warrant") to Comcast Cable Communications Management LLC ("Comcast") to purchase up to 1,086,957 shares of our common stock. The Warrant was issued in connection with an agreement between the parties regarding the intended trial deployment by Comcast of a low-power wide-area network ("LPWAN") in the U.S., based on our LoRa Technology. As of January 27, 2019, the Warrant was fully vested and exercisable for a total of 869,565 shares, with no additional costs to be recognized in future periods. The Warrant was fully exercised and no longer outstanding as of March 15, 2019.

Recent Acquisitions

On December 11, 2018, the Company, through its subsidiary Semtech (International) AG, a Swiss corporation, completed its acquisition of all of the outstanding equity interests of Trackio International AG, a Swiss corporation, and its subsidiaries (collectively, "TrackNet"), for an aggregate purchase price of approximately \$8.5 million. TrackNet is a provider of LoRa-based end-to-end solutions for the IoT market and provides expertise and intellectual property that will be integrated into the Company's business to support its goal of enabling the growing ecosystem around the Company's LoRa Technology.

On May 2, 2018, the Company acquired substantially all of the assets of IC Interconnect, Inc. ("ICI") for an aggregate purchase price of approximately \$7.4 million. The addition of ICI is intended to enhance the Company's U.S. research and development capabilities for its next-generation Z-Pak™ platform.

On July 1, 2017, the Company acquired AptoVision Technologies Inc. ("AptoVision"), a privately-held provider of uncompressed, zero-frame latency, video-over-IP solutions addressing the Pro AV market. The unique combination of AptoVision's advanced algorithms for real-time, full bandwidth video transmission over IP networks, and Semtech's industry leading high-speed signal integrity and chip development expertise is expected to enable the adoption of Software Defined Video over Ethernet ("SDVoE") and accelerate this natural progression in the evolution of video transport. This transaction expanded the portfolio of our Signal Integrity Products Group.

Semtech End Markets

Our products are sold primarily to customers in the enterprise computing, industrial, high-end consumer and communications end markets. Our net sales by major end market as a percentage of total net sales are detailed below:

(percentage of net sales)	Fiscal Years		
	2020	2019	2018
Enterprise Computing	29%	32 %	33 %
Industrial	33%	32 %	29 %
High-End Consumer	28%	27 %	29 %
Communications	10%	12 %	12 %
Other: Warrant Shares	—%	(3)%	(3)%
Total	100%	100 %	100 %

We believe that our diversity in end markets provides stability to our business and opportunity for growth.

The following table depicts our main product lines and their end market and product applications:

Product Groups	Typical End Product Applications			
	Enterprise Computing	Communications	High-End Consumer	Industrial
Signal Integrity	Optical module ICs supporting up to 400Gb/s for Ethernet and Fibre Channel protocols in data center and access applications	Optical module ICs for 4G/5G/LTE wireless applications, Optical module ICs for Telecom applications and Backplane CDRs and signal conditioners		Serial Digital Interconnect interface ICs for Broadcast Video, Video over IP technology for Pro AV applications
Protection	Servers, workstations, desktop PC/ notebooks, ultrabooks, optical modules, printers, copiers	4G/5G/LTE base stations, 1/10 Gb/s Ethernet	Smartphones, tablets, wearables, cameras, TVs, set top boxes	Industrial automation, measurement & instrumentation, automotive, IoT
Wireless and Sensing			Smartphones, media players, tablets, digital/still video cameras, wearables	Automated meter readers, industrial automation, IoT, keyless entry, hearing aids

Seasonality

Seasonality has not historically had a material impact on our business segments or results of operations.

Intellectual Capital and Product Development

The development of intellectual property ("IP") and the resulting proprietary products is a critical success factor for us. Recruiting and retaining key technical talent is the foundation for designing, developing, and marketing our IP in the form of new proprietary products in the global marketplace. Our ability to recruit and retain our engineering talent is one of the keys to maintaining our competitive advantage. Historically, we have been successful in retaining our key engineering staff and recruiting new talent. One of our strategies to recruit talent is the establishment of multiple design center locations. As a result, we have design centers throughout the world.

Circuit design engineers, layout engineers, product and test engineers, application engineers, and field application engineers are our most valuable employees. Together they perform the critical tasks of design and layout of ICs, turning these circuits into silicon devices, and conferring with customers about designing these devices into their applications. The majority of our engineers fit into one of these categories. Most of these engineers have many years of experience in the design, development, and layout of circuits targeted for use in protection, advanced communications and power management, multimedia and data communications, and wireless and sensing applications. We also employ a number of software engineers and systems engineers that specialize in the development of software and systems architecture, who enable us to develop systems oriented products in select markets.

We occasionally enter into agreements with customers that allow us to recover certain costs associated with product design and engineering services. Recovery for these services could potentially lag behind the period in which we recognize the related expense, causing a difference in recognition timing that could potentially create volatility in our reported product development and engineering expenses.

Sales and Marketing

Net sales made directly to customers during fiscal years 2020, 2019 and 2018, were approximately 28%, 32% and 34% of total net sales, respectively. The remaining 72%, 68% and 66% of net sales were made through independent distributors. The decline in direct sales is primarily related to growth in our industrial end-market sales, which includes our LoRa Technology products, as these products are predominantly sold through our distributors. We have direct sales personnel located throughout the U.S., Europe, and Asia who manage the sales activities of independent sales representative firms and independent distributors. We expense our advertising costs as they are incurred.

We operate internationally through our foreign subsidiaries. Semtech (International) AG serves the European and Asian markets from its headquarters in Rapperswil, Switzerland, and through its wholly-owned subsidiaries based in the United Kingdom ("U.K.") and Japan. Semtech (International) AG also maintains branch offices, either directly or through one of its wholly-owned subsidiaries, in multiple countries including China, Taiwan and South Korea. Semtech Canada Corporation serves the Canadian market for most of the products from our Signal Integrity Products Group from its headquarters in Burlington, Ontario. Independent representatives and distributors are also used to serve customers throughout the world. Some of our distributors and sales representatives also offer products from our competitors, as is customary in the industry.

Customers, Sales Data and Backlog

As a result of the breadth of our products and markets, we have a broad and balanced range of customers.

Representative Customers by End Markets:

<u>Enterprise Computing</u>	<u>Industrial</u>	<u>High-End Consumer</u>	<u>Communications</u>
Alphabet Inc.	Honeywell Inc.	Huawei Technologies Co., Ltd.	Cisco Systems, Inc.
Hewlett-Packard	Itron, Inc.	LG Electronics Inc.	Ericsson
Huawei Technologies Co., Ltd.	Panasonic Corp	Quanta Computer	Huawei Technologies Co., Ltd.
LuxNet Corp	Raytheon Company	Samsung Electronics Co., Ltd.	Samsung Electronics Co., Ltd.
Lumentum Holdings Inc.	Rockwell Automation	Sharp Corporation	ZTE Corporation
Samsung Electronics Co., Ltd.	Sharp Corporation		
Sumitomo Electric	Sonova International		
ZTE Corporation	Sony Corp		

Our customers include major OEMs and their subcontractors in the enterprise computing, communications, high-end consumer and industrial end markets. Our products are typically purchased by these customers for their performance, price and/or technical support, as compared to our competitors.

In fiscal years 2020, 2019 and 2018, sales in the U.S. represented 9%, 11% and 9% of our sales, respectively, while foreign sales represented 91%, 89% and 91% of our sales, respectively. Sales to customers located in China (including Hong Kong), South Korea and Japan comprised 53%, 8% and 5% of our sales, respectively, in fiscal year 2020. We are monitoring the impact of the coronavirus outbreak on our customers and cannot currently determine the extent of the impact it may have on our customers. See "Item 1A. Risk Factors - Risks Relating to General Business Conditions - Current global economic conditions and the potential changes in global economic policy could reduce demand for our products and have a material adverse impact on our business, operating results and financial condition." No other foreign country comprised more than 5% of our sales in fiscal year 2020.

Concentration of Net Sales - Significant Customers

The following table sets forth the concentration of sales among the customers that accounted for more than 10% of our net sales in at least one of the fiscal years 2020, 2019 and 2018:

(percentage of net sales)	Fiscal Years		
	2020	2019	2018
Trend-tek Technology Ltd (and affiliates)	13%	14%	10%
Frontek Technology Corporation (and affiliates)	11%	11%	7%
Arrow Electronics (and affiliates)	9%	10%	11%
Samsung Electronics (and affiliates)	4%	8%	8%
Premier Technical Sales Korea, Inc. (and affiliates) ⁽¹⁾	7%	4%	6%

⁽¹⁾Premier is a distributor with a concentration of sales to Samsung. The above percentages represent our estimate of the sales activity related to Samsung that is passing through this distributor.

Concentration of Accounts Receivable - Significant Customers

The following table shows customers that had an outstanding receivable balance that represented at least 10% of total net receivables as of one or more of the dates indicated:

(percentage of net receivables)	January 26, 2020	January 27, 2019
Trend-tek Technology Ltd. (and affiliates)	13%	11%
Frontek Technology Corporation (and affiliates)	11%	10%
CEAC International Limited	11%	7%

Backlog

Our backlog of orders as of the end of fiscal years 2020, 2019 and 2018 was approximately \$93.0 million, \$72.6 million and \$102.9 million, respectively. The majority of our backlog is typically requested for delivery within six months. In markets where the end system life cycles are relatively short, customers typically request delivery in four to eight weeks. A backlog analysis at any given time gives little indication of our future business except on a short-term basis, principally within the next 45 days. We do not have any significant backlog with deliveries beyond 18 months.

Manufacturing Capabilities

Our strategy is to outsource most of our manufacturing functions to third-party foundries and assembly and test contractors. The third-party foundries fabricate silicon wafers, while the assembly and test contractors package and test our products. We believe this outsourcing permits us to take advantage of the best available technology, leverage the capital investment of others and reduce our operating costs associated with manufacturing assets.

We perform a limited amount of internal probe and final test activities at our facilities in Camarillo, Irvine and San Diego in California; Neuchâtel in Switzerland; and Reynosa in Mexico. These activities accommodate situations in which tight coupling with product design is desirable or where there are unique requirements. A majority of our very small form factor protection devices are packaged at our facility in Colorado Springs, Colorado. Our packaged discrete rectifier products are packaged and tested in-house in Reynosa, Mexico. Almost all of our other products are packaged and tested by outside subcontractors.

In keeping with our mostly "fabless" business model, we have no wafer fabrication facilities except for our operation in Reynosa, Mexico. For fiscal year 2020, the Reynosa facility provided almost all of the silicon for our packaged discrete rectifier products, which were approximately 3% of our end product net sales. The remaining end products representing 97% of our net sales were supported with finished silicon wafers purchased from third-party wafer foundries in China, Israel, South Korea and the United States ("U.S."). We anticipate that substantially all of the silicon wafers we require will come from third-party foundries in fiscal year 2021.

Despite our use of third-party wafer foundries for sourcing a majority of our silicon needs, we do maintain internal process development capabilities. Our process engineers work closely with our third-party foundries on the improvement and development of process capabilities. In fiscal year 2020, we purchased the majority of our wafers from approximately five different third-party wafer foundries and used various manufacturing processes, including Bipolar, CMOS, RF-CMOS and Silicon Germanium ("SiGe") BiCMOS processes.

While we do have some redundancy of fabrication processes by using multiple third-party foundries, any interruption of supply by one or more of these foundries could materially impact us. As a result, we maintain some amount of business interruption

insurance in part to help reduce the financial risk associated with a wafer supply interruption, but we are not fully insured against this risk.

Although our products are made from basic materials (principally silicon, metals and plastics), all of which are available from a number of suppliers, capacity at wafer foundries sometimes becomes constrained. The limited availability of certain materials, such as silicon wafer substrates, may impact our suppliers' ability to meet our demand needs or impact the price we are charged. The prices of certain other basic materials, such as metals, gases and chemicals used in the production of ICs can exhibit price volatility depending on the changes in demand for these basic commodities. In most cases, we do not procure these materials ourselves, but we are nevertheless reliant on these materials for producing our products because our third-party foundry and package and test subcontractors must procure them. To help minimize risks associated with constrained capacity, we use multiple foundries and have taken other steps to prevent supply interruptions at certain foundries and subcontractors.

In fiscal years 2020, 2019 and 2018, 24%, 16% and 20%, respectively, of our silicon in terms of cost of wafers was supplied by a third-party foundry in China, and 11%, 11% and 14%, respectively, of our silicon in terms of cost of wafers was supplied by a third-party foundry in Israel.

In addition to our development and production facility in Colorado Springs, Colorado, which provides assembly services for a majority of our very small form factor protection devices, we use third-party subcontractors to perform almost all of our other assembly and test operations. A majority of our offshore assembly and test activity is conducted by third-party subcontractors based in China, Malaysia, Taiwan, Thailand, South Korea and the Philippines. We have operations offices located in the Philippines, Malaysia and China that support and coordinate some of the worldwide shipment of products. We have installed our own test equipment at some of our packaging and testing subcontractors in order to ensure a certain level of capacity, assuming the subcontractor has ample employees to operate the equipment. We are monitoring the impact of the coronavirus outbreak on our suppliers and third-party subcontractors and cannot currently determine the extent of the impact it may have on our operations. See "Item 1A. Risk Factors - Risks Relating to Production Operations - We obtain many essential components and materials and certain critical manufacturing services from a limited number of suppliers and subcontractors, most of which are foreign-based."

Our arrangements with both third-party wafer foundries and package and test subcontractors are designed to provide some assurance of capacity but are not expected to assure access to all the manufacturing capacity we may need in the future.

Competition

The analog and mixed-signal semiconductor and advanced algorithms industries are highly competitive, and we expect competitive pressures to continue. Our ability to compete effectively and to expand our business will depend on our ability to continue to recruit and retain key engineering talent, our ability to execute on new product developments, and our ability to persuade customers to design these new products into their applications.

Our industry is characterized by decreasing average unit selling prices over the life of a product as the volumes typically increase. However, price decreases can sometimes be quite rapid and faster than the rate of increase of the associated product volumes. We believe we compete effectively based upon our ability to capitalize on efficiencies and economies of scale in production and sales, and our ability to maintain or improve our productivity and product yields to reduce manufacturing costs.

We are in direct and active competition, with respect to one or more of our product lines, with numerous manufacturers of varying size, technical capability and financial strength. A number of these competitors are dependent on semiconductor products as their principal source of income, and some are much larger and better resourced than we are. The number of competitors has grown due to expansion of the market segments in which we participate. Additionally, there has been a trend toward consolidation in our industry as companies attempt to strengthen or hold their market positions in an evolving industry. Such consolidations may make it more difficult for us to compete effectively, including on the basis of price, sales and marketing programs, channel coverage, technology or product functionality.

Intellectual Property and Licenses

We have been granted 201 U.S. patents and 187 foreign patents and have numerous patent applications pending with respect to our products and to technologies associated with our business. The expiration dates of issued patents range from 2020 to 2038. Although we consider patents to be helpful in maintaining a competitive advantage, we do not believe they create definitive competitive barriers to entry. There can be no assurance that our patent applications will lead to issued patents, that others will not develop or patent similar or superior products or technologies, or that our patents will not be challenged, invalidated, or circumvented by others. We have no material revenue associated with patents that expire in calendar years 2020, 2021 or 2022.

We have registered many of our trademarks in the U.S. and in various foreign jurisdictions. Registration generally provides rights in addition to basic trademark protections and is typically renewable upon proof of continued use. We have registered, or are in the process of registering, our SEMTECH trademark in many jurisdictions. In one location use of this trademark is prohibited, but we are permitted to use our Semtech International trade name. This restriction has not had a material impact on our business to date and we do not anticipate it will have a material impact in the future.

We also have registered certain materials in which we have copyright ownership, which provides additional protection for this intellectual property.

Employees

As of January 26, 2020, we had 1,388 full-time employees. There were 534 employees in research and development, 271 employees in sales, marketing and field services, and 190 employees in general, administrative and finance. The remaining employees support operational activities, including product and test engineering, assembly, manufacturing, distribution and quality functions.

We have not had a work stoppage in the last decade and the only unionized employees are approximately 188 Mexican nationals who work at our manufacturing facility in Reynosa, Mexico. Our employee relations during the last fiscal year have been, and remain, satisfactory.

We adjust our workforce from time to time to meet the changing needs of our business. Competition for key design engineering talent globally is significant.

Government Regulations and Environmental Matters

We are required to comply, and it is our policy to comply, with numerous government regulations that are normal and customary to businesses in our industry and that operate in our markets and operating locations.

Our sales that serve the military and aerospace markets primarily consist of high-reliability products that are offered within our Wireless and Sensing product line that have been qualified to be sold in these markets by the U.S. Department of Defense ("DOD"). In order to maintain these qualifications, we must comply with certain specifications promulgated by the DOD. As part of maintaining these qualifications, we are routinely audited by the DOD. Based on current specifications, we believe we can maintain our qualifications for the foreseeable future. However, these specifications could be modified by the DOD in the future or we could become subject to other government requirements, which could make the manufacturing of these products more difficult and thus could adversely impact our profitability in the Wireless and Sensing Product Group. In fiscal year 2020, our sales that serve military and aerospace markets comprised 2% of our sales. A small number of special assemblies from the Wireless and Sensing product line are subject to the International Traffic in Arms Regulations ("ITAR"). We have a Technical Assistance Agreement in place that permits us to assemble certain of these products in Mexico. International shipments of products subject to ITAR require a State Department license.

For further discussion related to environmental matters, see Note 14 to the Consolidated Financial Statements.

Available Information

General information about us can be found on our website at www.semtech.com. The information on our website is for informational purposes only and should not be relied on for investment purposes. The information on our website is not incorporated by reference into this Annual Report on Form 10-K and should not be considered part of this or any other report filed with the SEC.

We make available free of charge, either by direct access on our website or a link to the SEC website, our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), as soon as reasonably practicable after such reports are electronically filed with, or furnished to, the SEC. Our reports filed with, or furnished to, the SEC are also available directly at the SEC's website at www.sec.gov.

Item 1A. Risk Factors

You should carefully consider and evaluate all of the information in this Annual Report on Form 10-K, including the risk factors listed below. If any of these risks actually occur, our business could be materially harmed. If our business is harmed, the trading price of our common stock could decline. See also “Special Note Regarding Forward Looking and Cautionary Statements” at the beginning of this Annual Report on Form 10-K.

Risks Relating to General Business Conditions

Our future results may fluctuate, fail to match past performance or fail to meet expectations.

Our results may fluctuate in the future, may fail to match our past performance or fail to meet our expectations and the expectations of analysts and investors. Our results and related ratios, such as gross margin, operating income percentage and effective tax rate may fluctuate as a result of:

- general economic conditions in the countries where we sell our products;
- the availability of adequate supply commitments from our outside suppliers;
- the timing of new product introductions by us, our customers and our competitors;
- seasonality and variability in the computer market and our other end markets;
- product obsolescence;
- the scheduling, rescheduling or cancellation of orders by our customers;
- the cyclical nature of demand for our customers’ products;
- our ability to predict and meet evolving industry standards and consumer preferences;
- our ability to develop new process technologies and achieve volume production;
- changes in manufacturing yields;
- capacity utilization;
- product mix and pricing;
- movements in exchange rates, interest rates or tax rates;
- our ability to integrate and realize synergies from recent acquisitions;
- the manufacturing and delivery capabilities of our subcontractors; and
- litigation and regulatory matters.

As a result of these factors, our past financial results are not necessarily indicative of our future results.

Current global economic conditions, including the impact of the novel coronavirus outbreak, and the potential changes in global economic policy could reduce demand for our products and have a material adverse impact on our business, operating results and financial condition.

Uncertainty about global economic conditions can pose a risk to the overall economy by causing fluctuations to and reductions in consumer and commercial spending. Demand for our products could be different from our expectations due to many factors including changes in business and economic conditions, conditions in the credit market that affect consumer confidence, customer acceptance of our products, changes in customer order patterns, including order cancellations, and changes in the level of inventory held by vendors. In fiscal year 2020, sales to customers in China comprised 53% of our sales. The recent economic slowdown in China could adversely affect our sales to customers in China and consequently, our business, operating results and financial condition. In addition, there are risks that the Chinese government may, among other things, require the use of local suppliers, compel companies that do business in China to partner with local companies to conduct business, or provide incentives to government-backed local customers to buy from local suppliers rather than companies like ours, all of which could adversely impact our business, operating results and financial condition. Further, changes in U.S. and global social, political, regulatory and economic conditions or in laws and policies governing foreign trade, manufacturing, development and investment could adversely affect our business.

In addition, recent global economic conditions have been affected by the recent outbreak of the novel coronavirus first identified in Wuhan, Hubei Province, China. Any outbreak of contagious diseases, and other adverse public health developments, could have a material and adverse effect on our business operations. These could include disruptions or restrictions on our ability to travel or to distribute our products, as well as temporary closures of the facilities and businesses of our customers and their contract manufacturers. Any disruption of the businesses of our customers and suppliers and their contract manufacturers would likely impact our sales and operating results. In addition, a significant outbreak of contagious diseases in the h

uman population could result in a widespread health crisis that could adversely affect the economies and financial markets of many countries, resulting in an economic downturn that could affect demand for our end customers' products and likely impact our operating results.

Downturns in the business cycle could adversely affect our revenues and profitability.

The semiconductor industry is highly cyclical and has experienced significant downturns, which are characterized by reduced product demand, production overcapacity, increased levels of inventory, industry-wide fluctuations in the demand for semiconductors and the significant erosion of average selling prices. The cyclical nature of the semiconductor industry may cause us to experience substantial period-to-period fluctuations in our operating results. The growth rate of the global economy is one of the factors affecting demand for semiconductor components. Many factors could adversely affect regional or global economic growth including increased price inflation for goods, services or materials, rising interest rates in the U.S. and the rest of the world, or tight credit markets. In addition, economic slowdowns may also affect our customers' ability to pay for our products. Accordingly, economic slowdowns may harm our business.

The average selling prices of products in our markets have historically decreased rapidly and will likely do so in the future, which could harm our revenue and gross margins.

As is typical in the semiconductor industry, the average selling price of a particular product has historically declined significantly over the life of the product. In the past, we have reduced the average selling prices of our products in anticipation of future competitive pricing pressures, new product introductions by us or our competitors and other factors. We expect that we will have to similarly reduce prices in the future for older generations of products. Reductions in our average selling prices to one customer could also impact our average selling prices to all customers. A decline in average selling prices would harm our gross margins for a particular product. If not offset by sales of other products with higher gross margins, our overall gross margins may be adversely affected. Our business, results of operations, financial condition and prospects will suffer if we are unable to offset any reductions in our average selling prices by increasing our sales volumes, reducing our costs and developing new or enhanced products on a timely basis, with higher selling prices or gross margins.

Changes in government trade policies could have an adverse impact on our business or the business of our customers, which may materially adversely affect our business operations, sales or gross margins.

The U.S. government has recently made statements and taken certain actions that have led to, and may lead to, further changes to U.S. and international trade policies, including recently imposed tariffs affecting certain products exported by a number of U.S. trading partners, including China. For example, in 2018 and 2019, the U.S. imposed tariffs ranging from 7.5% to 25% on four product lists totaling approximately \$550 billion in Chinese imports. In response, many U.S. trading partners, including China, have imposed or proposed new or higher tariffs on U.S. products. The tariffs imposed by the U.S. on products imported from China include parts and materials used in semiconductor manufacturing and could have the effect of increasing the cost of materials we use to manufacture certain products, which could result in lower margins. In addition, the geopolitical headwinds driven by export restrictions and tariffs imposed by the U.S. government may weaken demand for our products. For example, during fiscal year 2020, we experienced a 13% decrease in our net sales compared to the same period last year primarily due to a decline in China-based demand for our products.

We cannot predict what further actions may ultimately be taken with respect to tariffs or trade relations between the U.S. and other countries, what products may be subject to such actions, or what actions may be taken by the other countries in retaliation. Accordingly, it is difficult to predict exactly how, and to what extent, such actions may impact our business, or the business of our customers, partners or vendors. Any unfavorable government policies on international trade, such as capital controls or tariffs, may further affect the demand for our products, increase the cost of components, delay production, impact the competitive position of our products or prevent us from being able to sell products in certain countries, and may have a material adverse effect on our business, operating results and financial condition. Any resulting trade wars could have a significant adverse effect on world trade and global economic conditions and could adversely impact our revenues, gross margins and business operations.

Moreover, U.S. government actions targeting exports of certain technologies to China are becoming more pervasive. For example, in 2018, the U.S. adopted new laws designed to address concerns about the export of emerging and foundational technologies to China. In addition, on May 15, 2019, President Trump issued an executive order that invoked national emergency economic powers to implement a framework to regulate the acquisition or transfer of information communications technology in transactions that imposed undue national security risks. The order would restrict the acquisition or use in the U.S. of information and communications technology or services designed, developed, manufactured, or supplied by persons owned by, controlled by, or subject to the jurisdiction of foreign adversaries. These actions could lead to additional restrictions on the export of products that include or enable certain technologies, including products we provide to China-based customers, thereby further impacting our business, operating results and financial condition.

Business interruptions such as natural disasters could harm our business and have a material adverse effect on our operations.

Our corporate headquarters, a portion of our assembly and research and development activities and certain other critical business operations are located near major earthquake fault lines. We do not maintain earthquake insurance and our business could be harmed in the event of a major earthquake. We generally do not maintain flood coverage, including for our Asian locations where certain of our operations support and sales offices are located. Such flood coverage has become very expensive; as a result we have elected not to purchase this coverage. If one of these locations were to experience a major flood, our business may be harmed.

Our business could be harmed if natural disasters interfere with production of wafers by our suppliers, with assembly and testing of products by our subcontractors, or with our distribution network. We maintain some business interruption insurance to help reduce the effect of such business interruptions, but we are not fully insured against such risks. Likewise, our business could be adversely impacted if a natural disaster were to shut down or significantly curtail production by one or more of our end customers. Any such loss of revenue due to a slowdown or cessation of end customer demand is uninsured.

When natural disasters such as an earthquake or other causes result in wide-spread destruction, the impact on our business may not be readily apparent. This is especially true when trying to assess the impact of the disaster on our end customers, who themselves may not fully understand the impact of the event on their businesses. The full extent and scope of natural disaster impacts, both in terms of direct impact on us and our supply chain, as well as on our end customers (to include their own supply chain issues as well as end-market issues), may not be known for a considerable period of time following the disaster. When any such natural disaster occurs, there can be no assurance that our operating results may not be materially affected as a result of the impact of the disaster on us or on our end customers.

We may experience other causes of business interruptions, including the outbreak of pandemic or contagious diseases, such as the novel coronavirus, that may affect our operations and we may not have sufficient business interruption insurance to compensate us for losses that may occur.

We rely on third-party freight firms for nearly all of our shipments from vendors to assembly and test sites, primarily in Asia, and for shipments of our final product to customers. This includes ground and air transportation. Any significant disruption of such freight business globally or in certain parts of the world, particularly where our operations are concentrated, could materially and adversely affect our ability to generate revenues. Business interruption insurance may not provide enough protection to compensate us for losses that may occur. Accordingly, any of these disruptions could significantly harm our business.

Terrorist attacks, wars and other acts of violence, or any other national or international crisis, calamity or emergency, including the outbreak of pandemic or contagious disease, such as the novel coronavirus, may result in interruption to the business activities of many entities, business losses and overall disruption of the economy at many levels. These events may directly impact our physical facilities or those of our customers and suppliers. Additionally, these events or armed conflicts may cause some of our customers or potential customers to reduce the level of expenditures on their services and products that ultimately may reduce our revenue. The consequences of these reductions are unpredictable, and we may not be able to foresee events that could have an adverse effect on our business. For example, as a result of these events, insurance premiums for businesses may increase and the scope of coverage may be decreased. Consequently, we may not be able to obtain adequate insurance coverage for our business and properties. To the extent that these disruptions result in delays or cancellations of customer orders, a general decrease in corporate spending, or our inability to effectively market our services and products, our business and operating results could be harmed.

We operate a manufacturing facility in Reynosa, Mexico. Historically, certain regions in Mexico have experienced high levels of violence. Any significant disruption of our operations at this facility could materially affect our ability to generate revenues for certain products within our Wireless and Sensing products line. Some of the products that we produce at this facility require certification by the Defense Contract Audit Agency ("DCAA"). Failure to secure or maintain the required certification, either directly through the DCAA or through a qualifying third party would materially affect our authorization to manufacture applicable products at this facility, and our revenue for certain products within our Wireless and Sensing products line could materially decline.

Risks Relating to Production Operations

We obtain many essential components and materials and certain critical manufacturing services from a limited number of suppliers and subcontractors, most of which are foreign-based entities.

Our reliance on a limited number of subcontractors and suppliers for wafers, packaging, testing and certain other processes involves several risks, including potential inability to obtain an adequate supply of required components and reduced control over the price, timely delivery, reliability and quality of components. These risks are attributable to several factors, including limitations on resources, labor problems, equipment failures or the occurrence of natural disasters. The good working

relationships we have established with our suppliers and subcontractors could be disrupted, and our supply chain could suffer, if a supplier or subcontractor were to experience a change in control. There can be no assurance that problems will not occur in the future with suppliers or subcontractors. Disruption or termination of our supply sources or subcontractors could significantly delay our shipments and harm our business. Delays could also damage relationships with current and prospective customers. Any prolonged inability to obtain timely deliveries or quality manufacturing or any other circumstances that would require us to seek alternative sources of supply or to manufacture or package certain components internally could limit our growth and harm our business.

We are subject to risk from fluctuating market prices of certain commodity raw materials, particularly gold, that are incorporated into our end products or used by our suppliers to process our end products. Increased commodity prices are passed on to us in the form of higher prices from our suppliers, either in the form of general price increases or commodity surcharges. Although we generally deal with our suppliers on a purchase order basis rather than on a long-term contract basis, we generally attempt to obtain firm pricing for volumes consistent with planned production. Our gross margins may decline if we are not able to increase selling prices of our products or obtain manufacturing efficiencies to offset the increased cost. We do not enter into formal hedging arrangements to mitigate against commodity risk.

Most of our third-party subcontractors and suppliers, including foundries that supply silicon wafers, are located in foreign countries, including China, Israel and South Korea. In fiscal years 2020, 2019 and 2018, 24%, 16% and 20%, respectively, of our silicon in terms of cost of wafers was supplied by a third-party foundry in China, and 11%, 11% and 14%, respectively, of our silicon in terms of cost of wafers was supplied by a third-party foundry in Israel. These percentages could be higher in future periods. While our utilization of multiple third-party foundries does create some redundancy of fabrication processes, any interruption of supply by one or more of these foundries could materially impact us. We maintain some amount of business interruption insurance to help reduce the risk of wafer supply interruption, but we are not fully insured against such risk. In addition, the U.S. government has recently announced import tariffs on goods manufactured in China. See the risk factor captioned "Changes in government trade policies could have an adverse impact on our business or the business of our customers, which may materially adversely affect our business operations, sales or gross margins" above. These tariffs, depending upon their ultimate scope, duration and how they are implemented, could negatively impact our business by continuing to increase our costs and by making our products less competitive. We may not be able to pass such increased costs to our customers. In addition, any relocation of manufacturing facilities or to using suppliers outside of China may increase our costs and could impact the global competitiveness of our products.

A majority of our package and test operations are performed by third-party contractors based in China, Malaysia, Taiwan, Thailand, South Korea and the Philippines. Our international business activities, in general, are subject to a variety of potential risks resulting from political and economic uncertainties. Any political turmoil or trade restrictions in these countries, particularly China, could limit our ability to obtain goods and services from these suppliers and subcontractors. The effect of an economic crisis or political turmoil on our suppliers located in these countries may impact our ability to meet the demands of our customers. For example, the ongoing coronavirus outbreak emanating from China at the beginning of 2020 has resulted in extended shutdown of certain businesses in the region. This public health crisis or any further political developments or health concerns in markets in which our third-party contractors and suppliers are based could result in social, economic and labor instability, adversely affecting the supply of our products and, in turn, our business, financial condition and results of operations. If we find it necessary to transition the goods and services received from our existing suppliers or subcontractors to other firms, we would likely experience an increase in production costs and a delay in production associated with such a transition, both of which could have a significant negative effect on our operating results, as these risks are substantially uninsured.

Our products may be found to be defective, product liability claims may be asserted against us and we may not have sufficient liability insurance.

Manufacturing semiconductors is a highly complex and precise process, requiring production in a tightly controlled, clean environment. Minute impurities in our manufacturing materials, contaminants in the manufacturing environment, manufacturing equipment failures, and other defects can cause our products to be non-compliant with customer requirements or otherwise nonfunctional. We face an inherent business risk of exposure to warranty and product liability claims in the event that our products fail to perform as expected or such failure of our products results, or is alleged to result, in bodily injury or property damage (or both). Since a defect or failure in our product could give rise to failures in the goods that incorporate them (and consequential claims for damages against our customers from their customers), we may face claims for damages that are disproportionate to the revenues and profits we receive from the products involved.

Our general warranty policy provides for repair or replacement of defective parts. In some cases, a refund of the purchase price is offered. In certain instances, we have agreed to other warranty terms, including some indemnification provisions, which could prove to be significantly more costly than repair, replacement or refund. We attempt to limit our liability through our standard terms and conditions and negotiation of sale and other customer contracts, but there is no assurance that such limitations will be accepted or effective. While we maintain some insurance for such events, a successful warranty or product

liability claim against us in excess of our available insurance coverage, if any, and established reserves, or a requirement that we participate in a product recall, would have adverse effects (that could be material) on our business, operating results and financial condition. Additionally, in the event that our products fail to perform as expected, our reputation may be damaged, which could make it more difficult for us to sell our products to existing and prospective customers and could adversely affect our business, operating results and financial condition.

Obsolete inventories as a result of changes in demand for our products and change in life cycles of our products could adversely affect our business, operating results and financial condition.

The life cycles of some of our products depend heavily upon the life cycles of the end-products into which our products are designed. End-market products with short life cycles require us to manage closely our production and inventory levels. Inventory may also become obsolete because of adverse changes in end-market demand. We may in the future be adversely affected by obsolete or excess inventories, which may result from unanticipated changes in the estimated total demand for our products or the estimated life cycles of the end-products into which our products are designed. In addition, some customers restrict how far back the date of manufacture for our products can be and certain customers may stop ordering products from us and go out of business due to adverse economic conditions; therefore, some of our product inventory may become obsolete and, thus, adversely affect our business, operating results and financial condition.

Risks Relating to Research and Development, Engineering, Intellectual Property and New Technologies

We may be unsuccessful in developing and selling new products, which is central to our objective of maintaining and expanding our business.

We operate in a dynamic environment characterized by price erosion, rapid technological change, and design and other technological obsolescence. Our competitiveness and future success depend on our ability to predict and adapt to these changes in a timely and cost-effective manner by designing, developing, manufacturing, marketing and providing support for our own new products and technologies.

A failure to achieve design wins, to introduce these new products in a timely manner, or to achieve market acceptance for these products on commercially reasonable terms could harm our business.

The introduction of new products presents significant business challenges because product development commitments and expenditures must be made well in advance of product sales. The success of a new product depends on accurate forecasts of long-term market demand and future technological developments, as well as on a variety of specific implementation factors, including:

- timely and efficient completion of technology, product and process design and development;
- timely and efficient implementation of manufacturing, assembly, and test processes;
- the ability to secure and effectively utilize fabrication capacity in different geometries;
- product performance;
- product quality and reliability; and
- effective marketing, sales and service

The efforts to achieve design wins typically are lengthy and can require us to both incur design and development costs and dedicate scarce engineering resources in pursuit of a single customer opportunity. We may not prevail in the competitive selection process, and even if we are able to develop products and achieve design wins, the design wins may never generate revenues if end-customer projects are unsuccessful in the marketplace or the end-customer terminates the project, which may occur for a variety of reasons. Mergers and consolidations among customers may lead to termination of certain projects before the associated design win generates revenue. If design wins do generate revenue, the time lag between the design win and meaningful revenue can be uncertain and could be significant. If we fail to develop products with required features or performance standards or experience even a short delay in bringing a new product to market, or if our customers fail to achieve market acceptance of their products, our business, financial condition and operating results could be materially and adversely impacted.

Our customers require our products to undergo a lengthy and expensive qualification process without any assurance of product sales.

Prior to purchasing our products, our customers require that our products undergo an extensive qualification process, which involves testing of the products in the customer's system as well as rigorous reliability testing. This qualification process may continue for six months or longer. However, qualification of a product by a customer does not ensure any sales of the product to that customer. Even after successful qualification and sales of a product to a customer, a subsequent revision to the product or software, changes in the manufacturing process or the selection of a new supplier by us may require a new qualification process, which may result in delays and in us holding excess or obsolete inventory. After our products are qualified, it can take

an additional six months or more before the customer commences volume production of components or devices that incorporate our products. Despite these uncertainties, we devote substantial resources, including design, engineering, sales, marketing and management efforts, toward qualifying our products with customers in anticipation of sales. If we are unsuccessful or delayed in qualifying any of our products with a customer, such failure or delay would preclude or delay sales of such product to the customer, which may impede our growth and cause our business to suffer.

Our products may fail to meet new industry standards or requirements and the efforts to meet such industry standards or requirements could be costly.

Many of our products are based on industry standards that are continually evolving. Our ability to compete in the future will depend in part on our ability to anticipate, identify and ensure compatibility or compliance with these evolving industry standards. The emergence of new industry standards could render our products incompatible with products developed by our customers and potential customers. As a result, we could be required to invest significant time and effort and to incur significant expense to redesign our products to ensure compliance with relevant standards. If our products are not in compliance with prevailing industry standards or requirements, we could miss opportunities to achieve crucial design wins which in turn could have a material adverse effect on our business, operating results and financial conditions.

We may be unable to adequately protect our intellectual property rights.

We pursue patents for some of our new products and unique technologies, but we rely primarily on trade secret protections through a combination of nondisclosure agreements and other contractual provisions, as well as our employees' commitment to confidentiality and loyalty, to protect our know-how and processes. We intend to continue protecting our proprietary technology, including through trademark and copyright registrations and patents. Despite this intention, we may not be successful in achieving adequate protection. Our failure to adequately protect our material know-how and processes could harm our business. There can be no assurance that the steps we take will be adequate to protect our proprietary rights, that our patent applications will lead to issued patents, that others will not develop or patent similar or superior products or technologies, or that our patents will not be challenged, invalidated, or circumvented by others. Furthermore, the laws of the countries in which our products are or may be developed, manufactured or sold may not protect our products and intellectual property rights to the same extent as laws in the U.S.

We may suffer losses and business interruption if our products infringe the intellectual property rights of others.

The semiconductor industry is characterized by frequent claims of infringement and litigation regarding patent and other intellectual property rights. Due to the number of competitors, intellectual property infringement is an ongoing risk since other companies in our industry could have intellectual property rights that may not be identifiable when we initiate development efforts. Litigation may be necessary to enforce our intellectual property rights and we may have to defend ourselves against infringement claims. Any such litigation could be very costly and may divert our management's resources. If one of our products is found to infringe on a third party's rights, we may have liability for past infringement and may need to seek a license to use such intellectual property going forward. If a license is not available or if we are unable to obtain a license on terms acceptable to us, we would either have to change our product so that it does not infringe or stop making the product.

We must commit resources to product production prior to receipt of purchase commitments and could lose some or all of the associated investment.

Sales are made primarily on a current delivery basis, pursuant to purchase orders that may be revised or cancelled by our customers without penalty, rather than pursuant to long-term contracts. Some contracts require that we maintain inventories of certain products at levels above the anticipated needs of our customers. As a result, we must commit resources to the production of products without binding purchase commitments from customers. Our inability to sell products after we devote significant resources to them could harm our business.

While we intend to continue to invest in research and development, we may be unable to make the substantial investments that are required to remain competitive in our business.

The semiconductor industry requires substantial investment in research and development in order to bring to market new and enhanced solutions. Our research and development expense was \$107.4 million, \$109.0 million and \$105.1 million, which represent 20%, 17% and 18% of net sales, respectively, in fiscal years 2020, 2019 and 2018, respectively. We expect to strategically increase our research and development expenditures as compared to prior periods. We are unable to predict whether we will have sufficient resources to maintain the level of investment in research and development required to remain competitive. The added costs could prevent us from being able to maintain a technology advantage over larger competitors that have significantly more resources to invest in research and development. In addition, we cannot assure you that the technologies which are the focus of our research and development expenditures will become commercially successful or generate any revenue.

Certain software we use is from open source code sources, which, under certain circumstances, may lead to unintended consequences and, therefore, could materially adversely affect our business, financial condition, operating results and cash flow.

We use open source software in connection with certain of our products and services, and we intend to continue to use open source software in the future. From time to time, there have been claims challenging the ownership of open source software against companies that incorporate open source software into their products or services or alleging that these companies have violated the terms of an open source license. As a result, we could be subject to lawsuits by parties claiming ownership of what we believe to be open source software or alleging that we have violated the terms of an open source license. Litigation could be costly for us to defend, have a negative effect on our operating results and financial condition or require us to devote additional research and development resources to change our solutions. In addition, if we were to combine our proprietary software solutions with open source software in certain manners, we could, under certain open source licenses, be required to publicly release the source code of our proprietary software solutions. If we inappropriately use open source software, we may be required to re-engineer our solutions, discontinue the sale of our solutions, release the source code of our proprietary software to the public at no cost or take other remedial actions. There is a risk that open source licenses could be construed in a way that could impose unanticipated conditions or restrictions on our ability to commercialize our solutions, which could adversely affect our business, operating results and financial condition.

We may need to transition to smaller geometry process technologies and achieve higher levels of design integration to remain competitive and may experience delays in this transition or fail to efficiently implement this transition.

In order to remain competitive, we expect to continue to transition our products to increasingly smaller geometries. This transition requires us to modify the manufacturing processes for our products, to design new products to more stringent standards and to redesign some existing products. In some instances, we depend on our relationship with our third-party foundries to transition to smaller geometry processes successfully. Our foundries may not be able to effectively manage the transition or we may not be able to maintain our foundry relationships. If our foundries or we experience significant delays in this transition or fail to efficiently implement this transition, our business, financial condition and results of operations could be materially and adversely affected. As smaller geometry processes become more prevalent, we expect to continue to integrate greater levels of functionality into our products. However, we may not be able to achieve higher levels of design integration or deliver new integrated products on a timely basis or at all.

Risks Relating to International Operations

We sell and trade with foreign customers, which subjects our business to increased risks.

Sales to foreign customers accounted for approximately 91% of net sales in the fiscal year ended January 26, 2020. Sales to our customers located in China (including Hong Kong), South Korea and Japan constituted 53%, 8% and 5%, respectively, of net sales for fiscal year 2020. International sales are subject to certain risks, including unexpected changes in regulatory requirements, tariffs and other barriers, political and economic instability, difficulties in accounts receivable collection, difficulties in managing distributors and representatives, difficulties in staffing and managing foreign subsidiary and branch operations and potentially adverse tax consequences. Other risks include local business and cultural factors that may differ from our domestic standards and practices, including business practices from which we are prohibited from engaging by the Foreign Corrupt Practices Act and other anti-corruption laws and regulations, laws of certain foreign countries that may not protect our products, assets or intellectual property rights to the same extent as do U.S. laws, and difficulties enforcing contracts in such foreign countries generally. These factors may harm our business. Our use of the Semtech name may be prohibited or restricted in some countries, which may negatively impact our sales efforts. In addition, substantially all of our foreign sales are denominated in U.S. Dollars and currency exchange fluctuations in countries where we do business could harm us by resulting in pricing that is not competitive with prices denominated in local currencies.

Our foreign currency exposures may change over time as the level of activity in foreign markets grows and could have an adverse impact upon financial results.

As a global enterprise, we face exposure to adverse movements in foreign currency exchange rates. Certain of our assets, including certain bank accounts, exist in non-U.S. Dollar-denominated currencies, which are sensitive to foreign currency exchange rate fluctuations. The non-U.S. Dollar-denominated currencies are principally the Swiss Franc, Euro, Canadian Dollar, Mexican Peso, Japanese Yen and Great British Pound. We also have a significant number of employees that are paid in foreign currency, the largest groups being United Kingdom-based employees who are paid in Great British Pound, Switzerland-based employees who are paid in Swiss Francs, Canada-based employees who are paid in Canadian Dollars, China-based employees who are paid in Chinese Renminbi and Mexican nationals who are paid in Mexican Pesos.

If the value of the U.S. Dollar weakens relative to these specific currencies, as it has done in recent years, the cost of doing business in terms of U.S. Dollars rises. Whereas if the value of the U.S. Dollar strengthens relative to these specific currencies, it could make the pricing of our products less competitive and affect demand for our products. With the growth of our international business, our foreign currency exposures may grow and under certain circumstances, could harm our business.

As a means of managing our foreign exchange exposure, we routinely convert U.S. Dollars into foreign currency in advance of the expected payment. We regularly assess whether or not to hedge foreign exchange exposure. Any future use of forward contracts to hedge foreign exchange exposure may be required to be marked-to-market each quarter and can create volatility in net income not directly tied to our operating results.

We may be subject to increased tax liabilities and an increased effective tax rate if we need to remit funds held by our foreign subsidiaries.

As of January 26, 2020, our foreign subsidiaries held \$787.9 million of unremitted foreign earnings. With the enactment of the Tax Cuts and Jobs Act (“Tax Act”), all post-1986 previously unremitted earnings for which no U.S. deferred tax liability had been accrued were subject to U.S. tax. Notwithstanding the U.S. taxation of these amounts, we have determined that \$547.9 million of foreign earnings (“Reinvested Funds”) will continue to be reinvested indefinitely outside of the U.S. As a result, we have not recorded a provisional income tax expense for these amounts because we believe that we currently have the ability to keep those earnings indefinitely invested and we have specific plans for reinvestment of these undistributed foreign earnings. In connection with the enactment of the Tax Act, we have determined that we will remit approximately \$240.0 million of foreign earnings in the foreseeable future, of which \$76.1 million and \$80.0 million was remitted during fiscal years 2020 and 2019, respectively. As a result, we have established a deferred income tax liability for the withholding tax that will be due upon distribution of these earnings. If we needed to remit all or a portion of our Reinvested Funds to the U.S. for investment in our domestic operations, any such remittance could result in increased tax liabilities and a higher effective tax rate. For more information, see Note 12 to the Consolidated Financial Statements.

We are subject to export restrictions and laws affecting trade and investments, which may limit our ability to sell to certain customers.

As a global company headquartered in the United States, we are subject to U.S. laws and regulations that limit and restrict the export of some of our products and services and may restrict our transactions with certain customers, business partners and other persons, including, in certain cases, dealings with or between our U.S. employees and subsidiaries. In certain circumstances, export control and economic sanctions regulations may prohibit the export of certain products, services and technologies, and in other circumstances we may be required to obtain an export license or other authorization before entering into a transaction or transferring a controlled item. We maintain an economics sanction and export compliance program but there are risks that the compliance controls could be circumvented, exposing us to legal liabilities. We must also comply with export restrictions and laws imposed by other countries affecting trade and investments. These restrictions and laws have significantly restricted our operations in the recent past and may continue to do so in the future.

For example, on March 8, 2016, the U.S. Department of Commerce published a final rule in the Federal Register that amended the Export Administration Regulations by adding ZTE Corporation (“ZTE”) and three of its affiliates to the “Entity List” for actions contrary to the national security and foreign policy interests of the U.S. This rule imposed new export licensing requirements on exports, re-exports, and in-country transfers of all U.S.-regulated products, software and technology to the designated ZTE entities, which prevented sales of our U.S. regulated products to ZTE since license requests were subject to a general policy of denial. On March 24, 2016, the U.S. Department of Commerce issued a temporary general license authorizing most exports to ZTE and one of its designated affiliates through June 30, 2016, thereby enabling us to resume sales to ZTE. The temporary license was repeatedly extended until the Bureau of Industry and Security removed ZTE from the Entity List on March 29, 2017, after ZTE entered a guilty plea and agreed to pay a combined penalty of up to \$1.19 billion to settle civil and criminal allegations against it. However, part of this plea deal included the imposition of a Denial Order against ZTE and one of its affiliates, which was initially suspended, but later imposed on April 15, 2018, leading to restrictions on export, re-export or transfer of any items subject to U.S. regulations to ZTE and the listed affiliate. This again impacted our ability to sell certain items to ZTE until the Denial Order was terminated on July 13, 2018. ZTE is still subject to the terms of its settlement agreement that includes the potential for re-imposition of the Denial Order.

In addition, on May 16, 2019, the U.S. Department of Commerce amended the Export Administration Regulations by adding Huawei Technologies Co., Ltd. (“Huawei”), which was recently indicted by the U.S. government for violating U.S. sanctions and bank and wire fraud, among other charges, and 68 of its affiliates to the “Entity List” for actions contrary to the national security and foreign policy interests of the United States. On August 19, 2019, another 46 of Huawei’s non-U.S. affiliates were added to the “Entity List.” As with ZTE, this rule imposes new export licensing requirements on exports, re-exports, and in-country transfers of all U.S.- regulated products, software and technology to the designated Huawei entities. As noted above, license requests are subject to a general policy of denial and, therefore, we will not be able to sell most of our U.S. regulated products to Huawei. Sales of our products to Huawei accounted for less than 10% of our net sales during fiscal year 2020. Although the U.S. Department of Commerce granted certain temporary exemptions to Huawei on May 20, 2019 in the form of a temporary 90 day general license for specific activities, which was further extended for another 90 days on August 19, 2019 and again on November 18, 2019, and for another 45 days on February 13, 2020 and again on March 10, 2020, these exemptions are limited in scope and generally do not apply to the sale of our U.S. regulated products to Huawei. As of the date

of this report, we are unable to predict the duration of the export restrictions imposed on Huawei and the corresponding future effects on our business.

These actions by the U.S. Department of Commerce or future regulatory activity may materially interfere with our ability to make sales to ZTE, Huawei or other foreign customers. ZTE, Huawei and other foreign customers affected by future U.S. government export control measures or sanctions or threats of export control measures or sanctions may respond by developing their own solutions to replace our products or by adopting our foreign competitors' solutions. In addition, our association with customers that are or become subject to U.S. regulatory scrutiny or export restrictions could subject us to actual or perceived reputational harm among current or prospective investors, suppliers or customers, customers of our customers, other parties doing business with us, or the general public. Any such reputational harm could result in the loss of investors, suppliers or customers, which could harm our business, financial condition, operating results or prospects.

Risks Relating to Sales, Marketing and Competition

We compete against larger, more established entities and our market share may be reduced if we are unable to respond to our competitors effectively.

The semiconductor industry is intensely competitive and is characterized by price erosion, rapid technological change, and design and other technological obsolescence. We compete with domestic and international semiconductor companies, many of which have substantially greater financial and other resources with which to pursue engineering, manufacturing, marketing and distribution of their products.

We expect continued competition from existing competitors as well as competition from new entrants in the semiconductor market. Our ability to compete successfully in the rapidly evolving area of integrated circuit technology depends on several factors, including:

- success in designing and manufacturing new products that implement new technologies;
- protection of our processes, trade secrets and know-how;
- maintaining high product quality and reliability;
- pricing policies of our competitors;
- performance of competitors' products;
- ability to deliver in large volume on a timely basis;
- marketing, manufacturing and distribution capability; and
- financial strength.

To the extent that our products achieve market success, competitors typically seek to offer competitive products or lower prices; if they are successful, they could harm our business. We also expect that the trend among large OEMs to seek to develop their own semiconductor solutions will continue and expand and as we move into new markets, we will face competition from larger competitors with longer histories in these markets. Certain of our customers and suppliers also have divisions that produce products competitive with ours and other customers may seek to vertically integrate competitive solutions in the future.

Industry consolidation may lead to increased competition and may harm our operating results.

There has been a trend toward industry consolidation in our industry as companies attempt to strengthen or hold their market positions in an evolving industry and as companies are acquired or are unable to continue operations. Some of our competitors have made acquisitions or entered into partnerships or other strategic relationships to offer a more comprehensive solution than they individually had offered. Such consolidations or strategic partnerships may continue in the future. The companies or alliances resulting from these possible consolidations may create more compelling bundled products as well as being able to offer greater pricing flexibility, making it more difficult for us to compete effectively, including on the basis of price, sales and marketing programs, channel coverage, technology or product functionality. Continued industry consolidation may adversely impact customers' perceptions of the viability of smaller and even medium-sized semiconductor companies such as ourselves and, consequently, customers' willingness to purchase from us. We believe that industry consolidation may result in stronger competitors, with more efficient cost structures that are better able to compete as sole-source vendors for our end-customers. This could lead to more variability in our operating results and could have a material adverse effect on our business, operating results and financial condition.

We receive a significant portion of our revenues from a small number of customers and the loss of any one of these customers or failure to collect a receivable from them could adversely affect our business.

Our largest customers have varied from year to year. Historically, we have had significant customers that individually accounted for 10% or more of consolidated revenues in certain quarters or years or represented 10% or more of net accounts

receivables at any given date. Sales to our customers are generally made on open account, subject to credit limits we may impose, and the receivables are subject to the risk of being uncollectible.

We believe that our operating results for the foreseeable future will continue to depend on sales to a relatively small number of customers and end customers. We may not be able to maintain or increase sales to some of our top customers for a variety of reasons, including that our agreements with our customers do not require them to purchase a minimum quantity of our products; some of our customers can stop incorporating our products into their own products with limited notice to us and suffer little or no penalty; and many of our customers have pre-existing or concurrent relationships with our current or potential competitors that may affect the customers' decisions to purchase our products.

The loss of a major customer, a reduction in sales to any major customer or our inability to attract new significant customers could seriously impact our revenue and materially and adversely affect our business, financial condition and results of operations.

The volatility of customer demand limits our ability to predict future levels of sales and profitability.

We primarily conduct our sales on a purchase order basis, rather than pursuant to long-term contracts. The loss of any significant customer, any material reduction in orders by any of our significant customers, the cancellation of a significant customer order or the cancellation or delay of a customer's significant program or product could harm our business.

Semiconductor suppliers can rapidly increase production output in response to slight increases in demand, leading to a sudden oversupply situation and a subsequent reduction in order rates and revenues as customers adjust their inventories to account for shorter lead times. Conversely, when circumstances create longer lead times customers may order in excess of what they need to ensure availability, then cancel orders if lead times are reduced. A rapid and sudden decline in customer demand for products or cancellation of orders can result in excess quantities of certain products relative to demand. Should this occur, our operating results may be adversely affected as a result of charges to reduce the carrying value of our inventory to the estimated demand level or market price. Our quarterly revenues are highly dependent upon turns fill orders (orders booked and shipped in the same quarter). The short-term and volatile nature of customer demand makes it extremely difficult to accurately predict near term revenues and profits.

Most of our authorized distributors, which collectively represent more than half of our net sales, can terminate their contract with us with little or no notice. The termination of a distributor could negatively impact our business, including net sales and accounts receivable.

In fiscal year 2020, authorized distributors accounted for approximately 72% of our net sales. We generally do not have long-term contracts with our distributors and most can terminate their agreement with us with little or no notice. For fiscal year 2020, our largest distributors were based in Asia.

The termination of any of our distributor relationships could impact our net sales and limit our access to certain end-customers. It could also result in the return of excess inventory of our product held by that distributor. Since many distributors simply resell finished products, they generally operate on very thin profit margins. If a distributor were to terminate an agreement with us or go out of business, our accounts receivable from the particular distributor would be subject to significant collection risk. Our reliance on distributors also subjects us to a number of additional risks, including:

- write-downs in inventories associated with stock rotation rights and increases in provisions for price adjustments granted to certain distributors;
- potential reduction or discontinuation of sales of our products by distributors;
- failure to devote resources necessary to sell our products at the prices, in the volumes and within the time frames that we expect;
- dependence upon the continued viability and financial resources of these distributors, some of which are small organizations with limited working capital and all of which depend on general economic conditions and conditions within the semiconductor industry;
- dependence on the timeliness and accuracy of shipment forecasts and resale reports from our distributors; and
- management of relationships with distributors, which can deteriorate as a result of conflicts with efforts to sell directly to our end customers.

If any significant distributor becomes unable or unwilling to promote and sell our products, or if we are not able to renew our contracts with the distributors on acceptable terms, we may not be able to find a replacement distributor on reasonable terms or at all and our business could be harmed.

Our inability to effectively control the sales of our products on the gray market could have a material adverse effect on us.

We market and sell our products directly to OEMs and through authorized third-party distributors. From time to time, it's possible our products could be diverted from our authorized distribution channels and customers may purchase products from the unauthorized "gray market." Gray market products result in shadow inventory that is not visible to us, thus making it difficult to forecast demand accurately. Also, when gray market products enter the market, we and our distribution channels compete with these discounted gray market products, which adversely affects demand for our products and negatively impacts our margins. In addition, our inability to control gray market activities could result in customer satisfaction issues because when products are purchased outside of our authorized distribution channels there is a risk that our customers are buying products that may have been altered, mishandled or damaged, or are used products represented as new.

Risks Relating to Governmental Regulations, including Taxes, Financial Reporting Rules and Regulations, and Environmental Regulations

Failure to maintain effective internal control over financial reporting or disclosure controls and procedures could have a material adverse effect on our business and stock price.

Section 404 of the Sarbanes-Oxley Act requires an annual management assessment of the effectiveness of internal controls over financial reporting and an annual report by our independent registered public accounting firm opining on our internal controls over financial reporting. For example, during the fourth quarter of fiscal year 2020, we identified and remediated a material weakness in our internal controls related to the evaluation of new or unusual transactions, which we remediated in the same period. Refer to Item 9A. "Controls and Procedures" for additional information related to our control environment. Management is similarly required to review disclosure controls, which are controls established to ensure that information required to be disclosed in SEC reports is recorded, processed, summarized and reported in a timely manner.

If we fail to maintain the adequacy of our internal controls, as such standards are modified, supplemented or amended from time to time, we may not be able to ensure that we can conclude on an ongoing basis that we have effective internal control over financial reporting. Moreover, effective internal controls are necessary for us to produce reliable financial reports and are important to help prevent fraud. As a result, any failure to satisfy the requirements of Section 404 on a timely basis could result in the loss of investor confidence in the reliability of our consolidated financial statements, which in turn could harm our business and negatively impact the trading price of our common stock.

We are subject to government regulations and other standards that impose operational and reporting requirements.

We, our suppliers, and our customers are subject to a variety of U.S. federal, foreign, state and local governmental laws, rules and regulations, including laws, rules and regulations governing data privacy protections for personal information, and corrupt practices/anti-bribery prohibitions, impact our business in terms of ongoing monitoring of compliance. Legislation and related regulations in the United Kingdom under that country's Bribery Act could have extra-territorial application of compliance standards that may be inconsistent with comparable U.S. law, requiring us to re-evaluate and amend our compliance programs, policies and initiatives. The General Data Protection Regulation ("GDPR") is a comprehensive update to the data protection regime in the European Economic Area that became effective as of May 25, 2018. In addition, the California Consumer Privacy Act ("CCPA"), which enhances privacy rights and consumer protection for residents of California, became effective as of January 1, 2020. The cost of compliance with the GDPR and the CCPA and the potential for fines and penalties in the event of a breach may have an adverse effect on our operations.

The SEC and The Nasdaq Stock Market LLC ("Nasdaq") have revised, and continue to revise, their regulations and listing standards. These developments have increased, and may continue to increase, our legal compliance and financial reporting costs. These developments also may make it more difficult and more expensive for us to obtain director and officer liability insurance, and we may be required to accept reduced coverage or incur substantially higher costs to obtain coverage. This, in turn, could make it more difficult for us to attract and retain qualified members of our Board of Directors, or qualified executive officers.

Failure to comply with present or future laws, rules and regulations of any kind that govern our business could result in suspension of all or a portion of production, cessation of all or a portion of operations, or the imposition of significant regulatory, administrative, civil, or criminal penalties or sanctions, any of which could harm our business.

Economic conditions and regulatory changes leading up to and following the United Kingdom's exit from the European Union could have a material adverse effect on our business and results of operations.

In June 2016, voters in the U.K. approved the country's exit from the European Union ("E.U."), and the U.K. government has commenced the legal process of leaving the E.U., typically referred to as Brexit. On January 31, 2020, the U.K. left the E.U., followed by an 11-month transition period by which to leave the single market and customs union. While the full effects of Brexit will not be known for some time, Brexit could cause disruptions to, and create uncertainty surrounding, our business and results of operations. The most immediate effect has been significant volatility in global equity and debt markets and currency

exchange rate fluctuations. Ongoing global market volatility and a deterioration in economic conditions due to uncertainty surrounding Brexit could significantly disrupt the markets in which we operate and lead our customers to closely monitor their costs and delay capital spending decisions.

The effects of Brexit will depend on any agreements the U.K. makes to retain access to E.U. markets. The measures could potentially disrupt the markets we serve and may cause us to lose customers and employees. In addition, Brexit could lead to legal uncertainty and potentially divergent national laws and regulations as the U.K. determines which E.U. laws to replace or replicate. Any of these effects of Brexit could materially adversely affect our business, results of operations and financial condition.

Our failure to comply with any applicable environmental regulations could result in a range of consequences, including fines, suspension of production, excess inventory, sales limitations, and criminal and civil liabilities.

We are subject to various state, federal and international laws and regulations governing the environment, including those restricting the presence of certain substances in electronic products and making producers of those products financially responsible for the collection, treatment, recycling and disposal of those products and those related to the use, storage, handling, discharge or disposal of certain toxic, volatile or otherwise hazardous chemicals and the incorporation of such substances into products available for sale. If we or our suppliers were to incur substantial additional expenses to acquire equipment or otherwise comply with environmental regulations, product costs could significantly increase, thus harming our business.

Although our management systems are designed to maintain compliance, we cannot assure you that we have been or will be at all times in complete compliance with such laws and regulations. If we violate or fail to comply with any of them, a range of consequences could result, including fines, import/export restrictions, sales limitations, criminal and civil liabilities or other sanctions. We could also be held liable for any and all consequences arising out of exposure to hazardous materials used, stored, released, disposed of by us or located at, under or emanating from our facilities or other environmental or natural resource damage. We have incurred, and may continue to incur, liabilities under various statutes for the cleanup of pollutants at locations we have operated and at third-party disposal and recycling sites we have used.

Environmental laws are complex, change frequently and have tended to become more stringent over time. For example, the European Union and China are two among a growing number of jurisdictions that have enacted in recent years restrictions on the use of lead, among other chemicals, in electronic products. These regulations affect semiconductor packaging. There is a risk that the cost, quality and manufacturing yields of lead-free products may be less favorable compared to lead-based products or that the transition to lead-free products may produce sudden changes in demand, which may result in excess inventory.

Future environmental legal requirements may become more stringent or costly and our compliance costs and potential liabilities arising from past and future releases of, or exposure to, hazardous substances may harm our business and our reputation.

Certain of our customers and suppliers require us to comply with their codes of conduct, which may include certain restrictions that may substantially increase our cost of doing business as well as have an adverse effect on our operating efficiencies, operating results and financial condition.

Certain of our customers and suppliers require us to agree to comply with their codes of conduct, which may include detailed provisions on labor, human rights, health and safety, environment, corporate ethics and management systems. Certain of these provisions are not requirements under the laws of the countries in which we operate and may be burdensome to comply with on a regular basis. Moreover, new provisions may be added or material changes may be made to any these codes of conduct, and we may have to promptly implement such new provisions or changes, which may substantially further increase the cost of our business, be burdensome to implement and adversely affect our operational efficiencies and operating results. If we violate any such codes of conduct, we may lose further business with the customer or supplier and, in addition, we may be subject to fines from the customer or supplier. While we believe that we are currently in compliance with our customers and suppliers' codes of conduct, there can be no assurance that, from time to time, if any one of our customers and suppliers audits our compliance with such code of conduct, we would be found to be in full compliance. A loss of business from these customers or suppliers could have a material adverse effect on our business, operating results and financial condition.

Our operating results could be adversely affected as a result of changes in our effective tax rates, the adoption of new U.S. or foreign tax legislation or exposure to additional tax liabilities, or by material differences between our forecasted annual effective tax rates and actual tax rates.

Our future effective tax rates could be affected by changes in the mix of earnings in countries with differing statutory tax rates, changes in the valuation of deferred tax assets and liabilities, or changes in applicable tax laws or their interpretation. We are also subject to the examination of our tax returns and other tax matters by the Internal Revenue Service of the U.S. ("IRS") and other tax authorities and governmental bodies. We regularly assess the likelihood of an adverse outcome resulting from these

examinations to determine the adequacy of our provision for taxes. There can be no assurance as to the outcome of these examinations. If our effective tax rates were to increase, particularly in the U.S., Canada or Switzerland, or if the ultimate determination of taxes owed is for an amount in excess of amounts previously accrued, our operating results, cash flows, and financial condition could be adversely affected. See the risk factor captioned "We may be subject to increased tax liabilities and an increased effective tax rate if we need to remit funds held by our foreign subsidiaries" above.

In October 2015, the Organization for Economic Co-operation and Development, an international association of 34 countries, including the U.S., released the final reports from its Base Erosion and Profit Shifting ("BEPS") Action Plans. The BEPS recommendations covered a number of issues, including country-by-country reporting, permanent establishment rules, transfer pricing rules and tax treaties. Although the BEPS recommendations are not themselves changes in tax law, this guidance has resulted in unilateral action by several member countries and is also prompting possible amendment of other countries' tax laws and regulations on a prospective and potentially retroactive basis. In October 2015, the European Commission concluded that certain member countries had granted unlawful rulings that artificially reduced tax burdens and has ordered the recovery of the unpaid taxes. Future tax law changes resulting from these developments may result in changes to long-standing tax principles, which could adversely affect our effective tax rate or result in higher cash tax liabilities.

Significant judgment is required in the calculation of our tax provision and the resulting tax liabilities as well as determination of our ability to realize our deferred tax assets. Our estimates of future taxable income and the regional mix of this income can change as new information becomes available. Any such changes in our estimates or assumptions can significantly impact our tax provision in a given period by, for example, requiring us to impair existing deferred tax assets. Such required changes could result in us having to restate our consolidated financial statements. Restatements are generally costly and could adversely impact our operating results or have a negative impact on the trading price of our common stock.

We may be subject to taxation and review of our compliance with income, value-added and other sales-type tax regulations in other jurisdictions which could negatively affect our operations.

As a global organization, we may be subject to a variety of transfer pricing or permanent establishment challenges by taxing authorities in various jurisdictions. If certain of our non-U.S. activities were treated as carrying on business as a permanent establishment and therefore, subject to income tax in such jurisdiction, our operating results could be materially adversely affected.

We are required to comply with rules regarding value-added taxes and other sales-type taxes in various jurisdictions. If these taxes are not properly collected and paid, our operating results could be materially adversely affected.

We have limited experience with government contracting, which entails differentiated business risks.

Although such contracts have not constituted a material portion of our revenue in the past, we may from time-to-time derive revenue from contracts and subcontracts with agencies of, or prime or secondary contractors to, the U.S. government, including U.S. military agencies. Consequently, we are subject to certain business risks that are particular to companies that contract with U.S. government agencies. These risks include the ability of the U.S. government or related contractors to unilaterally:

- terminate contracts at its convenience;
- terminate, modify or reduce the value of existing contracts, if there are budgetary constraints or needed changes;
- cancel multi-year contracts and related orders, if funds become unavailable;
- adjust contract costs and fees on the basis of audits performed by U.S. government agencies;
- control and potentially prohibit the export of our products;
- require that we continue to supply products despite the expiration of a contract under certain circumstances;
- require that we fill certain types of rated orders for the U.S. government prior to filling any orders for other customers; and
- suspend us from receiving new contracts pending resolution of any alleged violations of procurement laws or regulations.

In addition, because we may enter into defense industry contracts with respect to products that are sold both within and outside of the U.S., we are subject to the following additional risks in connection with government contracts:

- the need to bid on programs prior to completing the necessary design, which may result in unforeseen technological difficulties, delays and/or cost overruns;
- the difficulty in forecasting long-term costs and schedules and the potential obsolescence of products related to long-term fixed price contracts; and
- the need to transfer and obtain security clearances and export licenses, as appropriate.

Government investigations and inquiries from regulatory agencies could lead to enforcement actions, fines, restatement of our financial statements or other penalties and could result in litigation against us.

In the past, we have been subject to government investigations and inquiries from regulatory agencies such as the SEC and we have had to restate our historical financial statements in connection with such inquiry related to our historical stock option practices. We may be subject to government investigations and receive additional inquiries from regulatory agencies in the future, which may lead to enforcement actions, fines or other penalties.

In addition, litigation has often been brought against a company in connection with the announcement of a government investigation or inquiry from a regulatory agency. Such lawsuits could result in the diversion of management's time and attention away from business operations, which could harm our business. In addition, the costs of defense and any damages resulting from litigation, a ruling against us, or a settlement of the litigation could adversely affect our cash flow and financial results.

If such government investigations or inquiries result in a restatement of our financial statements, this could delay the filing of our subsequent SEC reports which, in turn, might result in the delisting of our common stock from Nasdaq for failure to meet continued listing requirements.

Risks Relating to our Business Strategies, Personnel and Other Operations

The loss of any of our key personnel or the failure to attract or retain specialized technical and management personnel could impair our ability to grow our business.

Our future success depends upon our ability to attract and retain highly qualified technical, marketing and managerial personnel. We are dependent on a relatively small group of key technical personnel with analog and mixed-signal expertise. Personnel with highly skilled managerial capabilities, and analog and mixed-signal design expertise, are scarce and competition for personnel with these skills is intense. There can be no assurance that we will be able to retain key employees or that we will be successful in attracting, integrating or retaining other highly qualified personnel in the future. If we are unable to retain the services of key employees or are unsuccessful in attracting new highly qualified employees, our business could be harmed.

We face risks associated with companies we have acquired in the past and may acquire in the future.

We have expanded our operations through strategic acquisitions, such as the acquisition of Sierra Monolithics, Inc in December 2009, Gennum Corporation in March 2012, select assets from EnVerv, Inc. in January 2015, Triune Systems, L.L.C. in March 2015, AptoVision in 2017, and ICI and TrackNet in 2018, and we may continue to expand and diversify our operations with additional acquisitions. Acquisitions may divert management attention and resources from other business objectives. Acquisitions have used and could use in the future a significant portion of our available liquid assets or we could incur debt or issue equity securities to fund acquisitions. Issuance of equity securities could be dilutive to existing stockholders. Debt financing could subject us to restrictive covenants that could have an adverse effect on our business. Although we undertake detailed reviews of proposed acquisition candidates and attempt to negotiate acquisition terms favorable to us, we may encounter difficulties or incur liabilities for which we have no recourse. We cannot provide any assurance that any acquisition will have a positive impact on our future performance.

If we are unsuccessful in integrating acquired companies into our operations or if integration is more difficult than anticipated, then we may not achieve anticipated cost savings or synergies and may experience disruptions that could harm our business. Some of the risks that may affect our ability to successfully integrate acquired companies include those associated with:

- conforming the acquired company's standards, processes, procedures and controls with our operations;
- coordinating new product and process development, especially with respect to highly complex technologies;
- assuring acquired products meet our quality standards;
- loss of key employees or customers of the acquired company;
- hiring additional management and other critical personnel;
- increasing the scope, geographic diversity and complexity of our operations;
- consolidation of facilities and functions;
- the geographic distance between the companies; and
- disparate corporate cultures.

Acquisitions could have a negative impact on our future earnings by way of poor performance by the acquired company or, if we later conclude we are unable to use or sell an acquired product or technology, we could be required to write down the related intangible assets and goodwill.

We may be required to recognize additional impairment charges in the future which could have an adverse effect on our financial condition and operating results.

We assess our goodwill, other intangible assets and our long-lived assets on an annual basis and whenever events or changes in circumstances indicate the carrying value of our assets may not be recoverable, and as and when required by accounting principles generally accepted in the U.S. ("GAAP") to determine whether they are impaired. During fiscal year 2020, we recorded \$1.2 million of non-cash impairment charges on certain of our investments. During fiscal year 2019, we recorded a non-cash impairment charge of \$30.0 million, which represented the entire carrying value of our investment in Multiply Ltd. ("Multiply"). Future restructuring or appraisal of our business impacting fair value of our assets or changes in estimates of our future cash flows could affect our impairment analysis in future periods and cause us to record either an additional expense for impairment of assets previously determined to be partially impaired or record an expense for impairment of other assets. Depending on future circumstances, we may never realize the full value of intangible assets. Any future determination or impairment of a significant portion of our goodwill and other intangibles could have an adverse effect on our financial condition and operating results.

We have investments in entities that we do not control. Losses in the value of such investments could have an adverse effect on our financial condition or operating results.

We have investments in entities that we do not control, including equity and cost method investments. Our interests in such entities do not provide us with control over the business strategy, financial goals, development roadmaps or other operational aspects of these entities. We cannot provide assurance that these entities will operate in a manner that will increase or maintain the value of our investment, that our proportionate share of income or loss from these investments will continue at the current level in the future or that we will not incur losses from the holding of such investments.

To the extent that we have any interest in an entity for which we are required to consolidate, we would need to rely on those entities to timely deliver important financial information to us. In the event that the financial information is inaccurate, incomplete, or not timely, we may not be able to meet our financial reporting obligations as required by the SEC.

To the extent we create such arrangements for which we would be required to consolidate and the financial statements of such entities are not prepared by us, we will not have direct control over their financial statement preparation. As a result, we will, for our financial reporting, depend on what these entities report to us, which could result in us adding monitoring and audit processes, which could increase the difficulty of implementing and maintaining adequate controls over our financial processes and reporting in the future. This may be particularly true when such entities do not have sophisticated financial accounting processes in place, or where we are entering into new relationships at a rapid pace, straining our integration capacity. Additionally, if we do not receive the information from the variable interest entity on a timely basis, this could cause delays in our external reporting obligations as required by the SEC.

Our ability to generate the significant amount of cash needed to service our debt obligations or to obtain additional financing depends on many factors beyond our control.

As of January 26, 2020, we had \$197.0 million of outstanding indebtedness under our senior secured first lien credit facility ("Credit Facility"), which provides for a maximum borrowing capacity of \$600.0 million.

Our ability to make payments on amounts borrowed under the Credit Facility, and to fund our operations, will depend on our ability to generate substantial operating cash flow. Our cash flow generation will depend on our future performance, which will be subject to prevailing economic conditions and to financial, business and other factors, many of which are beyond our control.

In addition, all of our \$197.0 million of debt outstanding under our Credit Facility as of January 26, 2020 bears interest at a floating rate that uses LIBOR as the applicable reference rate to calculate the interest. Our Credit Facility provides that, if it is publicly announced that the administrator of LIBOR has ceased or will cease to provide LIBOR, if it is publicly announced by the applicable regulatory supervisor that LIBOR is no longer representative or if either the administrative agent or lenders holding 50% of the aggregate principal amount of our revolving commitments and term loans elect, we and the administrative agent may amend our Credit Agreement (as defined below) to replace LIBOR with an alternate benchmark rate. This alternative benchmark rate may include a forward-looking term rate that is based on the secured overnight financing rate, also known as SOFR, published by the Federal Reserve Bank of New York.

Subsequent to the end of fiscal year 2020, we entered into an interest rate swap agreement to hedge the variability of interest payments on \$150.0 million of debt outstanding under our Credit Facility. The swap has a three-year term and based on our current leverage ratio, interest payments on \$150.0 million of our debt are now fixed at 1.9775%.

Uncertainty as to the nature of potential changes to LIBOR, benchmark replacement provisions, alternative reference rates or other reforms could adversely impact our interest expense on our floating rate debt that currently uses LIBOR as the applicable reference rate. In addition, any alternative reference rates to LIBOR may result in interest that does not correlate over time with

the payments that would have been made on our indebtedness if LIBOR was available in its current form. Further, the discontinuance or modification of LIBOR and uncertainty of an alternative reference rate may result in the increase in the cost of future indebtedness, which could have a material adverse effect on our financial condition, cash flow and results of operations.

Our business may not generate sufficient cash flow from operations and, if we cannot service our debt, we will have to take actions such as reducing or delaying capital investments, selling assets, or seeking additional equity capital. We may not be able to, if required, effect these actions on commercially reasonable terms, or at all. Because of these and other factors beyond our control, we may be unable to pay the interest on or other amounts in respect of our indebtedness.

Restrictive covenants in the Credit Agreement governing the Credit Facility may restrict our ability to pursue our business strategies.

The Credit Agreement contains a number of restrictive covenants that impose significant operating and financial restrictions on us and may limit our ability to engage in acts that may be in our long-term best interests. The Credit Agreement includes covenants restricting, among other things, our and our subsidiaries' ability to:

- incur or guarantee additional debt or issue certain preferred stock;
- pay dividends or make distributions on our capital stock or redeem, repurchase or retire our capital stock;
- make certain investments and acquisitions;
- create liens on our or our subsidiaries' assets;
- enter into transactions with affiliates;
- merge or consolidate with another person or sell or otherwise dispose of substantially all of our assets;
- make certain payments in respect of other material indebtedness;
- alter the business that we conduct; and
- make certain capital expenditures.

Under the Credit Agreement, we are required to maintain a consolidated leverage ratio and an interest expense coverage ratio. Our ability to meet such financial ratios can be affected by events beyond our control, and we cannot assure you that we will be able to meet such ratios. The Credit Agreement also contains various covenants and restrictions and a breach of any covenant or restriction could result in a default under our Credit Agreement. If any such default occurs, the lenders may elect (after the expiration of any applicable notice or grace periods) to declare all outstanding borrowings, together with accrued and unpaid interest and other amounts payable thereunder, to be immediately due and payable. Further, following an event of default under the Credit Facility, the lenders will have the right to proceed against the collateral granted to them to secure that debt. If the debt under the Credit Facility were to be accelerated, our assets may not be sufficient to repay in full that debt that may become due as a result of that acceleration.

We rely on certain critical information systems for the operation of our business and a disruption in our information systems, including those related to cybersecurity, could adversely affect our business operations.

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 may be owned by us or by our outsource providers or even third parties such as vendors and contractors and may be maintained by us or by such providers or third parties. 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, hard drives, 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 emergency recovery processes, to address the outlined risks; however, security procedures for information systems cannot be guaranteed to be failsafe and our inability to use or access these information systems at critical points in time could unfavorably impact 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, including potential theft of our intellectual property or trade secrets (including our proprietary technology) or the unauthorized release of customer, supplier or employee data and result in a violation of privacy or other laws, thus exposing us to litigation or damage to our reputation. To the extent that our business is interrupted or data or proprietary technology is lost, destroyed or inappropriately used or disclosed, such disruption could adversely affect our competitive position, relationship with customers, suppliers or employees or our business, financial condition and operating results. In addition, we may be required to incur significant costs to protect against or repair the damage caused by these disruptions or security breaches in the future.

The costs associated with our indemnification of certain customers, distributors, and other parties could be higher in future periods.

In the normal course of our business, we indemnify other parties, including customers, distributors, and lessors, with respect to certain matters. These obligations typically arise pursuant to contracts under which we agree to hold the other party harmless against losses arising from a breach of representations and covenants related to certain matters, such as acts or omissions of our employees, infringement of third-party intellectual property rights, and certain environmental matters. We have not incurred any significant expense as a result of agreements of this type in at least a decade, but there can be no assurances that we will not incur expense under these indemnification provisions in the future.

We have also entered into agreements with our current and former directors and certain of our current and former executives indemnifying them against certain liabilities incurred in connection with their duties. Our Certificate of Incorporation and Bylaws contain similar indemnification obligations with respect to our current and former directors and employees, as does the California Labor Code. We cannot estimate the amount of potential future payments, if any, that we might be required to make as a result of these agreements.

Our stock price could be subject to extreme price fluctuations, and stockholders could have difficulty trading shares.

Historically, the market for semiconductor companies has been volatile, and the market price of our common stock has been and may continue to be subject to significant fluctuations. Fluctuations could be in response to items such as operating results, announcements of technological innovations, or market conditions for semiconductor stocks in general. Additionally, the stock market in recent years has experienced extreme price and volume fluctuations that often have been unrelated to the operating performance of individual companies. These market fluctuations, as well as general economic conditions, may adversely affect the price of our common stock.

In addition, the future sale of a substantial number of shares of common stock by us or by our existing stockholders or option holders (including directors, officers, and employees, some of whom hold stock options that are approaching their expiration date) may have an adverse impact on the market price of the shares of common stock. There can be no assurance that the trading price of our common stock will remain at or near its current level.

If securities or industry analysts do not publish research or reports about our business, or if they adversely change their recommendations regarding our common stock or if our operating results do not meet their expectations, the trading price of our common stock could decline.

The market price of our common stock is influenced by the research and reports that industry or securities analysts publish about us or our business. There is no guarantee that these analysts will understand our business and results, or that their reports will be accurate or correctly predict our operating results or prospects. If one or more of these analysts cease coverage of our company or fail to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause the market price of our common stock or its trading volume to decline. Moreover, if one or more of the analysts who cover our company downgrade our common stock or if our operating results or prospects do not meet their expectations, the market price of our common shares could decline significantly.

Anti-takeover provisions in our Certificate of Incorporation and Bylaws could make an acquisition of us more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Certain provisions in our Certificate of Incorporation and Bylaws may delay or prevent an acquisition of us or a change in our management. These provisions include:

- the ability of our board of directors to determine the rights, preferences and privileges of our preferred shares and to issue the preferred shares without stockholder approval;
- advance notice requirements for election to our board of directors and for proposing matters that can be acted upon at stockholder meetings; and
- the inability of stockholders to call a special meeting.

These provisions could make it more difficult for a third party to acquire us, even if the third party's offer may be considered beneficial by many stockholders. As a result, stockholders may be limited in their ability to obtain a premium for their shares.

We are subject to litigation risks which may be costly to defend and the outcome of which is uncertain and could adversely affect our business and financial condition.

All industries, including the semiconductor industry, are subject to legal claims, with and without merit, which may divert the attention of our management and our resources in general. From time to time in the ordinary course of its business, the Company is involved in various claims, litigation, and other legal actions that are normal to the nature of its business, including with respect to IP, contract, product liability, employment, and environmental matters. We believe it is unlikely that the final outcome of these legal claims will have a material adverse effect on our financial condition, operating results or cash flows.

However, defense and settlement costs can be substantial, even with respect to claims that we believe have no merit. Due to the inherent uncertainty of the litigation process, the resolution of any particular legal claim or proceeding could adversely affect our business, operating results and financial condition.

From time to time, we have been, or may in the future be, involved in securities litigation or litigation arising from our acquisitions. We can provide no assurance as to the outcome of any such litigation matter in which we are a party. These types of matters are costly to defend and even if resolved in our favor, could have a material adverse effect on our business, financial condition, operating results and cash flow. Such litigation could also substantially divert the attention of our management and our resources in general. Uncertainties resulting from the initiation and continuation of securities or other litigation could harm our ability to obtain credit and financing for our operations and to compete in the marketplace. Because the price of our common stock has been, and may continue to be, volatile, we can provide no assurance that securities litigation will not be filed against us in the future. In addition, we can provide no assurance that our past or future acquisitions will not subject us to additional litigation.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our corporate headquarters is located in Camarillo, California where we own an approximately 88,000 square foot facility. The parcel on which our headquarters is located can accommodate substantial expansion. As of January 26, 2020, we owned or leased multiple properties. The locations and primary functions of significant properties are summarized in the following table:

<u>Locations</u>	<u>Square Feet</u>	Administration	Research and/or development	Manufacturing support	Sales and marketing	Application engineering	Test and assembly	Reliability testing	Leased
Camarillo, California	88,000	•	•	•	•	•	•	•	
Colorado Springs, Colorado	25,967	•	•	•	•	•	•		•
Colorado Springs, Colorado	51,588	•	•	•	•	•	•		
Irvine, California	20,072	•	•	•	•		•		•
San Jose, California	17,016	•	•	•	•	•			•
San Diego, California	18,189	•	•		•	•			•
Burlington, Ontario, Canada	68,000	•	•		•	•	•		
Neuchatel, Switzerland	37,275	•	•	•	•	•	•		•
Reynosa, Mexico	30,000	•	•	•			•	•	
Kanata, Ontario, Canada	27,888	•	•	•					•
Shenzhen, China	15,678	•		•	•				•
Bristol, United Kingdom	17,430	•	•		•		•		•
Bhubaneswar, India	12,316	•	•						•

In addition to the properties listed in the above table, we also lease Sales and Marketing, Research and Development, and Administrative offices at various locations in the U.S. and internationally under operating leases, none of which are material to our future cash flows. Our leases expire at various dates through 2027.

We believe that our existing leased and owned space is more than adequate for our current operations, and that suitable replacement and additional space will be available in the future on commercially reasonable terms as circumstances warrant.

Item 3. Legal Proceedings

The descriptions of the legal proceedings in Note 14 to the Consolidated Financial Statements are incorporated by reference into this Item 3.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

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

Market Information

Our common stock is traded on The Nasdaq Global Select Market under the symbol "SMTC."

Holders

As of March 18, 2020, we had 177 holders of record of our common stock.

Dividends

The payment of dividends on our common stock is within the discretion of our Board of Directors. Currently, we intend to retain earnings to finance the growth of our business. We did not pay cash dividends on our common stock during fiscal years 2020, 2019 or 2018, and our Board of Directors has not indicated an intent to declare a cash dividend on our common stock in the foreseeable future.

Issuer Purchases of Equity Securities

We maintain a stock repurchase program that was initially approved by our Board of Directors and announced by us in March 2008. The stock repurchase program does not have an expiration date and our Board of Directors has authorized expansion of the program over the years. During fiscal year 2020, we repurchased \$70.2 million of our common stock. As of January 26, 2020, we have repurchased \$337.8 million of our common stock under the program since its inception and the remaining authorization under our stock repurchase program was \$110.6 million. Under the program, we may repurchase our common stock at any time or from time to time, without prior notice, subject to market conditions and other considerations. Our repurchases may be made through Rule 10b5-1 and/or Rule 10b-18 or other trading plans, open market purchases, privately negotiated transactions, block purchases or other transactions. We intend to fund repurchases under the program from cash on hand. We have no obligation to repurchase any shares under the program and may suspend or discontinue it at any time.

Purchases by the Company of our common stock during the fourth quarter of fiscal year 2020 were as follows:

Fiscal Month/Year	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Program	Approximate Dollar Value of Shares That May Yet Be Purchased Under The Program
November 2019 (10/28/19-11/24/19)	—	\$ —	—	\$ 138.2 million
December 2019 (11/25/19-12/22/19)	296,110	\$ 48.84	296,110	\$ 123.7 million
January 2020 (12/23/19-01/26/20)	249,850	\$ 52.52	249,850	\$ 110.6 million
Total fourth quarter activity	<u>545,960</u>	<u>\$ 50.52</u>	<u>545,960</u>	

Securities Authorized for Issuance Under Equity Compensation Plans

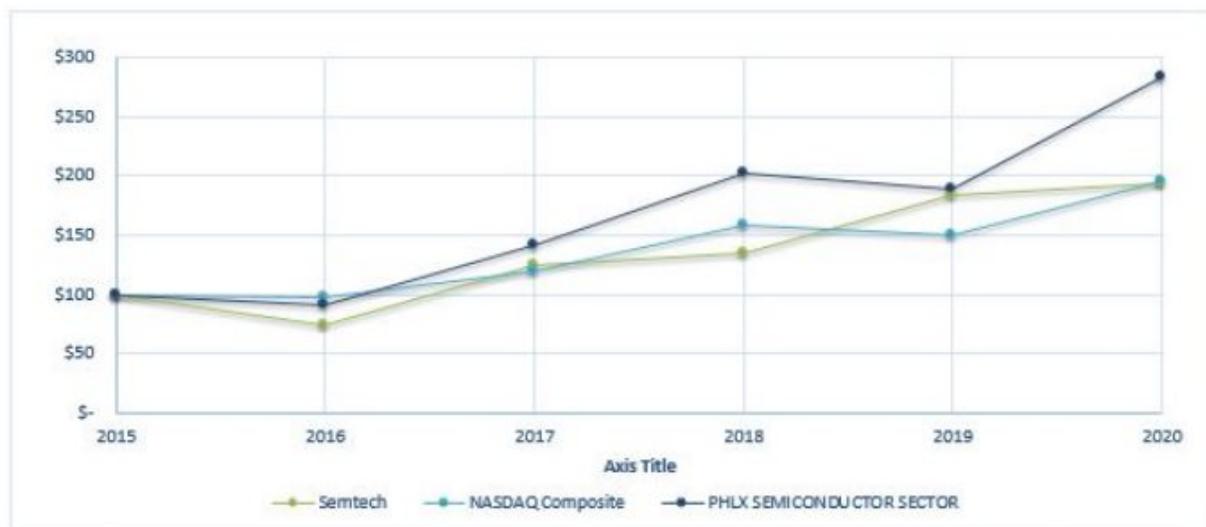
See the information set forth in Part III, Item 12 of this Annual Report on Form 10-K.

Sales of Unregistered Securities

We did not make any sales of unregistered securities during fiscal year 2020 that have not been previously reported.

Performance Graph

This chart and graph show the value of a \$100 cash investment on the last day of fiscal year 2015 in (i) the Company's common stock, (ii) the NASDAQ Composite Index, and (iii) the Philadelphia Semiconductor Index. Note that historic stock price performance is not necessarily indicative of future stock price performance.



Fiscal Year	2015	2016	2017	2018	2019	2020
Semtech	\$100	\$74	\$124	\$135	\$184	\$194
NASDAQ Composite	\$100	\$97	\$119	\$158	\$151	\$196
PHLX SEMICONDUCTOR SECTOR	\$100	\$90	\$141	\$203	\$188	\$283

The information contained in this Item 5 under the heading "Performance Graph" (i) is being furnished and shall not be deemed "filed" for the purposes of Section 18 of the Exchange Act, or otherwise subject to the liabilities of that section, and (ii) shall not be incorporated by reference into any registration statement or other document pursuant to the Exchange Act, or the Securities Act of 1933, as amended, except as shall be expressly set forth by specific reference in such filing to this Item 5 Performance Graph information.

Item 6. Selected Financial Data

The Consolidated Statements of Income data set forth below for fiscal years 2020, 2019 and 2018 and the Consolidated Balance Sheets data as of the end of fiscal years 2020 and 2019 are derived from, and qualified by reference to, the Consolidated Financial Statements included in Item 8 of this Annual Report on Form 10-K. The Consolidated Statements of Income data for fiscal years 2017 and 2016 and the Consolidated Balance Sheets data as of the end of fiscal years 2018, 2017 and 2016 are derived from the Consolidated Financial Statements previously filed with the SEC in Annual Reports on Form 10-K.

This information should be read in conjunction with Management's Discussion and Analysis of Financial Condition and Results of Operations contained in Item 7 of this Annual Report on Form 10-K, the Consolidated Financial Statements and accompanying notes, and the corresponding items included in our Annual Reports on Form 10-K for fiscal years 2019 and 2018. All fiscal years presented consisted of 52 weeks except for fiscal year 2016, which consisted of 53 weeks. Our past results are not necessarily indicative of our future performance.

Consolidated Income Statement Data

(in thousands, except per share data)	Fiscal Year Ended				
	January 26, 2020	January 27, 2019 (1)(2)	January 28, 2018 (1)(2)	January 29, 2017	January 31, 2016 (1)
Net sales	\$ 547,512	\$ 627,196	\$ 587,847	\$ 544,272	\$ 490,219
Cost of sales	210,828	250,174	235,876	219,410	197,109
Gross profit	336,684	377,022	351,971	324,862	293,110
Operating costs and expenses:					
Selling, general and administrative ⁽³⁾	163,106	145,246	148,146	138,708	140,677
Product development and engineering	107,368	109,047	105,070	102,500	113,737
Intangible amortization	16,546	26,649	27,867	25,301	25,059
Loss (gain) on disposition of business operations	—	—	375	(25,513)	—
Changes in the fair value of contingent earn-out obligations	(2,345)	(9,419)	3,892	(215)	(16,362)
Total operating costs and expenses	284,675	271,523	285,350	240,781	263,111
Operating income	52,009	105,499	66,621	84,081	29,999
Interest expense	(9,106)	(9,202)	(7,963)	(9,300)	(7,819)
Non-operating income (expense), net	2,893	3,823	3,348	(1,721)	(1,201)
Investment impairments	(1,211)	(30,000)	(4,250)	—	(600)
Income before taxes and equity in net gains (losses) of equity method investments	44,585	70,120	57,756	73,060	20,379
Provision for income taxes	12,828	355	22,853	18,399	8,882
Net income before equity in net gains (losses) of equity method investments	31,757	69,765	34,903	54,661	11,497
Equity in net gains (losses) of equity method investments	109	(126)	(254)	—	—
Net income	31,866	69,639	34,649	54,661	11,497
Net loss attributable to noncontrolling interest	(5)	—	—	—	—
Net income attributable to common stockholders	\$ 31,871	\$ 69,639	\$ 34,649	\$ 54,661	\$ 11,497
Earnings per share:					
Basic	\$ 0.48	\$ 1.06	\$ 0.52	\$ 0.84	\$ 0.18
Diluted	\$ 0.47	\$ 1.02	\$ 0.51	\$ 0.83	\$ 0.17
Weighted average number of shares used in computing earnings per share:					
Basic	66,263	65,982	66,027	65,427	65,657
Diluted	67,418	68,481	67,605	66,109	65,961
Anti-dilutive shares not included in the EPS calculations	120	553	402	1,111	2,569

Consolidated Balance Sheet Data

(in thousands)	January 26, 2020	January 27, 2019 (1)(2)	January 28, 2018 (1)(2)	January 29, 2017	January 31, 2016 (1)
Cash and cash equivalents	\$ 293,324	\$ 312,120	\$ 307,923	\$ 297,134	\$ 211,810
Working capital	362,095	355,390	335,024	315,453	237,334
Total assets	1,052,433	1,062,780	1,086,114	1,011,542	911,517
Long term debt, less current portion	194,743	192,845	211,114	226,524	239,177
Non-current liabilities	276,592	250,286	294,555	283,304	279,579
Total stockholders' equity	676,954	682,580	665,351	605,263	528,051

⁽¹⁾ We acquired Trackio International AG on December 11, 2018, IC Interconnect, Inc. on May 2, 2018 and AptoVision Technologies Inc. on July 1, 2017. For more information on acquisitions, see Note 3 to the Consolidated Financial Statements. We also acquired Triune Systems, L.L.C. on March 4, 2015.

⁽²⁾ During the fourth quarter of fiscal year 2020, management identified certain immaterial errors related to share-based compensation expense of market-based awards granted during fiscal years 2018, 2019 and 2020. We concluded that the impact of the errors was not material and have corrected our consolidated financial statements and all other financial information presented in this Annual Report on Form 10-K for these errors. See Note 20 to our consolidated financial statements for more information on the impact of the corrections on our consolidated financial statements.

⁽³⁾ We have realigned resources and infrastructure, resulting in restructuring expense of \$2.2 million, \$0.7 million, \$6.3 million, \$2.3 million and \$4.5 million in fiscal years 2020, 2019, 2018, 2017 and 2016, respectively, included in selling, general and administrative.

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

The following discussion and analysis of our financial condition and operating results should be read in conjunction with Item 6 "Selected Consolidated Financial Data" and our Consolidated Financial Statements and related Notes included in Item 8 of this Annual Report on Form 10-K. See also "Special Note Regarding Forward Looking and Cautionary Statements" at the beginning of this Annual Report on Form 10-K. Certain prior period amounts have been corrected as discussed in Note 20 to the Consolidated Financial Statements included in Item 8 of this Annual Report on Form 10-K.

Overview

We are a leading global supplier of high-performance analog and mixed-signal semiconductors and advanced algorithms and were incorporated in Delaware in 1960. We design, develop, manufacture, and market a broad range of products that are sold principally into applications within the enterprise computing, communications, high-end consumer, and industrial end markets. Enterprise computing end markets include data center related equipment, passive optical networks, storage networks, desktops, notebooks, servers, printers, monitors, and computer peripherals. Communications end-market applications include wireless base stations, long-haul optical networks, carrier networks, switches and routers, cable modems, backplane signal conditioners, wireless LAN, and other communication infrastructure equipment. The high-end consumer end market includes handheld devices, smartphones, tablets, wireless charging, set-top boxes, digital televisions, digital video recorders, thunderbolt cables and other consumer equipment. Applications for the industrial market include analog and digital video broadcast studio equipment, video-over-IP solutions, automated meter reading, smart grid, wireless charging, military and aerospace, medical, security systems, automotive, IoT, industrial and home automation, and other industrial equipment. Our end customers are primarily OEMs and their suppliers.

We report results on the basis of 52 and 53 week periods and our fiscal year ends on the last Sunday in January. The fiscal years ended January 26, 2020, January 27, 2019, and January 28, 2018, each consisted of 52 weeks. We operate and account for our results in one reportable segment. See Note 16 to the Consolidated Financial Statements for segment information.

Recent Acquisitions

On December 11, 2018, we, through our subsidiary Semtech (International) AG, a Swiss corporation, completed our acquisition of all of the outstanding equity interests of TrackNet, for an aggregate purchase price of approximately \$8.5 million. TrackNet is a provider of LoRa-based end-to-end solutions for the IoT and provides expertise and intellectual property that will be integrated into our business to support our goal of enabling the growing ecosystem around our LoRa® devices and wireless radio frequency technology. \$4.3 million of the purchase price was attributed to goodwill and \$3.0 million and \$0.3 million of the purchase price was attributed to the estimated fair values of the intangible and tangible net assets acquired, respectively. The goodwill is not deductible for tax purposes. The transaction was accounted for as a business combination. Net sales, earnings and pro forma results of operations have not been presented because they are not material to our consolidated financial statements. For more information, refer to Note 8 to the Consolidated Financial Statements.

On May 2, 2018, we acquired substantially all of the assets of ICI for an aggregate purchase price of approximately \$7.4 million. The addition of ICI is aimed at further enhancing our U.S. research and development capabilities for our next-generation Z-Pak™ platform. \$4.9 million of the purchase price was attributed to goodwill and \$2.5 million of the purchase price was attributed to the estimated fair values of the tangible net assets acquired. The goodwill is deductible for tax purposes. The transaction was accounted for as a business combination. Net sales, earnings and pro forma results of operations have not been presented because they are not material to our consolidated financial statements. For more information, refer to Note 8 to the Consolidated Financial Statements.

On July 1, 2017, we acquired AptoVision, a privately-held provider of uncompressed, zero-frame latency, video-over-IP solutions addressing the professional audio visual market. The unique combination of AptoVision's advanced algorithms for real-time, full bandwidth video transmission over IP networks, and our industry leading high-speed signal integrity and chip development expertise is expected to enable the adoption of SDVoE accelerating this natural progression in the evolution of video transport. Under the terms of the share purchase agreement with AptoVision, we acquired all of the outstanding equity interest in AptoVision for a cash payment of \$17.6 million at closing, net of acquired cash, and a commitment to pay additional contingent consideration (the "AptoVision Earn-out") of up to a maximum of \$47.0 million over three years if certain goals are achieved in each of the earn-out periods. To date, we have made \$9.4 million in payments related to the AptoVision Earn-out, and based on our assessment of performance, we do not expect to make any future payments. Acquisition-related transaction costs of \$1.6 million were accounted for as an expense in the period in which the costs were incurred and were presented in "Selling, general and administrative" ("SG&A") expense in the Consolidated Statements of Income.

See Note 3 and Note 14 to the Consolidated Financial Statements for additional information on our acquisitions and contingent consideration.

Factors Affecting Our Performance

Most of our sales to customers are made on the basis of individual customer purchase orders. Many customers include cancellation provisions in their purchase orders. Trends within the industry toward shorter lead-times and "just-in-time" deliveries have resulted in our reduced ability to predict future shipments. As a result, we rely on orders received and shipped within the same quarter for a significant portion of our sales. Sales made directly to customers during fiscal years 2020, 2019 and 2018 were approximately 28%, 32% and 34% of net sales, respectively. The remaining 72%, 68% and 66% of net sales, respectively, were made through independent distributors.

Our business relies on foreign-based entities. Most of our outside subcontractors and suppliers, including third-party foundries that supply silicon wafers, are located in foreign countries, including China, Israel and South Korea. In fiscal years 2020, 2019 and 2018, 24%, 16% and 20%, respectively, of our silicon in terms of cost of wafers was supplied by a third-party foundry in China, and 11%, 11% and 14%, respectively, of our silicon in terms of cost of wafers was supplied by a third-party foundry in Israel. These percentages could be higher in future periods. Foreign sales for fiscal years 2020, 2019 and 2018 constituted approximately 91%, 89% and 91%, respectively, of our net sales. Approximately 77%, 76% and 75% of net sales in fiscal years 2020, 2019 and 2018, respectively, were to customers located in the Asia-Pacific region. The remaining foreign sales were primarily to customers in Europe, Canada and Mexico.

We use several metrics as indicators of future potential growth. The indicators that we believe best correlate to potential future sales growth are design wins and new product releases. There are many factors that may cause a design win or new product release to not result in sales, including a customer decision not to go to system production, a change in a customer's perspective regarding a product's value or a customer's product failing in the end market. As a result, although a design win or new product introduction is an important step towards generating future sales, it does not inevitably result in us being awarded business or receiving a purchase commitment.

Inflationary factors have not had a significant effect on our performance over the past several years. A significant increase in inflation would affect our future performance if we were unable to pass these higher costs on to our customers. We are continuing to monitor the near term geopolitical uncertainty and the recent export restrictions on shipments to Huawei Technologies Co., Ltd. ("Huawei") and certain of its affiliates, as well as the recent novel coronavirus outbreak. The following discussion reflects our current assessment of the near term impact of this uncertainty.

Revenue

We derive our revenue primarily from the sale of semiconductor products into various end markets. Revenue is recognized when control of these products is transferred to our customers, in an amount that reflects the consideration we expect to be entitled to in exchange for these products. Control is generally transferred when products are shipped and, to a lesser extent, when the products are delivered. Recovery of costs associated with product design and engineering services are recognized during the period in which services are performed and are reported as a reduction to product development and engineering expense. Historically, these recoveries have not exceeded the cost of the related development efforts. We include revenue related to granted technology licenses as part of "Net sales" in the Statements of Income. Historically, revenue from these arrangements has not been significant though it is part of our recurring ordinary business.

We determine revenue recognition through the following five steps:

- Identification of the contract, or contracts, with a customer
- Identification of the performance obligations in the contract
- Determination of the transaction price
- Allocation of the transaction price to the performance obligations in the contract
- Recognition of revenue when, or as, performance obligations are satisfied

We account for a contract when it has approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectability of consideration is probable.

Our revenue contracts generally represent a single performance obligation to sell our products to trade customers. Net sales reflect the transaction prices for contracts, which include units shipped at selling prices reduced by variable consideration. Determination of variable consideration requires judgment by us. Variable consideration includes expected sales returns and other price adjustments. Variable consideration is estimated using the expected value method considering all reasonably available information, including our historical experience and our current expectations, and is reflected in the transaction price when sales are recorded. Sales returns are generally accepted at our discretion or from distributors with such rights. Our contracts with trade customers do not have significant financing components or non-cash consideration. We record net sales excluding taxes collected on our sales to our trade customers.

We provide an assurance type warranty, which is typically not sold separately and does not represent a separate performance obligation. Our payment terms are generally aligned with shipping terms.

On October 5, 2016, we issued a Warrant to Comcast to purchase up to 1,086,957 Warrant Shares. The cost of the Warrant Shares is recognized as an offset to net sales. On April 27, 2018, we accelerated the vesting of the remaining 586,956 unvested shares from the Warrant ("Acceleration Event"), resulting in the full recognition of the previously unrecognized costs. For the fiscal year ended January 27, 2019, the net sales offset reflects the cost associated with the Warrant Shares of \$21.5 million, including \$15.9 million related to the Acceleration Event. As of January 27, 2019, the Warrant was fully vested and exercisable for a total of 869,565 shares, with no additional costs to be recognized in future periods. The Warrant was fully exercised and no longer outstanding as of March 15, 2019.

Gross Profit

Gross profit is equal to our net sales less our cost of sales. Our cost of sales includes materials, depreciation on fixed assets used in the manufacturing process, shipping costs, direct labor and overhead. We determine the cost of inventory by the first-in, first-out method.

Operating Costs

Our operating costs and expenses generally consist of selling, general and administrative, product development and engineering costs, costs associated with acquisitions, restructuring charges, and other operating related charges.

Results of Operations

Fiscal Year 2020 Compared with Fiscal Year 2019

All periods presented in the following summary of sales by major end market reflect our current classification methodology:

(in thousands, except percentages)	Fiscal Years				
	2020		2019		Change
	Net Sales	% Net Sales	Net Sales	% Net Sales	
Enterprise Computing	\$ 161,200	29%	\$ 203,692	32 %	(21)%
Industrial	179,182	33%	201,832	32 %	(11)%
High-End Consumer	151,132	28%	169,822	27 %	(11)%
Communications	55,998	10%	73,351	12 %	(24)%
Other: Warrant Shares	—	—%	(21,501)	(3)%	(100)%
Total	\$ 547,512	100%	\$ 627,196	100 %	(13)%

Net Sales. Net sales for fiscal year 2020 were \$547.5 million, a decrease of 13% compared to \$627.2 million for fiscal year 2019. During fiscal year 2020, we experienced weakness in China-based demand across all of our end markets, primarily due to geopolitical headwinds driven by Huawei export restrictions and tariffs imposed by the U.S. government. The most heavily impacted areas were the communications end market, which also reflects slower conversion from 4G to 5G, and the enterprise computing end market, which experienced lower PON demand. The industrial end market decline reflects lower revenue from North America and Europe as channel inventory was managed down in a more cautious global environment. The high-end consumer end market experienced lower demand from China and Korea-based smartphone manufacturers and softer demand for our proximity sensing products. Additionally, fiscal year 2019 reflects a \$21.5 million adverse impact from Comcast warrant shares expense, partially offset by a \$9.8 million benefit from the adoption of ASC 606.

As we enter fiscal year 2021, the broader macro concerns and soft demand from China is expected to persist in the near-term. Based on booking trends and backlog entering the quarter, we estimate net sales for the first quarter of fiscal year 2021 to be between \$125.0 million to \$135.0 million.

Gross Profit. Gross profit was \$336.7 million and \$377.0 million in fiscal years 2020 and 2019, respectively. Our gross margin was 61.5% in fiscal year 2020, compared to 60.1% in fiscal year 2019. Fiscal year 2020 performance benefited from the absence of the Comcast Warrant Shares revenue reduction.

We expect overall gross margins for the first quarter of fiscal year 2021 to remain consistent with our fiscal year 2020 performance.

Operating Costs and Expenses.

(in thousands, except percentages)

	Fiscal Years				Change
	2020		2019		
	Cost/Exp.	% Net Sales	Cost/Exp.	% Net Sales	
Selling, general and administrative	\$ 163,106	30 %	\$ 145,246	23 %	12 %
Product development and engineering	107,368	20 %	109,047	18 %	(2)%
Intangible amortization	16,546	3 %	26,649	4 %	(38)%
Changes in the fair value of contingent earn-out obligations	(2,345)	(1)%	(9,419)	(2)%	(75)%
Total operating costs and expenses	\$ 284,675	52 %	\$ 271,523	43 %	5 %

Selling, General & Administrative Expense

SG&A expense for fiscal year 2020 increased by \$17.9 million primarily driven by a reduction in legal recoveries related to the settlement of the lawsuit we filed against HiLight Semiconductor Limited and related individual defendants ("HiLight Settlement"). The Company received a \$1.0 million benefit related to this legal recovery in fiscal year 2020, compared to an \$8.0 million benefit in fiscal year 2019. In addition, staffing-related costs, including share based compensation expense, increased from the prior year.

Product Development and Engineering Expenses

Product development and engineering expenses for fiscal years 2020 and 2019 were \$107.4 million and \$109.0 million, respectively, or a decrease of 2%. This decrease was primarily a result of the timing of development activities.

The levels of product development and engineering expenses reported in a fiscal period can be significantly impacted, and therefore experience period-over-period volatility, by the number of new product tape-outs and by the timing of recoveries from non-recurring engineering services, which are typically recorded as a reduction to product development and engineering expense.

Intangible Amortization

Intangible amortization was \$16.5 million and \$26.6 million in fiscal years 2020 and 2019, respectively. This decrease was primarily due to certain finite-lived intangible assets associated with the acquisition of Gennum Corporation that had become fully amortized during fiscal year 2020.

Changes in the Fair Value of Contingent Earn-out Obligations

The \$7.1 million change in the fair value of contingent earn-out obligations in fiscal year 2020 compared to fiscal year 2019 reflects the impact of changes in the estimated probability of achievement of AptoVision and Cycleo earn-out targets. We measure contingent earn-out liabilities at fair value on a recurring basis using significant unobservable inputs classified within Level 3 of the fair value hierarchy. The significant unobservable inputs used in the fair value measurements are revenue projections over the earn-out period, and the probability outcome percentages assigned to each scenario. Significant increases or decreases to either of these inputs in isolation would result in a significantly higher or lower liability, with a higher liability capped by the contractual maximum of the contingent earn-out obligation. Ultimately, the liability will be equivalent to the amount paid, and the difference between the fair value estimate and amount paid will be recorded in earnings.

Interest Expense

Interest expense was \$9.1 million and \$9.2 million for fiscal years 2020 and 2019, respectively. The \$0.1 million decrease was primarily related to lower interest rates. The new Credit Agreement (as defined below) provides for more favorable interest rate margins, the benefit of which is mostly offset by higher non-use fees on the increase in capacity from \$400 million to \$600 million.

Investment Impairments

In fiscal year 2020, we had a \$0.5 million write-down of a cost method investment and a \$0.7 million write-down of a convertible debt investment. In fiscal year 2019, we reduced our expectation of Multiplay's future operating performance and we concluded that the competitive landscape had evolved and that product release and broad market adoption of 400G PAM4 digital signal processing ("DSP") technology was delayed. As a result of these indicators of impairment, we tested the Multiplay investment for an other-than-temporary impairment using a discounted cash flow model. The results of its analysis indicated that the investment was other than temporarily impaired by \$30.0 million, representing the entire carrying value of the investment.

Provision for Income Taxes

The provision for income taxes was \$12.8 million for fiscal year 2020 compared to a provision for income taxes of \$0.4 million

for fiscal year 2019. The effective tax rates for fiscal years 2020 and 2019 were a tax provision rate of 28.7% and a tax provision rate of 0.5%, respectively. The increase in our effective tax rate in fiscal year 2020 was primarily driven by tax related to a gain associated with an intra-entity asset transfer and the impact of finalized regulations on the U.S. transition tax. Our effective tax rate for fiscal year 2020 differs from the statutory federal income tax rate of 21% primarily due to our regional mix of income, the impact of finalized regulations on the U.S. transition tax and a gain associated with the intra-entity asset transfer.

We receive a tax benefit from a tax holiday that was granted in Switzerland. The tax holiday commenced on January 30, 2017, and is effective for five years (the "Initial Term") and can be extended for an additional five years, subject to meeting certain staffing targets. The ability to meet the requirements to extend the ruling is within our control and we do not anticipate any issues meeting the established targets. The maximum benefit under this tax holiday is CHF 500.0 million of cumulative after tax profit, which equates to a maximum potential tax savings of CHF 44.0 million. Depending on the operational performance of our Swiss operations, it is possible that we could utilize the maximum benefit during the Initial Term. Once the term of the tax holiday expires or we achieve the maximum benefit, our effective tax rate could be negatively impacted if we are unable to negotiate an extension or expansion of the tax holiday. The Swiss Tax Reform that was enacted during fiscal year 2020 reduces the Swiss Cantonal tax rate, which further increases the benefit of our Tax Holiday.

As a global organization, we are subject to audit by taxing authorities in various jurisdictions. To the extent that an audit, or the closure of a statute of limitations results in adjusting our reserves for uncertain tax positions, our effective tax rate could experience extreme volatility since any adjustment would be recorded as a discrete item in the period of adjustment.

For further information on the effective tax rate and Tax Act's impact, see Note 12 to the Consolidated Financial Statements.

Fiscal Year 2019 Compared with Fiscal Year 2018

All periods presented in the following summary of sales by major end-market reflect our current classification methodology:

(in thousands, except percentages)	Fiscal Years				
	2019		2018		Change
	Net Sales	% Net Sales	Net Sales	% Net Sales	
Enterprise Computing	\$ 203,692	32 %	\$ 194,645	33 %	5 %
Industrial	201,832	32 %	167,891	29 %	20 %
High-End Consumer	169,822	27 %	171,885	29 %	(1)%
Communications	73,351	12 %	69,645	12 %	5 %
Other: Warrant Shares	(21,501)	(3)%	(16,219)	(3)%	33 %
Total	\$ 627,196	100 %	\$ 587,847	100 %	7 %

Net Sales. Net sales for fiscal year 2019 were \$627.2 million, an increase of 7% compared to \$587.8 million for fiscal year 2018. During fiscal year 2019, our industrial end-market growth benefited from growing demand for our LoRa Technology, which is increasingly becoming the defacto standard for LPWANs. Growth in our Enterprise Computing products benefited from continued data center build outs by cloud and hyper-scale data center customers and on-going demand for our PON solutions. Additionally, fiscal year 2019 reflects a \$9.8 million benefit from the adoption of ASC 606.

Gross Profit. Gross profit was \$377.0 million and \$352.0 million in fiscal years 2019 and 2018, respectively. Our gross margin was 60.1% for fiscal year 2019, compared to 59.9% for fiscal year 2018. Fiscal year 2019 performance benefited from a more favorable mix of products from the industrial end market, which have a higher gross profit profile.

Operating Costs and Expenses.

(in thousands, except percentages)	Fiscal Years				
	2019		2018		Change
	Cost/Exp.	% Net Sales	Cost/Exp.	% Net Sales	
Selling, general and administrative	\$ 145,246	23 %	\$ 148,146	25%	(2)%
Product development and engineering	109,047	18 %	105,070	18%	4 %
Intangible amortization	26,649	4 %	27,867	5%	(4)%
Loss on disposition of business operations	—	— %	375	—%	(100)%
Changes in the fair value of contingent earn-out obligations	(9,419)	(2)%	3,892	1%	(342)%
Total operating costs and expenses	\$ 271,523	43 %	\$ 285,350	49%	(5)%

Selling, General & Administrative Expenses

SG&A expenses for fiscal year 2019 decreased by \$2.9 million compared to fiscal year 2018 as a result of an \$8.0 million legal recovery from the HiLight Settlement and lower restructuring expenses, partially offset by an increase in share-based compensation. The higher levels of share-based compensation expense in fiscal year 2019 compared to fiscal year 2018 primarily resulted from higher levels of performance achievement for awards with performance-based vesting conditions, additional expense associated with the modification of certain awards, and the impact of increases in our stock price, and the related fair value re-measurement, of awards accounted for as a liability rather than equity.

Product Development and Engineering Expenses

Product development and engineering expenses for fiscal years 2019 and 2018 were \$109.0 million and \$105.1 million, respectively, or an increase of 4%. The increase was primarily a result of higher variable compensation expense and the timing of development activities.

Intangible Amortization

Intangible amortization was \$26.6 million and \$27.9 million in fiscal years 2019 and 2018, respectively. The decrease is related to certain finite-lived intangible assets associated with the acquisitions of Gennum Corporation and Cycleo SAS ("Cycleo") that had become fully amortized during fiscal year 2019.

Changes in the Fair Value of Contingent Earn-out Obligations

The \$13.3 million change in the fair value of contingent earn-out obligations in fiscal year 2019 compared to fiscal year 2018 reflects the impact of changes in the estimated probability of achievement of AptoVision Earn-out targets.

Interest Expense

Interest expense was \$9.2 million and \$8.0 million for fiscal years 2019 and 2018, respectively. The \$1.2 million increase is primarily related to higher interest rates, partially offset by an improvement in our consolidated leverage ratio.

Interest on loans made under the Credit Agreement (as defined below) accrues at a rate based in part on our consolidated leverage ratio, which is the ratio of our indebtedness to adjusted earnings before interest, taxes, depreciation and amortization, on a consolidated basis. As our sales performance improved, we ended fiscal year 2018 with a consolidated leverage ratio of approximately 1.20. At the end of fiscal year 2019, our consolidated leverage ratio was 1.02 as we continued to benefit from increasing sales and lower debt levels. The impact of the benefit of improvements to our consolidated leverage ratio on our total interest costs was more than offset by increases in the 30-day LIBOR rate.

Investment Impairments

In fiscal year 2019, we fully impaired our investment in Multiply resulting in a \$30.0 million charge, compared to a \$4.3 million impairment on a cost method investment in fiscal year 2018.

Provision for Income Taxes

The provision for income taxes was \$0.4 million for fiscal year 2019 compared to a provision of \$22.9 million for fiscal year 2018. The effective tax rates for fiscal years 2019 and 2018 were a tax provision rate of 0.5% and a tax provision rate of 39.7%, respectively. The decrease in our effective tax rate in fiscal year 2019 was primarily driven by a partial release of the valuation allowance that was previously recorded against U.S. deferred tax assets. Specifically, due to the impact of the Tax Act, and based on the weight of all available evidence, we concluded that it was more likely than not that we will be able to utilize the benefit of certain U.S. deferred tax assets. Our effective tax rate for fiscal year 2019 differs from the statutory federal income tax rate of 21% primarily due to our regional mix of income and a partial release of the valuation allowance that was previously recorded against our U.S. deferred tax assets.

Liquidity and Capital Resources

Our capital requirements depend on a variety of factors, including but not limited to, the rate of increase or decrease in our existing business base; the success, timing and amount of investment required to bring new products to market; revenue growth or decline; and potential acquisitions. We believe that we have the financial resources necessary to meet business requirements for the next 12 months, including funds needed for working capital requirements.

As of January 26, 2020, our total stockholders' equity was \$677.0 million. At that date, we also had \$293.3 million in cash and cash equivalents and \$197.0 million of outstanding borrowings on our Credit Facility, which had \$403.0 million of undrawn capacity.

We incur significant expenditures in order to fund the development, design, and manufacture of new products. We intend to continue to focus on those areas that have shown potential for viable and profitable market opportunities, which may require

additional investment in equipment and the hiring of additional design and application engineers aimed at developing new products. Certain of these expenditures, particularly the addition of design engineers, do not generate significant payback in the short-term. We plan to finance these expenditures with cash generated by our operations and our existing cash balances.

A meaningful portion of our capital resources, and the liquidity they represent, are held by our foreign subsidiaries. As of January 26, 2020, our foreign subsidiaries held approximately \$261.9 million of cash and cash equivalents, compared to \$253.1 million at January 27, 2019. In connection with the enactment of the Tax Act, all historic and current foreign earnings are taxed in the U.S. and are subject to a 5% withholding tax, if repatriated. We have determined that we will repatriate back to the U.S. approximately \$240.0 million of foreign earnings, of which \$156.1 million has been repatriated since fiscal year 2019. As of January 26, 2020, our foreign subsidiaries had \$547.9 million of unremitted earnings for which no taxes have been provided. Those historical earnings have been and are expected to continue to be permanently reinvested.

Cash Flows

One of our primary goals is to improve the cash flows from our existing business activities. Additionally, we will continue to seek to maintain or improve our existing business performance and deploy our accumulated cash balances in the most effective manner through alternatives such as capital expenditures, and potentially, acquisitions and other investments that support achievement of our business strategies. Acquisitions may be made for either cash or stock consideration, or a combination of both.

In summary, our cash flows for each period were as follows:

(in thousands)	Fiscal Years		
	2020	2019	2018
Net cash provided by operating activities	\$ 118,616	\$ 183,563	\$ 111,485
Net cash used in investing activities	(34,334)	(36,218)	(65,856)
Net cash used in financing activities	(103,078)	(143,148)	(34,840)
Net (decrease) increase in cash and cash equivalents	\$ (18,796)	\$ 4,197	\$ 10,789

Operating Activities

Net cash provided by operating activities is due to net income, adjusted for non-cash items, and fluctuations in operating assets and liabilities.

Operating cash flows for fiscal year 2020 were favorably impacted by \$1.0 million of proceeds received from the HiLight Settlement and unfavorably impacted by a \$9.3 million increase in net inventory. Operating cash flows for fiscal year 2019 were favorably impacted by \$8.0 million of proceeds received from the HiLight Settlement.

Investing Activities

Net cash used in investing activities is primarily attributable to capital expenditures and purchases of investments, net of proceeds from sales of property, plant and equipment and proceeds from sales of investments. Investing activities are also impacted by acquisitions, net of any cash received.

Capital expenditures were \$23.1 million, \$17.1 million and \$35.5 million in fiscal years 2020, 2019 and 2018, respectively.

In fiscal year 2020, we made significant investments to update and expand our production capabilities, including the \$4.0 million purchase of a manufacturing facility in Colorado.

In fiscal years 2020, 2019 and 2018, we paid \$11.6 million, \$9.3 million and \$18.7 million, respectively, for strategic investments, including investments in companies that are enabling the LoRa®- and LoRaWAN™-based ecosystem.

On August 17, 2018, we acquired all of the outstanding equity interests of TrackNet for an aggregate purchase price of approximately \$8.5 million. On May 2, 2018, we acquired substantially all of the assets of ICI for approximately \$7.4 million. We funded these purchases using cash on hand. On July 1, 2017, we acquired AptoVision for an upfront cash payment of \$17.6 million at closing, net of acquired cash, and a commitment to pay additional contingent consideration of up to a maximum of \$47.0 million over three years if certain goals are achieved in each of the earn-out periods. Based on our current assessment of performance, we do not expect to make any future payments related to the AptoVision Earn-out.

Financing Activities

Net cash used in financing activities is primarily attributable to repurchases of our common stock, payments related to employee share-based compensation payroll taxes and principal payments related to our long-term debt, offset by proceeds from stock option exercises and borrowings under our Credit Agreement (as defined below).

In fiscal year 2019, we settled the AptoVision earn-out for the performance period ended July 29, 2018. Of the total earn-out distribution for this performance period, \$8.5 million was attributable to the original acquisition fair value and, therefore, presented as a financing activity.

In fiscal year 2020, we paid \$21.5 million for employee share-based compensation payroll taxes and received \$6.0 million in proceeds from the exercise of stock options, compared to payments of \$18.5 million for employee share-based compensation payroll taxes and proceeds of \$16.3 million from the exercise of stock options in fiscal year 2019 and payments of \$11.7 million for employee share-based compensation payroll taxes and proceeds of \$6.7 million from the exercise of stock options in fiscal year 2018. We do not directly control the timing of the exercise of stock options. Such exercises are independent decisions made by grantees and are influenced most directly by the stock price and the expiration dates of stock option awards. Such proceeds are difficult to forecast, resulting from several factors which are outside our control. We believe that such proceeds will remain a nominal source of cash in the future.

Stock Repurchase Program

We currently have in effect a stock repurchase program that was initially approved by our Board of Directors in March 2008. This program represents one of our principal efforts to return value to our stockholders. During fiscal years 2020, 2019 and 2018, we repurchased shares of common stock under this program for \$70.2 million, \$116.2 million and \$14.8 million, respectively. As of January 26, 2020, we had repurchased \$337.8 million in shares of our common stock under the program since inception and the remaining authorization under the program was \$110.6 million.

Credit Facility

On November 7, 2019, we, with certain of our domestic subsidiaries as guarantors, entered into an amended and restated credit agreement (the "Credit Agreement") with the lenders party thereto and HSBC Bank USA, National Association, as administrative agent, swing line lender and letter of credit issuer in order to provide a more flexible borrowing structure by expanding the borrowing capacity of the revolving loans under the senior secured first lien credit facility (the "Credit Facility") to \$600.0 million, eliminating the term loans and extending the maturity to November 7, 2024. Up to \$40.0 million of the revolving loans may be used to obtain letters of credit, up to \$25.0 million of the revolving loans may be used to obtain swing line loans, and up to \$40.0 million of the revolving loans may be used to obtain revolving loans and letters of credit in certain currencies other than U.S. Dollars ("Alternative Currencies"). The proceeds of the Credit Facility may be used by us for capital expenditures, permitted acquisitions, permitted dividends, working capital and general corporate purposes. A portion of the proceeds of the Credit Facility were used to repay in full all of the obligations outstanding under our then existing senior secured first lien credit facility and to pay transaction costs in connection with such refinancing.

In fiscal year 2020, we received \$201.0 million in proceeds from our revolving loans and made payments that totaled \$101.0 million and \$115.3 million on our revolving loans and on our previous term loans, respectively. As of January 26, 2020, we had \$197.0 million of outstanding borrowings under our revolving loans, which had \$403.0 million of undrawn borrowing capacity.

The amendment of the Credit Agreement in the fourth quarter of fiscal year 2020 resulted in a loss on early extinguishment of debt totaling \$0.5 million, related to the write off of unamortized discounts and loan costs, which were presented in "Non-operating income, net" in the Statements of Income.

The Credit Agreement provides that, subject to certain customary conditions, including obtaining commitments with respect thereto, we may request the establishment of one or more term loan facilities and/or increases to the revolving loans in a principal amount not to exceed (a) \$300.0 million, plus (b) an unlimited amount, so long as our consolidated leverage ratio, determined on a pro forma basis, does not exceed 3.00 to 1.00. However, the lenders are not required to provide such increase upon our request.

Interest on loans made under the Credit Facility in U.S. Dollars accrues, at our option, at a rate per annum equal to (1) the Base Rate (as defined below) plus a margin ranging from 0.25% to 1.25% depending upon our consolidated leverage ratio or (2) LIBOR (determined with respect to deposits in U.S. Dollars) for an interest period to be selected by us plus a margin ranging from 1.25% to 2.25% depending upon our consolidated leverage ratio (such margin, the "Applicable Margin"). The "Base Rate" is equal to a fluctuating rate equal to the highest of (a) the prime rate of the Administrative Agent, (b) 0.50% above the federal funds effective rate published by the Federal Reserve Bank of New York and (c) one-month LIBOR (determined with respect to deposits in U.S. Dollars), plus 1.00%. Interest on loans made under the Credit Facility in Alternative Currencies accrues at a rate per annum equal to LIBOR (determined with respect to deposits in the applicable Alternative Currency) (other than loans made in Canadian Dollars, for which a special reference rate for Canadian Dollars applies) for an interest period to be selected by us plus the Applicable Margin. See "Interest Rate and Credit Risk" under Item 7A of this Annual Report on 10-K for a discussion of the potential impact of the discontinuation of LIBOR to our outstanding debt and financial results.

Subsequent to the end of fiscal year 2020, we entered into an interest rate swap agreement to hedge the variability of interest payments on \$150.0 million of debt outstanding under our Credit Facility. The swap has a three-year term and based on our current leverage ratio, interest payments on \$150.0 million of our debt are now fixed at 1.9775%.

All obligations of the Company under the Credit Agreement are unconditionally guaranteed by all of our direct and indirect domestic subsidiaries, other than certain excluded subsidiaries, including, but not limited to, any domestic subsidiary the primary assets of which consist of equity or debt of non-U.S. subsidiaries, certain immaterial non-wholly-owned domestic subsidiaries and subsidiaries that are prohibited from providing a guarantee under applicable law or that would require governmental approval to provide such guarantee. The Company and the guarantors have also pledged substantially all of their assets to secure their obligations under the Credit Agreement.

No amortization is required with respect to the revolving loans and we may voluntarily prepay borrowings at any time and from time to time, without premium or penalty, other than customary "breakage costs" and fees for LIBOR-based loans.

The Credit Agreement contains customary covenants, including limitations on our ability to, among other things, incur indebtedness, create liens on assets, engage in certain fundamental corporate changes, make investments, repurchase stock, pay dividends or make similar distributions, engage in certain affiliate transactions, or enter into agreements that restrict our ability to create liens, pay dividends or make loan repayments. In addition, we must comply with financial covenants, including maintaining a maximum consolidated leverage ratio, determined as of the last day of each fiscal quarter, of 3.50 to 1.00 or less, provided that, such maximum consolidated leverage ratio may be increased to 4.00 to 1.00 for the four consecutive fiscal quarters ending on or after the date of consummation of a permitted acquisition that constitutes a "Material Acquisition" under the Credit Agreement, subject to the satisfaction of certain conditions. As of January 26, 2020, we were in compliance with the covenants in our Credit Agreement.

The Credit Agreement also contains customary provisions pertaining to events of default. If any event of default occurs, the obligations under the Credit Agreement may be declared due and payable, terminated upon written notice to us and existing letters of credit may be required to be cash collateralized.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements, as those arrangements are defined by the SEC, that are reasonably likely to have a material effect on our financial condition, revenues or expenses, operating results, liquidity, capital expenditures or capital resources.

We do not have any unconsolidated subsidiaries or affiliated entities. We have no special purpose or limited purpose entities that provide off-balance sheet financing, liquidity or market or credit risk support. We do not engage in leasing, hedging, research and development services, or other relationships that expose us to liability that is not reflected on the face of the Consolidated Financial Statements.

Noted below under "Contractual Obligations" are various commitments we have associated with our business, such as open purchase obligations, which are not recorded as liabilities in our Consolidated Balance Sheets because we have not yet received the related goods or services as of January 26, 2020.

Contractual Obligations

Presented below is a summary of our contractual obligations as of January 26, 2020:

(in thousands)	Less than 1 year	1-3 years	3-5 years	After 5 years	Total
Long-term debt, including interest ⁽¹⁾	\$ 6,206	\$ 12,412	\$ 207,861	\$ —	\$ 226,479
Operating leases	3,945	4,567	2,898	2,164	13,574
Open capital purchase commitments	1,097	—	—	—	1,097
Other open purchase commitments	48,740	5,856	—	—	54,596
Deferred compensation	1,365	1,845	1,104	32,294	36,608
Cycleo Earn-out	2,108	—	—	—	2,108
Share-based compensation	—	10,477	—	—	10,477
Defined benefit plans ⁽²⁾	2,462	4,124	4,346	10,650	21,582
Total contractual cash obligations	\$ 65,923	\$ 39,281	\$ 216,209	\$ 45,108	\$ 366,521

⁽¹⁾ Includes the interest payments we owe on our long-term debt, assuming no additional borrowings or repayments under our Credit Facility. For debt that has variable rate interest, we have calculated future interest obligations based on the interest rate for that debt as of January 26, 2020.

⁽²⁾ Amounts include expected payments under the current defined benefit pension plans for the employees of our Swiss and French subsidiaries.

Capital purchase commitments and other open purchase commitments are for the purchase of plant, equipment, raw material, supplies and services. They are not recorded liabilities in our Consolidated Balance Sheets as of January 26, 2020, as we have not yet received the related goods or taken title to the property.

As part of our acquisition of Cycleo, we have agreed to pay consideration if certain revenue and operating income targets are achieved in each of the measurement periods. See Note 14 to the Consolidated Financial Statements for additional information on our earn-out obligations.

We maintain a deferred compensation plan for certain officers and key executives that allow participants to defer a portion of their compensation for future distribution at various times permitted by the plan. Our liability for deferred compensation under this plan was \$36.6 million and \$29.5 million as of January 26, 2020 and January 27, 2019, respectively, and is included in accrued liabilities and other long-term liabilities in the Consolidated Balance Sheets. The plan provides for a discretionary Company match up to a defined portion of the employee's deferral, with any match subject to a vesting period.

We have purchased whole life insurance on the lives of certain of our current and former deferred compensation plan participants. This Company-owned life insurance is held in a grantor trust and is intended to cover a majority of the costs of our deferred compensation plan. The cash surrender value of our Company-owned life insurance was \$24.3 million and \$20.4 million as of January 26, 2020 and January 27, 2019, respectively.

Critical Accounting Policies and Estimates

We prepare our consolidated financial statements in accordance with GAAP. In doing so, we have to make estimates and assumptions that affect our reported amounts of assets, liabilities, revenues, and expenses, as well as related disclosure of contingent assets and liabilities. Accordingly, actual results could differ materially from our estimates. We consider an accounting policy to be a "critical accounting policy and estimate" if: (1) we must make assumptions that were uncertain when the judgment was made, and (2) changes in the estimate assumptions or selection of a different estimate methodology could have a significant impact on our financial position and the results that we report in our consolidated financial statements. While we believe that our estimates, assumptions, and judgments are reasonable, they are based on information available when the estimate was made.

Refer to Note 2 to the Consolidated Financial Statements for further information on our critical accounting estimates and policies, which are as follows:

- *Inventories* - Inventoried product reflected at the lower of cost or net realizable value considering future demand and market conditions; evaluation of inventories for excess quantities and obsolescence utilizing an analysis of sales levels by product and projections of future demand;
- *Business combinations* - the assumptions used to allocate the purchase price paid for assets acquired and liabilities assumed in connection with our acquisitions;
- *Property, plant and equipment* - the useful life determination and the related timing of when depreciation begins;
- *Long-lived assets* - the valuation methods and assumptions used in assessing the impairment of property, plant and equipment, identified intangibles, and goodwill, including the determination of asset groupings and the identification and allocation of goodwill to reporting units;
- *Revenue recognition* - the criteria used to recognize revenue. Adjustments to net sales due to offset by the cost of the Warrant issued to Comcast over the respective performance period (since the Warrant was issued to our customer in exchange for services) are further discussed in "Note 11: Share-Based Compensation." Since the computation of the Warrant cost is based on the level of performance completed and the then current fair value of the unvested Warrant milestones, rather than unit sales, net sales can experience variability that is unrelated to the recognition of revenue;
- *Income taxes* - the identification and measurement of deferred tax assets and liabilities and the provisional estimates associated with applicable tax laws;
- *Contingencies* - the estimation of when a loss is probable and reasonably estimable; measurement of contingent earn-out liabilities at fair value on a recurring basis using significant unobservable inputs classified within Level 3 of the fair value hierarchy; and
- *Share-Based Compensation* - the estimates and assumptions on the expected life of options, stock price volatility and market value of the Company's common stock used in valuation models to measure the compensation cost for all share-based payments (including stock options) at fair value, as well as financial forecasts for awards with a performance condition. We have various equity award plans ("Plans") that provide for granting stock-based awards to our employees and non-employee directors. The Plans provide for the granting of several available forms of stock compensation. As of January 26, 2020, we have granted non-qualified stock option awards ("NQSOs") and restricted stock unit awards ("RSUs") under the Plans and have also issued some share-based compensation outside of the Plans, including NQSOs and RSUs as inducements to join the Company.

New Accounting Standards

New accounting standards are discussed in Note 2 to the Consolidated Financial Statements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

We are subject to a variety of market risks, including commodity risk and the risks related to foreign currency, interest rates and market performance that are detailed below. Many of the factors that can have an impact on our market risk are external to us, and so we are unable to fully predict them.

Market Conditions

A deterioration of global economic conditions can impact demand for our products which could result in changes in customer order patterns, including order cancellations, and changes in the level of inventory held by vendors.

Commodity Risk

We are subject to risk from fluctuating market prices of certain commodity raw materials, particularly gold, that are incorporated into our end products or used by our suppliers to process our end products. Increased commodity prices are passed on to us in the form of higher prices from our suppliers, either in the form of general price increases or a commodity surcharge. Although we generally deal with our suppliers on a purchase order basis rather than on a long-term contract basis, we generally attempt to obtain firm pricing for volumes consistent with planned production. Our gross margins may decline if we are not able to increase selling prices of our products or obtain manufacturing efficiencies to offset the increased cost. We do not enter into formal hedging arrangements to mitigate against commodity risk.

Foreign Currency Risk

Our foreign operations expose us to the risk of fluctuations in foreign currency exchange rates against our functional currency (the U.S. Dollar) and we may economically hedge this risk with foreign currency contracts (such as currency forward contracts). Gains or losses on these non-U.S.-currency balances are generally offset by corresponding losses or gains on the related hedging instruments. As of January 26, 2020, our largest foreign currency exposures were from the Canadian Dollar, Swiss Franc, and Great British Pound.

We considered the historical trends in foreign currency exchange rates and determined that it is reasonably possible that adverse changes in foreign exchange rates of 10% for all currencies could be experienced in the near-term. These reasonably possible adverse changes were applied to our total monetary assets and liabilities denominated in currencies other than our functional currency as of January 26, 2020, to compute the adverse impact these changes would have had (after taking into account balance sheet hedges only) on our income before taxes, to show an impact of \$1.0 million.

Interest Rate and Credit Risk

We are subject to interest rate risk in connection with the outstanding debt under our Credit Facility, which bears interest at variable rates as of January 26, 2020. As of January 26, 2020, we had \$197.0 million of outstanding borrowings on our Credit Facility, which had \$403.0 million of undrawn capacity. Borrowings under our Credit Facility bear interest at a rate per annum equal to (1) the Base Rate (as defined below) plus a margin ranging from 0.25% to 1.25% depending upon our consolidated leverage ratio or (2) LIBOR (determined with respect to deposits in U.S. Dollars) for an interest period to be selected by us plus a margin ranging from 1.25% to 2.25% depending upon our consolidated leverage ratio (such margin, the "Applicable Margin"). The "Base Rate" is equal to a fluctuating rate equal to the highest of (a) the prime rate of the Administrative Agent, (b) 0.50% above the federal funds effective rate published by the Federal Reserve Bank of New York and (c) one-month LIBOR (determined with respect to deposits in U.S. Dollars), plus 1.00%. Interest on loans made under the Credit Facility in Alternative Currencies accrues at a rate per annum equal to LIBOR (determined with respect to deposits in the applicable Alternative Currency) (other than loans made in Canadian Dollars, for which a special reference rate for Canadian Dollars applies) for an interest period to be selected by us plus the Applicable Margin.

Subsequent to the end of fiscal year 2020, we entered into an interest rate swap agreement to hedge the variability of interest payments on \$150.0 million of debt outstanding under our Credit Facility. The swap has a three-year term and based on our current leverage ratio, interest payments on \$150.0 million of our debt are now fixed at 1.9775%. Based upon the amount of our outstanding indebtedness as of January 26, 2020, a one percentage point increase in LIBOR would not have a material impact on our annual interest expense as only \$47.0 million of our outstanding debt balance remains subject to a floating rate.

The Chief Executive of the U.K. Financial Conduct Authority (the "FCA"), which regulates the London Interbank Offered Rate, or LIBOR, has announced that the FCA will no longer persuade or compel banks to submit rates for the calculation of LIBOR after 2021. That announcement indicates that the continuation of LIBOR on the current basis cannot and will not be guaranteed after 2021. Moreover, it is possible that LIBOR will be discontinued or modified prior to 2021. Our Credit Facility provides that, if it is publicly announced that the administrator of LIBOR has ceased or will cease to provide LIBOR, if it is publicly announced by the applicable regulatory supervisor that LIBOR is no longer representative, or if either the administrative agent or lenders holding 50% of the aggregate principal amount of our revolving commitments and term loans elect, we and the administrative agent may amend our Credit Agreement to replace LIBOR with an alternate benchmark rate.

This alternative benchmark rate may include a forward-looking term rate that is based on the secured overnight financing rate, also known as SOFR, published by the Federal Reserve Bank of New York.

Interest rates also affect our return on excess cash and investments. As of January 26, 2020, we had \$293.3 million of cash and cash equivalents. A majority of our cash and cash equivalents generate interest income based on prevailing interest rates. Investments and cash and cash equivalents generated interest income of \$3.7 million in fiscal year 2020. A significant change in interest rates would impact the amount of interest income generated from our cash and investments. It would also impact the market value of our investments.

Our investments are primarily subject to credit risk. Our investments are managed by a limited number of outside professional managers following investment guidelines set by us. Such guidelines prescribe credit quality, permissible investments, diversification, and duration restrictions. These restrictions are intended to limit risk by restricting our investments to high quality debt instruments with relatively short-term durations. Our investment strategy limits investment of new funds and maturing securities to U.S. Treasury, Federal agency securities, high quality money market funds and time deposits with our principal commercial banks.

Item 8. Financial Statements and Supplementary Data

The information required by Item 8 is presented in the following order:

<u>Management’s Report on Internal Control Over Financial Reporting</u>	<u>46</u>
<u>Report of Independent Registered Public Accounting Firm on Internal Control Over Financial Reporting</u>	<u>46</u>
<u>Report of Independent Registered Public Accounting Firm on the Consolidated Financial Statements</u>	<u>47</u>
<u>Consolidated Statements of Income</u>	<u>49</u>
<u>Consolidated Statements of Comprehensive Income</u>	<u>50</u>
<u>Consolidated Balance Sheets</u>	<u>51</u>
<u>Consolidated Statements of Stockholders’ Equity</u>	<u>52</u>
<u>Consolidated Statements of Cash Flows</u>	<u>53</u>
<u>Notes to Consolidated Financial Statements</u>	<u>55</u>
<u>Schedule II — Valuation and Qualifying Accounts</u>	<u>99</u>

MANAGEMENT’S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

The report called for by Item 308(a) of Regulation S-K is incorporated herein by reference to the *Report of Management on Internal Control Over Financial Reporting* that is included in Part II, Item 9A of this Annual Report on Form 10-K.

**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM
ON INTERNAL CONTROL OVER FINANCIAL REPORTING**

The report called for by Item 308(b) of Regulation S-K is incorporated herein by reference to the *Report of Independent Registered Public Accounting Firm on Internal Control Over Financial Reporting* that is included in Part II, Item 9A of this Annual Report on Form 10-K.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
Semtech Corporation
Camarillo, California

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Semtech Corporation and subsidiaries (the "Company") as of January 26, 2020 and January 27, 2019, the related consolidated statements of income, comprehensive income, stockholders' equity, and cash flows for each of the three years in the period ended January 26, 2020, and the related notes and the schedule listed in the Index at Item 15(a) (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of January 26, 2020 and January 27, 2019, and the results of its operations and its cash flows for each of the three years in the period ended January 26, 2020, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of January 26, 2020, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated March 20, 2020 expressed unqualified opinion on the Company's internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 2 to the consolidated financial statements, the Company has changed its method of accounting for leases effective January 28, 2019 due to the adoption of FASB ASC Topic 842, *Leases*, using the optional transition adoption method.

Basis for Opinion

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

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

Critical Audit Matter

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

Inventories - Excess Quantities and Obsolescence - Refer to Notes 2 and 6 to the financial statements.

Critical Audit Matter Description

The Company maintains an inventory excess and obsolescence ("E&O") reserve to reduce the basis of its inventory due to changes in demand or change in product life cycles. The inventory reserve serves to reduce the Company's recorded inventory balance to the lower of its cost or net realizable value. In order to determine the reserve, management utilizes projections of demand. The estimation of customer demand requires management to evaluate and make assumptions of the impact of changes in demand or changes in product life cycles on current sales levels.

Given the subjectivity of estimating projections of future demand and the recording of inventory E&O reserves, performing audit procedures to evaluate the projections of future demand and to determine that the inventory E&O reserve was appropriately recorded required a high degree of auditor judgment and an increased extent of effort.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the projections of future demand and the inventory E&O reserve included the following, among

others:

We tested the effectiveness of controls over the inventory E&O reserve review and approval process, including controls designed to review and approve the related projections of future demand.

We selected a sample of reserved parts and performed the following for each selection:

- To understand the assumptions behind the E&O reserve, including the related projection of future demand, we made inquiries of business unit managers as well as sales, operations, and marketing personnel about the estimated demand and historical consumption of each part selected.
- We tested the projection of future demand by comparing internal and external information (e.g. historical sales, contracts, communications with customers, market trends, and macroeconomic conditions) with the Company's projection of future demand
- Performed a retrospective review by comparing management's prior-year projection of future demand by product with actual product sales in the current year to identify potential bias in the inventory reserve.
- We recalculated the net realizable value of the inventory reserve and compared our recalculation with the recorded balance.

/s/ Deloitte & Touche LLP

Los Angeles, California

March 20, 2020

We have served as the Company's auditor since 2016.

SEMTECH CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF INCOME
(in thousands, except per share data)

	Fiscal Year Ended		
	January 26, 2020	January 27, 2019	January 28, 2018
Net sales	\$ 547,512	\$ 627,196	\$ 587,847
Cost of sales	210,828	250,174	235,876
Gross profit	336,684	377,022	351,971
Operating costs and expenses:			
Selling, general and administrative	163,106	145,246	148,146
Product development and engineering	107,368	109,047	105,070
Intangible amortization	16,546	26,649	27,867
Loss on disposition of business operations	—	—	375
Changes in the fair value of contingent earn-out obligations	(2,345)	(9,419)	3,892
Total operating costs and expenses	284,675	271,523	285,350
Operating income	52,009	105,499	66,621
Interest expense	(9,106)	(9,202)	(7,963)
Non-operating income, net	2,893	3,823	3,348
Investment impairments	(1,211)	(30,000)	(4,250)
Income before taxes and equity in net gains (losses) of equity method investments	44,585	70,120	57,756
Provision for income taxes	12,828	355	22,853
Net income before equity in net gains (losses) of equity method investments	31,757	69,765	34,903
Equity in net gains (losses) of equity method investments	109	(126)	(254)
Net income	31,866	69,639	34,649
Net loss attributable to noncontrolling interest	(5)	—	—
Net income attributable to common stockholders	\$ 31,871	\$ 69,639	\$ 34,649
Earnings per share:			
Basic	\$ 0.48	\$ 1.06	\$ 0.52
Diluted	\$ 0.47	\$ 1.02	\$ 0.51
Weighted average number of shares used in computing earnings per share:			
Basic	66,263	65,982	66,027
Diluted	67,418	68,481	67,605

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

SEMTECH CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(in thousands)

	Fiscal Year Ended		
	January 26, 2020	January 27, 2019	January 28, 2018
Net income	\$ 31,866	\$ 69,639	\$ 34,649
Other comprehensive (loss) income, net:			
Unrealized (loss) gain on foreign currency cash flow hedges, net	—	(115)	942
Realized (gain) loss on foreign currency cash flow hedges, net	(74)	189	(1,232)
Unrealized gain on available-for-sale securities	2,506	—	—
Change in defined benefit plans, net	(4,991)	(2,481)	384
Other comprehensive (loss) income, net	(2,559)	(2,407)	94
Comprehensive income	29,307	67,232	34,743
Comprehensive loss attributable to noncontrolling interest	(5)	—	—
Comprehensive income attributable to common stockholders	\$ 29,312	\$ 67,232	\$ 34,743

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

SEMTECH CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(in thousands, except share data)

	January 26, 2020	January 27, 2019
Assets		
Current assets:		
Cash and cash equivalents	\$ 293,324	\$ 312,120
Accounts receivable, less allowances of \$633 and \$774, respectively	61,927	79,223
Inventories	73,010	63,679
Prepaid taxes	10,718	8,406
Other current assets	21,757	21,876
Total current assets	460,736	485,304
Non-current assets:		
Property, plant and equipment, net of accumulated depreciation of \$214,787 and \$196,033, respectively	124,418	118,488
Deferred tax assets	20,094	14,261
Goodwill	351,141	351,141
Other intangible assets, net	20,012	36,558
Other assets	76,032	57,028
TOTAL ASSETS	\$ 1,052,433	\$ 1,062,780
Liabilities		
Current liabilities:		
Accounts payable	\$ 48,009	\$ 43,183
Accrued liabilities	50,632	68,462
Current portion - long term debt	—	18,269
Total current liabilities	98,641	129,914
Non-current liabilities:		
Deferred tax liabilities	3,600	3,363
Long term debt, less current portion	194,743	192,845
Other long-term liabilities	78,249	54,078
Commitments and contingencies (Note 14)		
Stockholders' Equity:		
Common stock, \$0.01 par value, 250,000,000 shares authorized, 78,136,144 issued and 65,758,115 outstanding and 78,136,144 issued and 65,238,255 outstanding, respectively	785	785
Treasury stock, at cost, 12,378,029 shares and 12,897,889 shares, respectively	(387,851)	(346,218)
Additional paid-in capital	458,579	451,884
Retained earnings	611,607	579,736
Accumulated other comprehensive loss	(6,166)	(3,607)
Total stockholders' equity	676,954	682,580
Noncontrolling interest	246	—
Total equity	677,200	\$ 682,580
TOTAL LIABILITIES AND EQUITY	\$ 1,052,433	\$ 1,062,780

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

SEMTECH CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in thousands, except share data)

	Common Stock		Additional Paid-in Capital	Retained Earnings	Treasury Stock, at Cost	Accumulated Other Comprehensive Loss	Stockholders' Equity	Noncontrolling Interest	Total Equity
	Number of Shares Outstanding	Amount							
Balance at January 29, 2017	65,793,083	\$ 785	\$ 390,938	\$ 467,941	\$ (253,107)	\$ (1,294)	\$ 605,263	\$ —	\$ 605,263
Cumulative-effect adjustment to beginning balance from adoption of ASU 2016-09	—	—	—	(2,021)	—	—	(2,021)	—	(2,021)
Net income	—	—	—	34,649	—	—	34,649	—	34,649
Other comprehensive income	—	—	—	—	—	94	94	—	94
Stock-based compensation	—	—	47,206	—	—	—	47,206	—	47,206
Repurchase of common stock	(442,607)	—	—	—	(14,849)	—	(14,849)	—	(14,849)
Treasury stock reissued	929,653	—	(20,973)	—	15,982	—	(4,991)	—	(4,991)
Balance at January 28, 2018	66,280,129	\$ 785	\$ 417,171	\$ 500,569	\$ (251,974)	\$ (1,200)	\$ 665,351	\$ —	\$ 665,351
Cumulative-effect adjustment to beginning balance from adoption of ASU 2014-09	—	—	—	11,104	—	—	11,104	—	11,104
Cumulative-effect adjustment to beginning balance from adoption of ASU 2016-16	—	—	—	(1,576)	—	—	(1,576)	—	(1,576)
Net income	—	—	—	69,639	—	—	69,639	—	69,639
Other comprehensive loss	—	—	—	—	—	(2,407)	(2,407)	—	(2,407)
Stock-based compensation	—	—	58,921	—	—	—	58,921	—	58,921
Repurchase of common stock	(2,448,133)	—	—	—	(116,210)	—	(116,210)	—	(116,210)
Treasury stock reissued	1,406,259	—	(24,208)	—	21,966	—	(2,242)	—	(2,242)
Balance at January 27, 2019	65,238,255	\$ 785	\$ 451,884	\$ 579,736	\$ (346,218)	\$ (3,607)	\$ 682,580	\$ —	\$ 682,580
Net income	—	—	—	31,871	—	—	31,871	(5)	31,866
Other comprehensive loss	—	—	—	—	—	(2,559)	(2,559)	—	(2,559)
Capital contribution from outside party to a consolidated subsidiary	—	—	—	—	—	—	—	251	251
Stock-based compensation	—	—	50,786	—	—	—	50,786	—	50,786
Repurchase of common stock	(1,471,703)	—	—	—	(70,219)	—	(70,219)	—	(70,219)
Treasury stock reissued	1,991,563	—	(44,091)	—	28,586	—	(15,505)	—	(15,505)
Balance at January 26, 2020	65,758,115	\$ 785	\$ 458,579	\$ 611,607	\$ (387,851)	\$ (6,166)	\$ 676,954	\$ 246	\$ 677,200

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

SEMTECH CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Fiscal Year Ended		
	January 26, 2020	January 27, 2019	January 28, 2018
Cash flows from operating activities:			
Net income	\$ 31,866	\$ 69,639	\$ 34,649
<i>Adjustments to reconcile net income to net cash provided by operating activities:</i>			
Depreciation and amortization	39,581	49,639	48,999
Impairment of investments	1,211	30,000	4,250
Accretion of deferred financing costs and debt discount	484	528	568
Write-off of deferred financing costs and debt discount	514	—	—
Deferred income taxes	(5,596)	(16,047)	14,894
Share-based compensation and warrant costs	52,049	66,837	50,051
Loss (gain) on disposition of business operations and assets	378	(26)	276
Changes in the fair value of contingent earn-out obligations	(2,345)	(9,419)	3,892
Equity in net (gains) losses of equity method investments	(109)	126	254
Gain from sale of investment	—	(1,288)	—
Gain from convertible debt settlement	—	—	(4,275)
Corporate owned life insurance, net	5,613	(34)	1,601
<i>Changes in assets and liabilities:</i>			
Accounts receivable, net	17,296	(21,499)	(1,453)
Inventories	(9,331)	8,444	(5,515)
Other assets	2,415	(587)	(5,957)
Accounts payable	2,603	7,543	(5,306)
Accrued liabilities	(19,532)	124	2,448
Income taxes payable	(2,105)	408	(15,718)
Other liabilities	3,624	(825)	(12,173)
Net cash provided by operating activities	118,616	183,563	111,485
Cash flows from investing activities:			
Proceeds from convertible debt settlement	—	—	5,700
Proceeds from sales of property, plant and equipment	352	112	189
Purchase of property, plant and equipment	(23,056)	(17,052)	(35,461)
Purchase of investments	(11,630)	(9,297)	(18,665)
Acquisitions, net of cash acquired	—	(15,948)	(17,619)
Proceeds from sale of investments	—	5,967	—
Net cash used in investing activities	(34,334)	(36,218)	(65,856)
Cash flows from financing activities:			
Payments of term loans	(115,312)	(15,938)	(15,000)
Proceeds from revolving line of credit	201,000	—	—
Payments of revolving line of credit	(101,000)	—	—
Deferred financing costs	(2,056)	—	—
Payments of earn-out	(237)	(8,736)	—
Payment for employee share-based compensation payroll taxes	(21,507)	(18,539)	(11,671)
Proceeds from exercise of stock options	6,002	16,275	6,680
Repurchase of common stock	(70,219)	(116,210)	(14,849)
Contributions from noncontrolling interest	251	—	—
Net cash used in financing activities	(103,078)	(143,148)	(34,840)
Net (decrease) increase in cash and cash equivalents	(18,796)	4,197	10,789
Cash and cash equivalents at beginning of period	312,120	307,923	297,134
Cash and cash equivalents at end of period	\$ 293,324	\$ 312,120	\$ 307,923

SEMTECH CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS (CONTINUED)
(in thousands)

Supplemental disclosure of cash flow information:

Interest paid	\$	7,906	\$	8,588	\$	6,341
Income taxes paid	\$	11,157	\$	7,740	\$	31,013

Non-cash investing and financing activities:

(Increase) decrease in accounts payable related to capital expenditures	\$	(2,223)	\$	2,024	\$	3,789
Conversion of note into equity	\$	—	\$	500	\$	—

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

SEMTECH CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1: Organization and Basis of Presentation

Semtech Corporation (together with its consolidated subsidiaries, the "Company" or "Semtech") is a global supplier of high-performance analog and mixed-signal semiconductors and advanced algorithms. The end customers for the Company's products are primarily original equipment manufacturers ("OEMs") that produce and sell electronics.

The Company designs, develops and markets a wide range of products for commercial applications, the majority of which are sold into the enterprise computing, communications, high-end consumer and industrial end markets.

Basis of Presentation

The Company reports results on the basis of 52 and 53-week periods and ends its fiscal year on the last Sunday in January. The fiscal years 2020, 2019 and 2018 each consisted of 52 weeks.

Principles of Consolidation

The accompanying consolidated financial statements include the accounts of the Company and its majority-owned subsidiaries and have been prepared in accordance with accounting principles generally accepted in the United States ("GAAP"). The Company's Consolidated Statements of Income are referred to herein as the "Statements of Income," the Company's Consolidated Balance Sheets are referred to herein as the "Balance Sheets" and the Company's Consolidated Statements of Cash Flows are referred to herein as the "Statements of Cash Flows." In the opinion of the Company, all adjustments of a normal and recurring nature necessary for a fair presentation, in all material respects, of the consolidated financial statements have been made. All intercompany balances have been eliminated. The Company consolidates entities that are not variable interest entities ("VIEs") when it owns, directly or indirectly, a majority interest in the entity or is otherwise able to control the entity. The Company consolidates VIEs in accordance with Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") Topic 810, "Consolidation." Entities for which the Company owns an interest, but does not consolidate, are accounted for under the equity method or cost method of accounting as minority investments and are included in "Other Assets" within the Balance Sheets. The ownership interest in a consolidated subsidiary of the Company held by outside parties is included in "Noncontrolling Interest" within the Balance Sheets.

Use of Estimates

The preparation of the consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Correction of Immaterial Errors

During the fourth quarter of fiscal year 2020, management identified certain immaterial errors related to share-based compensation expense of market-based awards granted during fiscal years 2018, 2019 and 2020. The errors resulted from adjustments to the grant date fair value of the market-based awards that were incorrectly accounted for as performance-based awards. The Company has corrected its consolidated financial statements for these errors for all annual periods presented in this Annual Report on Form 10-K, as well as the unaudited interim financial information presented in Note 21. Refer to Note 20 for a discussion of the Company's assessment of the errors and impact on its consolidated financial statements.

Note 2: Significant Accounting Policies

Cash and Cash Equivalents

The Company considers all highly-liquid investments with an original maturity of 90 days or less and money market mutual funds to be cash equivalents. The Company maintains cash balances and cash equivalents in highly-qualified financial institutions. At various times, such amounts are in excess of insured limits. Cash equivalents can consist of money market mutual funds, government and corporate obligations, and bank time deposits.

Investments

The Company's investment policy restricts investments to high credit quality investments with limits on the length to maturity and the amount invested with any one issuer. These investments, especially corporate obligations, are subject to default risk. The Company classifies its convertible debt investments as available-for-sale ("AFS") securities and reports these investments at fair value with current and long-term AFS investments included in "Other current assets" and "Other assets," respectively, in the Balance Sheets. Unrealized gains or losses, net of tax, are recorded in "Accumulated other comprehensive loss" in the Balance Sheets, and realized gains or losses are recorded in "Non-operating income, net" in the Statements of Income.

The Company has minority equity investments in privately-held companies that are classified in "Other assets" in the Balance Sheets. Substantially all of these investments are carried at cost because the Company does not have the ability to exercise significant influence over the companies. These minority equity investments do not have readily determinable fair values and the Company has determined that it is not practicable to estimate the fair values of these investments. As of January 26, 2020 and January 27, 2019, the Company had aggregate net investments under the cost method of accounting of \$19.4 million and \$16.7 million, respectively. As of January 26, 2020 and January 27, 2019, aggregate net investments accounted for under the equity method of accounting totaled \$3.3 million and \$2.7 million, respectively. The Company monitors whether there have been any events or changes in circumstances that would have a significant adverse effect on the fair values of these investments and recognizes losses in the Statements of Income when it determines that declines in the fair values of its investments below their cost are other than temporary. The Company recorded investment impairments of \$1.2 million, \$30.0 million and \$4.3 million during fiscal years 2020, 2019 and 2018, respectively.

Accounts Receivable Allowances

Accounts receivable are recorded at net realizable value or the amount that the Company expects to collect on gross customer trade receivables. The Company evaluates the collectability of its accounts receivable based on a combination of factors. The Company generally does not require collateral on accounts receivable as the majority of the Company's customers are large, well-established companies. Historically, bad debt provisions have been consistent with management's expectations. If the Company becomes aware of a customer's inability to meet its financial obligations after a sale has occurred, it records an allowance to reduce the net receivable to the amount it reasonably believes it will be able to collect from the customer. For all other customers, the Company recognizes allowances for doubtful accounts based on the length of time the receivables are past due, the current business environment and historical experience. If the financial condition of the Company's customers were to deteriorate or if economic conditions worsen, additional allowances may be required in the future. All of the Company's accounts receivables are trade-related receivables.

Inventories

Inventories are stated at lower of cost or net realizable value and consist of materials, labor, and overhead. The Company determines the cost of inventory by the first-in, first-out method. The Company evaluates inventories for excess quantities and obsolescence. This evaluation includes analysis of sales levels by product and projections of future demand. In order to state the inventory at lower of cost or net realizable value, the Company maintains reserves against its inventory. If future demand or market conditions are less favorable than the Company's projections, a write-down of inventory may be required, and would be reflected in cost of goods sold in the period the revision is made.

Business Combinations

The Company accounts for business combinations in accordance with ASC 805, "Business Combinations." The Company allocates the purchase price paid for assets acquired and liabilities assumed in connection with acquisitions based on their estimated fair values at the time of acquisition. This allocation involves a number of assumptions, estimates and judgments that could materially affect the timing or amounts recognized in its financial statements. The most subjective areas include determining the fair values of the following:

- intangible assets, including the valuation methodology, estimations of future cash flows, discount rates, market segment growth rates and the Company's assumed market segment share, as well as the estimated useful life of intangible assets;
- deferred tax assets and liabilities, uncertain tax positions and tax-related valuation allowances, which are initially estimated as of the acquisition date;

- inventory; property, plant and equipment; pre-existing liabilities or legal claims; deferred revenue; and contingent consideration, each as may be applicable; and
- goodwill as measured as the excess of consideration transferred over the net of the acquisition date fair values of the assets acquired and the liabilities assumed.

The Company's assumptions and estimates are based upon comparable market data and information obtained from management and the management of the acquired companies. The Company allocates goodwill to the reporting units of the business that are expected to benefit from the business combination.

Variable Interest Entities

The Company consolidates VIEs in accordance with ASC 810, "Consolidation," if it is the primary beneficiary of the VIE, which is determined if it has a controlling financial interest in the VIE. A controlling financial interest will have both of the following characteristics: (i) the power to direct the VIE's activities that most significantly impact the VIE's economic performance and (ii) the obligation to absorb the VIE's losses that could potentially be significant to the VIE or the right to receive the VIE's benefits that could potentially be significant to the VIE.

The Company's variable interests in VIEs may be in the form of equity ownership, contracts to purchase assets, management services, and development agreements between the Company and a VIE, loans provided by the Company to a VIE or other member, and/or guarantees provided by members to banks and other parties.

The Company analyzes its investments or other interests to determine whether it represents a variable interest in a VIE. If so, the Company evaluates the facts to determine whether it is the primary beneficiary, based on if it has a controlling financial interest in the VIE. The Company concluded that some of its equity interests represent a variable interest, but it is not the primary beneficiary as prescribed in ASC 810. Specifically, in reaching this conclusion, the Company considered the activities that most significantly drive profitability for these private entities and determined that the activities that most significantly drive profitability are related to the technology and related product road maps. In some cases, the Company has a board observer role, however, it concluded that in these cases it was not in a position of decision-making or other authority to influence the activities of the private entities that could be considered significant with respect to their operations, including research and development plans and changes to their product road maps.

Derivatives and Hedging Activities

The Company records all derivatives on the Balance Sheets at fair value in accordance with ASC 815, "Derivatives and Hedging." The accounting for changes in the fair value of derivatives depends on the intended use of the derivative, whether the Company has elected to designate a derivative in a hedging relationship and apply hedge accounting, and whether the hedging relationship has satisfied the criteria necessary to apply hedge accounting. Derivatives designated and qualifying as a hedge of the exposure to variability in expected future cash flows, or other types of forecasted transactions, are considered cash flow hedges. Hedge accounting generally provides for the matching of the timing of gain or loss recognition on the hedging instrument with the recognition of the changes in the fair value of the hedged asset or liability that are attributable to the hedged risk in a fair value hedge or the earnings effect of the hedged forecasted transactions in a cash flow hedge. The Company may enter into derivative contracts that are intended to economically hedge certain of its risks, even though hedge accounting does not apply or the Company elects not to apply hedge accounting.

In accordance with the FASB's fair value measurement guidance, the Company made an accounting policy election to measure the credit risk of its derivative financial instruments that are subject to master netting agreements on a net basis by counterparty portfolio.

Property, Plant and Equipment

Property, plant and equipment are stated at cost or at fair market value at time of acquisition. Depreciation is computed over the estimated useful lives of the related asset type or term of the operating lease using the straight-line method for financial statement purposes. Maintenance and repairs are charged to expense as incurred and the costs of additions and betterments that increase the useful lives of the assets are capitalized.

Goodwill

The Company performs an annual impairment assessment of goodwill at the reporting unit level in the fourth quarter of each fiscal year, or more frequently if indicators of potential impairment exist. The analysis may include both qualitative and quantitative factors to assess the likelihood of an impairment. The reporting unit's carrying value used in an impairment test represents the assignment of various assets and liabilities, excluding certain corporate assets and liabilities, such as cash, investments and debt.

Qualitative factors include industry and market considerations, overall financial performance and other relevant events and factors affecting the reporting unit. Additionally, as part of this assessment, the Company may perform a quantitative analysis

to support the qualitative factors above by applying sensitivities to assumptions and inputs used in measuring a reporting unit's fair value.

The Company's quantitative impairment test considers both the income approach and the market approach to estimate a reporting unit's fair value. Significant estimates include market segment growth rates, assumed market segment share, estimated costs and discount rates based on a reporting unit's weighted average cost of capital.

The Company tests the reasonableness of the inputs and outcomes of its discounted cash flow analysis against available market data. As the fair values of all of the Company's reporting units exceeded their carrying values, no impairment of goodwill was recorded during fiscal years 2020, 2019 or 2018.

Other Intangibles and Long-lived Assets

Finite-lived intangible assets resulting from business acquisitions or technology licenses purchased are amortized on a straight-line basis over their estimated useful lives. The useful lives of acquisition-related intangible assets represent the point where over 90% of realizable undiscounted cash flows for each intangible asset are recognized. The assigned useful lives are based upon the Company's historical experience with similar technology and other intangible assets owned by the Company. The useful life of technology licenses is usually based on the term of the agreement.

Acquired in-process research and development ("IPR&D") projects, which represent projects that had not reached technological feasibility as of the date of acquisition, are recorded at fair value. Initially, these are classified as an indefinite-lived intangible asset until the completion or abandonment of the associated research and development efforts. Upon completion of development, acquired IPR&D asset balances are transferred to finite-lived intangible assets and amortized over their useful lives. The asset balances relating to projects that are abandoned after acquisition are impaired and recorded in "Product development and engineering" ("R&D") expense in the Statements of Income.

The Company reviews indefinite-lived intangible assets for impairment on an annual basis in conjunction with goodwill or whenever events or changes in circumstances indicate that the carrying value may not be recoverable. Recoverability of indefinite-lived intangible assets is measured by comparing the carrying amount of the asset to the future discounted cash flows the asset is expected to generate. Also, the Company reassesses the estimated remaining useful lives of any impaired assets and adjusts accordingly estimates of future amortization expense related to these assets.

The Company assesses finite-lived intangibles and long-lived assets for impairment when indicators of impairment, such as reductions in demand or significant industry and economic slowdowns in the semiconductor industry, are present. Reviews are performed to determine whether the carrying value of an asset is impaired, based on comparisons to undiscounted expected future cash flows. If this comparison indicates that there is impairment, the impaired asset is written down to fair value, which is typically calculated using: (i) quoted market price trends and internal factors such as changes in the Company's business strategy and/or (ii) discounted expected future cash flows utilizing a discount rate. Impairment is based on the excess of the carrying amount over the fair value of those assets the Company forecasts for specific product lines.

For intangible long-lived assets, which consist of core technology and customer relationships, the Company uses the multi-period excess earnings method (an income approach) or the replacement cost method (a cost approach) to determine fair value. The multi-period excess earnings method estimates the value of the asset based on the present value of the after-tax cash flows attributable to the intangible asset, which includes the Company's estimates of forecasted revenue, operating margins, taxes, and discount rate. The replacement cost method incorporates a market participant's assumption that an in-use premise is the highest and best use of customer relationships and core technology. The Company estimates the cost it would incur to rebuild or re-establish the intangible asset and the associated effort required to develop it.

The fair values of individual tangible long-lived assets are determined using the cost to reproduce the long-lived asset and taking into account the age, condition, inflation using the U.S. Bureau of Labor Statistics and Marshall Valuation Services, and cost to ready the long-lived asset for its intended use. Additionally, the Company considers the potential existence of functional and economic obsolescence and quantifies these elements in its cost approach as appropriate.

Functional Currency

The Company has concluded that the functional currency of all of its subsidiaries is the United States ("U.S.") Dollar.

Fair Value Measurements

When determining the fair value measurements for assets and liabilities required or permitted to be recorded at fair value, the Company considers the principal or most advantageous market in which it would transact and considers assumptions that market participants would use when pricing the asset or liability, such as inherent risk, transfer restrictions, and risk of nonperformance. The Company uses the following three levels of inputs in determining the fair value of the Company's assets and liabilities, focusing on the most observable inputs when available:

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

Level 2—Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities in active markets or other inputs that are observable for the assets or liabilities, either directly or indirectly.

Level 3—Unobservable inputs based on the Company's own assumptions, requiring significant management judgment or estimation.

To the extent that valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires more judgment. In certain cases, the inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, for disclosure purposes, the level in the fair value hierarchy within which the fair value measurement is disclosed is determined based on the lowest level input that is significant to the fair value measurement.

Revenue Recognition

The Company derives its revenue primarily from the sale of semiconductor products into various end markets. Revenue is recognized in accordance with ASC 606, "Revenue from Contracts with Customers," when control of these products is transferred to the Company's customers, in an amount that reflects the consideration the Company expects to be entitled to in exchange for these products. Control is generally transferred when products are shipped and, to a lesser extent, when the products are delivered. Recovery of costs associated with product design and engineering services are recognized during the period in which services are performed and are reported as a reduction to product development and engineering expense. Historically, these recoveries have not exceeded the cost of the related development efforts. The Company includes revenue related to granted technology licenses as part of "Net sales" in the Statements of Income. Historically, revenue from these arrangements has not been significant though they are part of its recurring ordinary business.

The Company determines revenue recognition through the following five steps:

- Identification of the contract, or contracts, with a customer;
- Identification of the performance obligations in the contract;
- Determination of the transaction price;
- Allocation of the transaction price to the performance obligations in the contract; and
- Recognition of revenue when, or as, performance obligations are satisfied.

The Company accounts for a contract when it has approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance, and collectability of consideration is probable.

The Company's revenue contracts generally represent a single performance obligation to sell its products to trade customers. Net sales reflect the transaction prices for contracts, which include units shipped at selling prices reduced by variable consideration. Determination of variable consideration requires judgment by the Company. Variable consideration includes expected sales returns and other price adjustments. Variable consideration is estimated using the expected value method considering all reasonably available information, including the Company's historical experience and its current expectations, and is reflected in the transaction price when sales are recorded. Sales returns are generally accepted at the Company's discretion or from distributors with such rights. The Company's contracts with trade customers do not have significant financing components or non-cash consideration.

The Company provides an assurance type warranty, which is typically not sold separately and does not represent a separate performance obligation. The Company's payment terms are generally aligned with shipping terms.

Contract Modifications:

If a contract is modified, which does not normally occur, changes in contract specifications and requirements must be accounted for. The Company considers contract modifications to exist when the modification creates new, or changes existing, enforceable rights and obligations. Most of the Company's contract modifications are to distributor agreements for adding new goods or services that are considered distinct from the existing contract and the change in contract price reflects the standalone selling price of the distinct service.

Disaggregated Revenue:

The Company disaggregates revenue from contracts with customers by types of products and geography, as it believes it best depicts how the nature, amount, timing, and uncertainty of revenue and cash flows are affected by economic factors. Refer to "Note 16: Segment Information" for further information on revenues by product line and geographic region.

Contract Balances:

Accounts receivable represents the Company's unconditional right to receive consideration from its customers. Contract assets consist of the Company's right to consideration in exchange for goods or services that the Company has transferred to a customer when that right is conditioned on something other than the passage of time. ASC 606 also requires an entity to present

a revenue contract as a contract liability in instances when a customer pays consideration, or an entity has a right to an amount of consideration that is unconditional (i.e., receivable), before the entity transfers a good or service to the customer. The Company's contract asset and contract liability balances were not material as of January 26, 2020 and January 27, 2019.

There were no impairment losses recognized on the Company's accounts receivable or contract assets during the fiscal year ended January 26, 2020.

Contract Costs: All incremental customer contract acquisition costs are expensed as they are incurred as the amortization period of the asset that the Company otherwise would have recognized is one year or less in duration.

Significant Financing Component: The Company does not adjust the promised amount of consideration for the effects of a significant financing component as the Company expects, at contract inception, that the period between when the Company transfers a promised good or service to a customer and when the customer pays for that good or service will be one year or less.

Sales Tax Exclusion from the Transaction Price: The Company excludes from the measurement of the transaction price all taxes assessed by a governmental authority that are both imposed on and concurrent with a specific revenue-producing transaction and collected by the Company from the customer.

Shipping and Handling Activities: The Company accounts for shipping and handling activities performed after a customer obtains control of the good as activities to fulfill the promise to transfer the good.

Cost of Sales

Cost of sales includes materials, depreciation on fixed assets used in the manufacturing process, shipping costs, direct labor and overhead.

Sales and Marketing

The Company expenses sales and marketing costs, which include advertising costs, as they are incurred. Advertising costs were \$0.9 million, \$0.6 million and \$0.6 million for fiscal years 2020, 2019 and 2018, respectively.

Product Development and Engineering

Product development and engineering costs are charged to expense as incurred. Recoveries from nonrecurring engineering services are recorded as an offset to product development expense incurred in support of this effort since these activities do not represent an earnings process core to the Company's business and serve as a mechanism to partially recover development expenditures. The Company received approximately \$8.4 million, \$4.4 million and \$5.4 million of recoveries for nonrecurring engineering services in fiscal years 2020, 2019 and 2018, respectively.

Income Taxes

The Company accounts for income taxes using the asset and liability method. Under this method, deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial statement carrying amounts and their respective tax bases. Current and long-term prepaid taxes are included in "Prepaid taxes" and "Other assets," respectively, and current and long-term liabilities for uncertain tax positions are included in "Accrued liabilities" and "Other long-term liabilities," respectively, in the Balance Sheets.

As part of the process of preparing the Company's consolidated financial statements, the Company estimates income taxes in each of the jurisdictions in which it operates. This process involves estimating the current tax liability together with assessing temporary differences resulting from differing treatment of items for tax and accounting purposes. These differences result in deferred tax assets and liabilities. The Company must assess the likelihood that its deferred tax assets will be recovered from future taxable income and, to the extent the Company believes that recovery is not likely, it must establish a valuation allowance. To the extent the Company changes its valuation allowance in a period, the change is generally recorded through the tax provision in the Statements of Income.

The Company continually reviews its position on undistributed earnings from its foreign subsidiaries to determine whether those earnings are indefinitely reinvested offshore. Domestic and foreign operating cash flow forecasts are reviewed to determine the sources and uses of cash. Based on these forecasts, the Company determines the need to accrue deferred tax liabilities associated with its undistributed offshore earnings.

Other Comprehensive Income (Loss)

Other comprehensive income or loss includes unrealized gains or losses on AFS investments, foreign currency and interest rate hedging activities, and changes in defined benefit plans, which are presented in the Statements of Comprehensive Income.

The following table summarizes the changes in other comprehensive (loss) income by component:

(in thousands)	Fiscal Year Ended								
	January 26, 2020			January 27, 2019			January 28, 2018		
	Pre-tax Amount	Tax Benefit (Expense)	Net Amount	Pre-tax Amount	Tax (Expense) Benefit	Net Amount	Pre-tax Amount	Tax Benefit (Expense)	Net Amount
Defined benefit plans:									
Other comprehensive (loss) gain before reclassifications	\$ (9,237)	\$ 1,276	\$ (7,961)	\$ (2,597)	\$ 116	\$ (2,481)	\$ 637	\$ (253)	\$ 384
Amounts reclassified to earnings included in "Selling, general and administrative"	3,446	(476)	2,970	—	—	—	—	—	—
Foreign currency hedge:									
Other comprehensive (loss) gain before reclassifications	66	(7)	59	(164)	49	(115)	1,205	(263)	942
Amounts reclassified to earnings included in "Selling, general and administrative"	(149)	16	(133)	233	(44)	189	(1,531)	299	(1,232)
Available-for-sale securities:									
Other comprehensive gain before reclassifications	3,156	(650)	2,506	—	—	—	—	—	—
Other comprehensive (loss) income	\$ (2,718)	\$ 159	\$ (2,559)	\$ (2,528)	\$ 121	\$ (2,407)	\$ 311	\$ (217)	\$ 94

Accumulated Other Comprehensive Loss

The following table summarizes the changes in accumulated other comprehensive loss by component:

(in thousands)	Defined Benefit Plans	Foreign Currency Hedge	Available-for-Sale Securities	Cumulative Translation Adjustment	Accumulated Other Comprehensive Loss
Balance as of January 29, 2017	\$ (2,414)	\$ 290	\$ —	\$ 830	\$ (1,294)
Other comprehensive income (loss)	384	(290)	—	—	94
Balance as of January 28, 2018	(2,030)	—	—	830	(1,200)
Other comprehensive (loss) income	(2,481)	74	—	—	(2,407)
Balance as of January 27, 2019	(4,511)	74	—	830	(3,607)
Other comprehensive (loss) income	(4,991)	(74)	2,506	—	(2,559)
Balance as of January 26, 2020	\$ (9,502)	\$ —	\$ 2,506	\$ 830	\$ (6,166)

Share-Based Compensation

The Company measures compensation cost for all share-based payments (including stock options) at fair value using valuation models, which consider, among other things, estimates and assumptions on the expected life of options, stock price volatility and market value of the Company's common stock. Additionally, for awards with a performance condition, the Company uses financial forecasts that use assumptions that are consistent with those used for other valuation exercises, including goodwill valuation and asset impairment assessments. If any of the assumptions used in the valuation model change significantly, share-based compensation expense may differ materially in the future from that recorded in the current period and actual results may differ from estimates.

The Company has various equity award plans ("Plans") that provide for granting stock-based awards to employees and non-employee directors of the Company. The Plans provide for the granting of several available forms of stock compensation. As of January 26, 2020, the Company has granted non-qualified stock option awards ("NQSOs") and restricted stock unit awards ("RSUs") under the Plans and has also issued some share-based compensation outside of the Plans, including NQSOs and RSUs as inducements to join the Company.

Earnings per Share

The computation of basic and diluted earnings per common share was as follows:

(in thousands, except per share data)	Fiscal Year Ended		
	January 26, 2020	January 27, 2019	January 28, 2018
Net income attributable to common stockholders	\$ 31,871	\$ 69,639	\$ 34,649
Weighted average common shares outstanding—basic	66,263	65,982	66,027
Dilutive effect of share-based compensation	1,155	2,499	1,578
Weighted average common shares outstanding—diluted	67,418	68,481	67,605
Basic earnings per common share	\$ 0.48	\$ 1.06	\$ 0.52
Diluted earnings per common share	\$ 0.47	\$ 1.02	\$ 0.51
Anti-dilutive shares not included in the above calculations	120	553	402

Basic earnings per common share is computed by dividing income available to common stockholders by the weighted-average number of shares of common stock outstanding during the reporting period. Diluted earnings per common share incorporates the incremental shares issuable, calculated using the treasury stock method, upon the assumed exercise of NQSOs and the vesting of RSUs and performance unit awards if certain conditions have been met, but excludes such incremental shares that would have an anti-dilutive effect.

Contingencies

From time to time the Company is a defendant or plaintiff in various legal actions that arise in the normal course of business. The Company is also subject to income tax, indirect tax or other tax claims by tax agencies in jurisdictions in which it conducts business. In addition, the Company is a party to environmental matters including local, regional, state, and federal government clean-up activities at or near locations where the Company currently or has in the past conducted business. The Company is required to assess the likelihood of any adverse judgments or outcomes to these matters as well as potential ranges of reasonably possible losses. A determination of the amount of reserves required for these commitments and contingencies that would be charged to earnings, if any, includes assessing the probability of adverse outcomes and estimating the amount of potential losses. The required reserves, if any, may change due to new developments in each matter or changes in circumstances such as a change in settlement strategy.

The Company also records contingent earn-out liabilities, which represent the Company's requirement to make additional payments related to acquisitions based on certain performance targets achieved during the earn-out periods. The Company measures contingent earn-out liabilities at fair value on a recurring basis using significant unobservable inputs classified within Level 3 of the fair value hierarchy. The significant unobservable inputs used in the fair value measurements are revenue projections over the earn-out period (or other specified performance targets) and the probability outcome percentages assigned to each scenario. Significant increases or decreases to either of these inputs in isolation would result in a significantly higher or lower liability, with a higher liability capped by the contractual maximum of the contingent earn-out obligation.

Recently Adopted Accounting Guidance

In February 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2016-02, Leases (Topic 842), to increase transparency and comparability among organizations by requiring the recognition of right-of-use ("ROU") assets and lease liabilities in the balance sheet. Most prominent among the changes in the standard is the recognition of ROU assets and lease liabilities by lessees for those leases classified as operating leases. Under the standard, disclosures are required to meet the objective of enabling users of financial statements to assess the amount, timing, and uncertainty of cash flows arising from leases.

In July 2018, the FASB issued additional guidance on the accounting for leases. The guidance provides companies with another transition method by allowing entities to recognize a cumulative-effect adjustment to the opening balance of retained earnings as of the date of adoption. Under this method, financial information related to periods prior to adoption will be as originally reported under Accounting Standards Codification ("ASC") 840, Leases. Upon adoption as of January 28, 2019, the Company recorded ROU assets of \$13.0 million and lease liabilities of \$13.8 million. There was no other impact from the adoption. The difference between the ROU assets and lease liabilities primarily represents the existing deferred rent liabilities balance, resulting from historical straight-lining of operating leases, which was reclassified upon adoption to reduce the measurement of the ROU assets. The adoption of the standard did not have an impact on the Company's stockholders' equity and did not have a material impact on the Company's results from operations and cash flows.

The new standard provides several optional practical expedients in transition. The Company elected a transition package of three practical expedients permitted within the standard, which eliminates the requirements to reassess prior conclusions about lease identification, lease classification, and initial direct costs. The Company elected the hindsight practical expedient, which permits the use of hindsight when determining lease term and impairment of ROU assets.

The Company also made accounting policy elections, including a short-term lease exception policy, permitting it to not apply the recognition requirements of this standard to short-term leases (i.e. leases with terms of 12 months or less), and an accounting policy to account for lease and non-lease components as a single component for equipment leases.

In February 2018, the FASB issued ASU No. 2018-02, Income Statement-Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income (AOCI), which gives entities the option to reclassify to retained earnings the tax effects resulting from the Tax Cuts and Jobs Act (“Tax Act”) related to items in AOCI that the FASB refers to as having been stranded in AOCI. The new guidance may be applied retrospectively to each period in which the effect of the Tax Act is recognized in the period of adoption. The Company must adopt this guidance for fiscal years beginning after December 15, 2018 and interim periods within those fiscal years. Early adoption is permitted for periods for which financial statements have not yet been issued or made available for issuance, including the period the Tax Act was enacted. The guidance, when adopted, requires new disclosures regarding a company’s accounting policy for releasing the tax effects in AOCI and provides the Company the option to reclassify to retained earnings the tax effects resulting from the Tax Act that are stranded in AOCI. The Company adopted this guidance in the first quarter of fiscal year 2020. Adoption of this guidance did not have a material impact on the Company’s consolidated financial statements.

In August 2017, the FASB issued ASU No. 2017-12, Derivatives and Hedging (Topic 815). The new standard is designed to refine and expand hedge accounting for both financial (i.e., interest rate) and commodity risks. Its provisions create more transparency around how economic results are presented, both on the face of the financial statements and in the footnotes. It also makes certain targeted improvements to simplify the application of hedge accounting guidance. The new standard is effective for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years. Early adoption, including adoption in an interim period, is permitted. The Company adopted this guidance in the first quarter of fiscal year 2020. Adoption of this guidance did not have a material impact on the Company’s consolidated financial statements.

Accounting Guidance Issued, but not yet Adopted as of January 26, 2020

In December 2019, the FASB issued ASU No. 2019-12, Simplifying the Accounting for Income Taxes, which modifies ASC 740 to simplify the accounting for income taxes. This guidance impacts the accounting for hybrid tax regimes, the tax basis step-up in goodwill obtained in a transaction that is not a business combination, separate financial statements of legal entities not subject to tax, the intraperiod tax allocation exception to the incremental approach, ownership changes in investments from a subsidiary to an equity method investment and vice versa, interim period accounting for enacted changes in tax law and the year-to-date loss limitation in interim period tax accounting. This guidance is effective for fiscal years beginning after December 15, 2020, and interim periods within those fiscal years, with early adoption permitted. The Company will adopt this guidance in the first quarter of fiscal year 2022 and is still evaluating, but does not expect the adoption of this guidance to have a material impact on its consolidated financial statements.

In June 2016, the FASB issued ASU No. 2016-13, Financial Instruments - Credit Losses (Topic 326), Measurement of Credit Losses on Financial Instruments. This guidance requires financial assets measured at amortized cost basis to be presented at the net amount expected to be collected. It also requires credit losses on available-for-sale debt securities to be presented as an allowance, rather than reducing the carrying amount. ASU 2016-13 is effective for fiscal years beginning after December 15, 2019, and for interim periods within those fiscal years. The Company will adopt ASU 2016-13 in the first quarter of fiscal year 2021 and does not expect the adoption of this guidance to have a material impact on its consolidated financial statements.

Note 3: Acquisitions

There were no acquisitions during the fiscal year ended January 26, 2020.

Fiscal Year 2019 Acquisitions

Trackio International AG

On August 17, 2018, the Company, through its subsidiary Semtech (International) AG, a Swiss corporation, entered into a share purchase agreement to purchase all of the outstanding equity interests of Trackio International AG, a Swiss corporation, and its subsidiaries (collectively, "TrackNet"), for an aggregate purchase price of approximately \$8.5 million (the "TrackNet Acquisition"). TrackNet is a provider of LoRa-based end-to-end solutions for the IoT and provides expertise and intellectual property that will be integrated into the Company's business to support its goal of enabling the growing ecosystem around the Company's LoRa® devices and wireless radio frequency technology. \$4.3 million was attributed to goodwill (see Note 8) and \$3.0 million and \$0.3 million was attributed to the estimated fair values of the intangible and tangible net assets acquired, respectively. The goodwill is not deductible for tax purposes. The transaction was completed on December 11, 2018 and accounted for as a business combination. The purchase price allocation for the TrackNet acquisition is complete. Net sales, earnings and pro forma results of operations have not been presented because they are not material to the Company's consolidated financial statements. A summary of the purchase price allocation is as follows:

(in thousands)	Estimated Useful Life	January 27, 2019
Finite-lived intangible asset - Core Technologies	3 years	\$ 3,000
Goodwill		4,316
Other assets (liabilities), net		1,184
Total consideration		<u>\$ 8,500</u>

IC Interconnect, Inc.

On May 2, 2018, the Company acquired substantially all of the assets of IC Interconnect, Inc. ("ICI") for an aggregate purchase price of approximately \$7.4 million. The addition of ICI is aimed at further enhancing the Company's U.S. research and development capabilities for its next-generation Z-Pak platform. \$4.9 million was attributed to goodwill (see Note 8) and \$2.5 million was attributed to the estimated fair values of the tangible net assets acquired. The goodwill is deductible for tax purposes. The transaction was accounted for as a business combination. Net sales, earnings, and pro forma results of operations have not been presented because they are not material to the Company's consolidated financial statements.

Fiscal Year 2018 Acquisition

AptoVision Technologies Inc.

On July 1, 2017, the Company acquired AptoVision Technologies Inc. ("AptoVision"), a privately-held provider of uncompressed, zero-frame latency, video-over-IP solutions addressing the professional audio visual market. The unique combination of AptoVision's advanced algorithms for real-time, full bandwidth video transmission over IP networks, and Semtech's industry leading high-speed signal integrity and chip development expertise is expected to enable the adoption of Software Defined Video over Ethernet ("SDVoE") accelerating this natural progression in the evolution of video transport.

Under the terms of the share purchase agreement, the Company acquired all of the outstanding equity interest in AptoVision for a cash payment of \$17.6 million at closing, net of acquired cash, and a commitment to pay additional contingent consideration of up to a maximum of \$47.0 million over three years if certain goals are achieved in each of the earn out periods (the "AptoVision Earn-Out"). To date, we have made \$9.4 million in payments related to the AptoVision Earn-out, and based on our assessment of performance, we do not expect to make any future payments. The fair value of the AptoVision Earn-out as of January 27, 2019 was \$2.2 million, of which \$1.3 million was presented in "Accrued liabilities" and \$0.9 million was presented in "Other long-term liabilities" in the Balance Sheets. The Company fully released its liability for the AptoVision Earn-out during the fiscal year ended January 26, 2020, based on the Company's assessment of performance. For the fiscal year ended January 28, 2018, acquisition related transaction costs of \$1.6 million were accounted for as an expense in the period in which the costs were incurred and were presented in "Selling, general and administrative" expense in the Statements of Income.

AptoVision met the definition of a business and was accounted for under the acquisition method of accounting in accordance with the FASB's ASC Topic 805, Business Combinations. The consideration to acquire AptoVision was allocated to the acquired tangible and intangible assets and assumed liabilities of AptoVision based on their respective estimated fair values as of the acquisition date. A summary of the allocation is as follows:

(in thousands)	Estimated Useful Life	January 28, 2018	
Finite-lived intangible asset - Developed Technology	6-7 years	\$	20,000
Finite-lived intangible asset - Customer Relationships	3 years		4,000
Indefinite-lived intangible asset - in-process research and development ("IPR&D")			2,300
Goodwill			12,194
Other (liabilities) assets, net			(3,875)
Total consideration		\$	<u>34,619</u>

The fair value of the developed technology rights acquired was determined by estimating the probability-weighted net cash flows attributable to these rights discounted to present value using a discount rate that represents the estimated rate that market participants would use to value this intangible asset. The developed technology rights acquired relate to AptoVision's BlueRiver™ platform.

The fair value of the customer relationships was determined by estimating the amount that would be required currently to replace the customers from lead generations to product shipment.

The IPR&D primarily relates to an assumed license agreement that had been executed in close proximity to the acquisition date. The investment in the license approximates fair value. During the fourth quarter of fiscal year 2020, the IPR&D became fully developed and was, therefore, transferred to finite-lived intangible assets as part of core technologies.

The \$12.2 million excess of the acquisition consideration over the fair value of the assets acquired and liabilities assumed was allocated to goodwill. The goodwill resulted from expected synergies and other benefits from the transaction. The Company expects that all such goodwill will be deductible for tax purposes. The purchase price allocation for the AptoVision acquisition is complete.

Net sales and earnings attributable to AptoVision since the acquisition date were not material. Pro forma results of operations have not been presented as AptoVision's annual financial results were not material to the Company's consolidated financial statements.

Note 4: Available-for-sale securities

The following table summarizes the values of the Company's available-for-sale securities:

(in thousands)	January 26, 2020			January 27, 2019		
	Market Value	Adjusted Cost	Gross Unrealized Gain	Market Value	Adjusted Cost	Gross Unrealized Gain
Convertible debt	\$ 10,700	\$ 7,544	\$ 3,156	\$ 3,105	\$ 3,105	\$ —
Total available-for-sale securities	\$ 10,700	\$ 7,544	\$ 3,156	\$ 3,105	\$ 3,105	\$ —

The following table summarizes the maturities of the Company's available-for-sale securities:

(in thousands)	January 26, 2020	
	Market Value	Adjusted Cost
Within 1 year	\$ 10,200	\$ 7,044
After 1 year through 5 years	500	500
Total available-for-sale securities	\$ 10,700	\$ 7,544

The Company's available-for-sale ("AFS") securities consist of investments in convertible debt instruments issued by privately-held companies. The AFS investments with maturities within one year were included in "Other current assets" and with maturities greater than one year were included in "Other assets" in the Balance Sheets. Additions to the Company's AFS investments during the fiscal year ended January 26, 2020 included a \$3.2 million convertible note that has a maturity date of December 15, 2020 and an interest rate of 12%.

The Company records its investments in AFS securities at fair market value, which also reflects expected credit losses. During fiscal year 2020, the gross unrealized gain primarily reflects an increase in fair market value on two of our AFS securities based on Level 3 inputs. In addition, the cost of an AFS security was reduced by \$0.7 million, reflecting a decrease in fair market value driven by an increase in expected credit losses.

Note 5: Fair Value Measurements

Instruments Measured at Fair Value on a Recurring Basis

Financial assets and liabilities measured and recorded at fair value on a recurring basis were presented within the Company's Balance Sheets as follows:

(in thousands)	Fair Value as of January 26, 2020				Fair Value as of January 27, 2019			
	Total	(Level 1)	(Level 2)	(Level 3)	Total	(Level 1)	(Level 2)	(Level 3)
Financial assets:								
Convertible debt	\$ 10,700	\$ —	\$ —	\$ 10,700	\$ 3,105	\$ —	\$ —	\$ 3,105
Derivative financial instruments	—	—	—	—	69	—	69	—
Total financial assets	<u>\$ 10,700</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 10,700</u>	<u>\$ 3,174</u>	<u>\$ —</u>	<u>\$ 69</u>	<u>\$ 3,105</u>
Financial liabilities:								
AptoVision Earn-out	\$ —	\$ —	\$ —	\$ —	\$ 2,161	\$ —	\$ —	\$ 2,161
Cycleo Earn-out	2,108	—	—	2,108	4,514	—	—	4,514
Total financial liabilities	<u>\$ 2,108</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 2,108</u>	<u>\$ 6,675</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 6,675</u>

During fiscal years 2020 and 2019, the Company had no transfers of financial assets or liabilities between Level 1, Level 2 or Level 3. As of January 26, 2020, and January 27, 2019, the Company had not elected the fair value option for any financial assets and liabilities for which such an election would have been permitted.

The foreign currency forward contracts are valued using readily available foreign currency forward and interest rate curves (Level 2 inputs). The fair value of each contract is determined by comparing the contract rate to the forward rate and discounting to the present value. Contracts in a gain position are recorded in "Other current assets" in the Balance Sheets and the value of contracts in a loss position are recorded in "Accrued liabilities" in the Balance Sheets. See Note 19 for further discussion of the Company's derivative instruments.

The convertible debt investments are valued utilizing a combination of estimates of the discounted cash flows associated with the debt and the fair value of the equity into which the debt may be converted (Level 3 inputs).

The AptoVision Earn-out liability (see Note 14) is valued utilizing estimates of annual sales, adjusted earnings, and product development targets (Level 3 inputs) through July 2020. These estimates represent inputs for which market data is not available and are developed using the best information available about the assumptions that market participants would use when pricing the liability.

The Cycleo Earn-out liability (see Note 14) is valued utilizing estimates of annual sales and operating income (Level 3 inputs) through April 2020. These estimates represent inputs for which market data is not available and are developed using the best information available about the assumptions that market participants would use when pricing the liability.

The Company measures contingent earn-out liabilities at fair value on a recurring basis using significant unobservable inputs classified within Level 3 of the fair value hierarchy. The significant unobservable inputs used in the fair value measurements are sales projections over the earn-out period, and the probability outcome percentages assigned to each scenario. Significant increases or decreases to either of these inputs in isolation would result in a significantly higher or lower liability, with a higher liability capped by the contractual maximum of the contingent earn-out obligation. Ultimately, the liabilities will be equivalent to the amount paid, and the difference between the fair value estimate and amount paid will be recorded in earnings. For the AptoVision Earn-out and Cycleo Earn-out, these companies have business profiles comparable to a start-up company. Accordingly, their respective sales projections are subject to significant revisions. This characteristic can result in volatile changes to the measurement of fair value for a given earn-out.

The Company reviews and re-assesses the estimated fair value of earn-out obligations on a recurring basis, and the updated fair value could differ materially from the previous estimates. Adjustments to the estimated fair values related to contingent consideration are reported in changes in fair value of contingent earn-out obligations, while changes in all other unobservable inputs are reported in operating income.

The following table presents a reconciliation of changes in the earn-out liability during the fiscal year ended January 26, 2020:

(in thousands)	AptoVision	Cycleo	Total
Balance at January 27, 2019	\$ 2,161	\$ 4,514	\$ 6,675
Changes in fair value of contingent earn-out obligations	(2,161)	(184)	(2,345)
Changes in fair value of non-contingent earn-out obligations	—	(578)	(578)
Payments	—	(1,644)	(1,644)
Balance at January 26, 2020	<u>\$ —</u>	<u>\$ 2,108</u>	<u>\$ 2,108</u>

Instruments Not Recorded at Fair Value on a Recurring Basis

Some of the Company's financial instruments are not measured at fair value on a recurring basis, but are recorded at amounts that approximate fair value due to their liquid or short-term nature. Such financial assets and financial liabilities include: cash and cash equivalents including money market deposits, net receivables, certain other assets, accounts payable, accrued expenses, accrued personnel costs, and other current liabilities. The Company's long-term debt is recorded at cost, but is measured at fair value for disclosure purposes. As the long-term debt bears interest at a floating rate based on an index plus a spread, management determined that the carrying amount of the long-term debt approximates fair value.

Assets and Liabilities Recorded at Fair Value on a Non-Recurring Basis

The Company reduces the carrying amounts of its goodwill, intangible assets, long-lived assets, and non-marketable equity securities to fair value when held for sale or determined to be impaired.

For the Company's investments in non-marketable equity interests, the Company evaluates these investments for impairment when there are indicators of impairment which can be caused by changes in circumstances that may have a significant adverse effect on the fair value of its cost method or equity method investments. As discussed in Note 4, during fiscal year 2020, the Company tested its investments for impairment, which resulted in a \$0.5 million write-down of a cost method investment and a \$0.7 million other-than-temporary impairment of a convertible debt investment. During fiscal year 2019, the Company tested a cost method investment for impairment, which resulted in a \$30.0 million write-down of the investment. In determining that the fair value of the Company's investment is zero, the Company used a discounted cash flow model. The valuation model is most sensitive to the weighted-average cost of capital assumption, which was determined to be approximately 38.8%, given the nature of the investment.

Note 6: Inventories

Inventories, consisting of material, material overhead, labor, and manufacturing overhead, are stated at the lower of cost (first-in, first-out) or net realizable value and consisted of the following:

(in thousands)	January 26, 2020	January 27, 2019
Raw materials	\$ 2,223	\$ 2,057
Work in progress	50,640	44,530
Finished goods	20,147	17,092
Inventories	<u>\$ 73,010</u>	<u>\$ 63,679</u>

Note 7: Property, Plant and Equipment

The following is a summary of property and equipment:

(in thousands)	Estimated Useful Lives	January 26, 2020	January 27, 2019
Land		\$ 12,143	\$ 11,314
Buildings	7 to 39 years	35,801	32,229
Leasehold improvements	5 to 12 years	10,148	9,863
Machinery and equipment	3 to 8 years	196,270	185,045
Computer hardware and software	3 to 13 years	68,748	67,746
Furniture and office equipment	5 to 7 years	5,236	5,364
Construction in progress		10,859	2,960
Property, plant and equipment, gross		339,205	314,521
Less: accumulated depreciation and amortization		(214,787)	(196,033)
Property, plant and equipment, net		\$ 124,418	\$ 118,488

As of January 26, 2020, and January 27, 2019, construction in progress consisted primarily of machinery and equipment awaiting completion of installation and being placed in service.

Depreciation expense was \$23.4 million, \$23.0 million, and \$21.1 million in fiscal years 2020, 2019, and 2018, respectively.

Note 8: Goodwill and Intangible Assets

Goodwill

Changes in the carrying amount of goodwill by applicable reporting unit were as follows:

(in thousands)	Signal Integrity	Wireless and Sensing	Protection	Total
Balance at January 27, 2019	\$ 274,085	\$ 72,128	\$ 4,928	\$ 351,141
Additions	—	—	—	—
Balance at January 26, 2020	\$ 274,085	\$ 72,128	\$ 4,928	\$ 351,141

Goodwill is not amortized, but is tested for impairment at the reporting unit level using either a qualitative or quantitative assessment on an annual basis during the fourth quarter of each fiscal year, and whenever events or changes in circumstances indicate that the carrying value may not be recoverable. The recoverability of goodwill is measured at the reporting unit level by comparing the reporting unit's carrying amount, including goodwill, to the fair market value of the reporting unit. The reporting units are the same as the operating segments, which aggregate into a single reportable segment (see Note 16 on segment information). For fiscal year 2020, the Company performed a quantitative assessment that demonstrated that the fair value of the reporting units was higher than their respective carrying values. For fiscal years 2019 and 2018, the Company performed a qualitative assessment and concluded that it was more likely than not that the fair value of each of the three reporting units exceeded its carrying value. As of January 26, 2020 and January 27, 2019, there were no indications of impairment of the Company's goodwill balances, and no impairment to goodwill was recorded during fiscal years 2020, 2019 or 2018.

Purchased Intangibles

The following table sets forth the Company's finite-lived intangible assets resulting from business acquisitions and technology licenses purchased, which are amortized over their estimated useful lives:

(in thousands)	Estimated Useful Life	January 26, 2020			January 27, 2019		
		Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Core technologies	3-8 years	\$ 82,857	\$ (63,434)	\$ 19,423	\$ 167,930	\$ (136,544)	\$ 31,386
Customer relationships	3-5 years	6,000	(5,411)	589	34,031	(31,159)	2,872
Total finite-lived intangible assets		\$ 88,857	\$ (68,845)	\$ 20,012	\$ 201,961	\$ (167,703)	\$ 34,258

Amortization expense of finite-lived intangible assets recorded in the Statements of Income for each period was as follows:

(in thousands)	January 26, 2020	January 27, 2019	January 28, 2018
Core technologies	\$ 14,263	\$ 20,916	\$ 22,688
Customer relationships	2,283	5,733	5,179
Total amortization expense	\$ 16,546	\$ 26,649	\$ 27,867

Future amortization expense of finite-lived intangible assets is expected as follows:

(in thousands)	Core Technologies	Customer relationships	Total
To be recognized in:			
Fiscal year 2021	\$ 7,677	\$ 589	\$ 8,266
Fiscal year 2022	4,942	—	4,942
Fiscal year 2023	4,002	—	4,002
Fiscal year 2024	1,676	—	1,676
Fiscal year 2025	1,126	—	1,126
Total expected amortization expense	\$ 19,423	\$ 589	\$ 20,012

The following table sets forth the Company's indefinite-lived intangible assets resulting from additions to IPR&D:

(in thousands)	Net Carrying Amount
Value at January 28, 2018	\$ 2,300
Value at January 27, 2019	2,300
Transfers to core technologies	(2,300)
Value at January 26, 2020	\$ —

The Company reviews indefinite-lived intangible assets for impairment during the fourth quarter of each fiscal year by comparing the carrying amount of the asset to the future discounted cash flows that the asset is expected to generate. There was no impairment to the Company's indefinite-lived intangible assets during fiscal years 2020, 2019 or 2018. During the fourth quarter of fiscal year 2020, the IPR&D acquired by the Company in connection with the Aptovision acquisition became fully developed and was, therefore, transferred to finite-lived intangible assets as part of core technologies.

Note 9: Accrued Liabilities

The following is a summary of accrued liabilities for fiscal years 2020 and 2019:

(in thousands)	January 26, 2020	January 27, 2019
Compensation	\$ 20,817	\$ 34,987
Contract liabilities (ASC 606)	8,581	10,073
Lease liabilities (ASC 842)	3,273	—
Earn-out liability	2,108	3,276
Professional fees	2,449	2,336
Deferred revenue	3,931	3,439
Deferred compensation	1,365	2,203
Income taxes payable	—	2,105
Environmental reserve	1,450	1,460
Other	6,658	8,583
Accrued liabilities	\$ 50,632	\$ 68,462

Note 10: Long-Term Debt

Long-term debt and the current period interest rates were as follows:

(in thousands)	Balance as of	
	January 26, 2020	January 27, 2019
Term loans	\$ —	\$ 115,312
Revolving loans	197,000	97,000
Total debt	197,000	212,312
Current portion	—	(18,269)
Total long-term debt	197,000	194,043
Debt issuance costs	(2,257)	(1,198)
Total long-term debt, net of debt issuance costs	\$ 194,743	\$ 192,845
Weighted-average interest rate	2.95%	4.14%

On November 7, 2019, the Company, with certain of its domestic subsidiaries as guarantors, entered into an amended and restated credit agreement (the "Credit Agreement") with the lenders party thereto and HSBC Bank USA, National Association, as administrative agent, swing line lender and letter of credit issuer in order to provide a more flexible borrowing structure by expanding the borrowing capacity of the revolving loans under the senior secured first lien credit facility (the "Credit Facility") to \$600.0 million, eliminating the term loans and extending the maturity to November 7, 2024. Up to \$40.0 million of the revolving loans may be used to obtain letters of credit, up to \$25.0 million of the revolving loans may be used to obtain swing line loans, and up to \$40.0 million of the revolving loans may be used to obtain revolving loans and letters of credit in certain currencies other than U.S. Dollars ("Alternative Currencies"). The proceeds of the Credit Facility may be used by the Company for capital expenditures, permitted acquisitions, permitted dividends, working capital and general corporate purposes. Proceeds of the Credit Facility were used to repay in full all of the obligations outstanding under the Company's then existing senior secured first lien credit facility and to pay transaction costs in connection with such refinancing.

The Credit Agreement provides that, subject to certain customary conditions, including obtaining commitments with respect thereto, the Company may request the establishment of one or more term loan facilities and/or increases to the revolving loans in a principal amount not to exceed (a) \$300.0 million, plus (b) an unlimited amount, so long as our consolidated leverage ratio, determined on a pro forma basis, does not exceed 3.00 to 1.00. However, the lenders are not required to provide such increase upon our request.

Interest on loans made under the Credit Agreement in U.S. Dollars accrues, at the Company's option, at a rate per annum equal to (1) the Base Rate (as defined below) plus a margin ranging from 0.25% to 1.25% depending upon the Company's consolidated leverage ratio or (2) LIBOR (determined with respect to deposits in U.S. Dollars) for an interest period to be selected by the Company plus a margin ranging from 1.25% to 2.25% depending upon the Company's consolidated leverage ratio (such margin, the "Applicable Margin"). The "Base Rate" is equal to a fluctuating rate equal to the highest of (a) the prime rate of the Administrative Agent, (b) 0.50% above the federal funds effective rate published by the Federal Reserve Bank of New York and (c) one-month LIBOR (determined with respect to deposits in U.S. Dollars) plus 1.00%. Interest on loans made under the Credit Facility in Alternative Currencies accrues at a rate per annum equal to LIBOR (determined with respect to deposits in the applicable Alternative Currency) (other than loans made in Canadian Dollars, for which a special reference rate for Canadian Dollars applies) for an interest period to be selected by the Company plus the Applicable Margin.

Commitment fees on the unused portion of the revolving loans accrue at a rate per annum ranging from 0.20% to 0.35% depending upon the Company's consolidated leverage ratio. The initial commitment fee rate is 0.20% per annum.

With respect to letters of credit, the Company will pay the Administrative Agent, for the account of the Lenders, letter of credit participation fees at a rate per annum equal to the Applicable Margin then in effect with respect to LIBOR-based loans on the face amount of all outstanding letters of credit. The Company will also pay HSBC Bank USA, N.A., as the issuing bank, a fronting fee for each letter of credit issued under the Credit Agreement at a rate equal to 0.125% per annum based on the maximum amount available to be drawn under each such letter of credit, as well as its customary documentation fees.

All obligations of the Company under the Credit Agreement are unconditionally guaranteed by all of the Company's direct and indirect domestic subsidiaries, other than certain excluded subsidiaries, including, but not limited to, any domestic subsidiary the primary assets of which consist of equity or debt of non-U.S. subsidiaries, certain immaterial non-wholly-owned domestic subsidiaries and subsidiaries that are prohibited from providing a guarantee under applicable law or that would require governmental approval to provide such guarantee. The Company and the guarantors have also pledged substantially all of their assets to secure their obligations under the Credit Agreement.

No amortization is required with respect to the revolving loans and the Company may voluntarily prepay borrowings at any time and from time to time, without premium or penalty, other than customary "breakage costs" and fees for LIBOR-based loans.

The Credit Agreement contains customary covenants, including limitations on the Company's ability to, among other things, incur indebtedness, create liens on assets, engage in certain fundamental corporate changes, make investments, repurchase stock, pay dividends or make similar distributions, engage in certain affiliate transactions, or enter into agreements that restrict the Company's ability to create liens, pay dividends or make loan repayments. In addition, the Company must comply with financial covenants, including maintaining a maximum consolidated leverage ratio, determined as of the last day of each fiscal quarter, of 3.50 to 1.00 or less, provided that, such maximum consolidated leverage ratio may be increased to 4.00 to 1.00 for the four consecutive fiscal quarters ending on or after the date of consummation of a permitted acquisition that constitutes a "Material Acquisition" under the Credit Agreement, subject to the satisfaction of certain conditions. As of January 26, 2020, the Company was in compliance with its financial covenants.

The Credit Agreement also contains customary provisions pertaining to events of default. If any event of default occurs, the obligations under the Credit Agreement may be declared due and payable, terminated upon written notice to the Company and existing letters of credit may be required to be cash collateralized.

The amendment of the Credit Agreement in the fourth quarter of fiscal year 2020 resulted in a loss on early extinguishment of debt totaling \$0.5 million, related to the write off of unamortized discounts and loan costs, which were presented in "Non-operating income, net" within the Statements of Income.

As of January 26, 2020, the Company had \$197.0 million outstanding under its Credit Facility, which had \$403.0 million of undrawn borrowing capacity. The outstanding borrowings are due at maturity on November 7, 2024.

Interest expense was comprised of the following components for the periods presented:

(in thousands)	Fiscal Year Ended		
	January 26, 2020	January 27, 2019	January 28, 2018
Contractual interest	\$ 8,622	\$ 8,674	\$ 7,395
Amortization of debt discount and issuance costs	484	528	568
Total interest expense	\$ 9,106	\$ 9,202	\$ 7,963

As of January 26, 2020, there were no amounts outstanding under the letters of credit, swing line loans and alternative currency sub-facilities.

Subsequent to the end of fiscal year 2020, we entered into an interest rate swap agreement to hedge the variability of interest payments on \$150.0 million of debt outstanding under our Credit Facility. The swap has a three-year term and based on our current leverage ratio, interest payments on \$150.0 million of our debt are now fixed at 1.9775%.

Note 11: Share-Based Compensation

Financial Statement Effects and Presentation

Pre-tax share-based compensation was included in the Statements of Income for fiscal years 2020, 2019 and 2018 as follows:

(in thousands)	Fiscal Year Ended		
	January 26, 2020	January 27, 2019	January 28, 2018
Net sales offset (Warrant)	\$ —	\$ 21,501	\$ 16,219
Cost of sales	1,928	1,639	1,477
Selling, general and administrative	38,556	35,430	24,266
Product development and engineering	11,565	8,267	8,089
Share-based compensation	\$ 52,049	\$ 66,837	\$ 50,051
Net change in share-based compensation capitalized into inventory	\$ —	\$ —	\$ (414)

Stock Options

In prior years, the Company has granted non-qualified stock options to both employees and non-employee directors. The fair value of these grants were measured on the grant date and recognized as expense over the requisite vesting period (typically 3-4 years). The Company uses the Black-Scholes pricing model to value stock options, and the weighted-average grant date fair values of awards granted in fiscal years 2019 and 2018 were \$14.53 and \$10.70, respectively. The number of shares authorized per the equity incentive plan is 17,031,653, and the maximum contractual term of equity share options is ten years.

The following table summarizes the activity for stock options for fiscal year 2020:

(in thousands, except per share data)	Number of Shares	Weighted-Average Exercise Price (per share)	Aggregate Intrinsic Value ⁽¹⁾	Number of Shares Exercisable	Weighted-Average Contractual Term (years)
Balance at January 27, 2019	877	\$ 29.03	\$ 18,226	472	
Granted	—	—			
Exercised	(242)	25.22	5,877		
Forfeited	(11)	41.71			
Balance at January 26, 2020	624	\$ 30.26	\$ 13,895	428	
Exercisable at January 26, 2020	428	\$ 25.26	\$ 11,661		2.1
Vested and expected to vest after January 26, 2020	624	\$ 30.26	\$ 13,895		2.7

⁽¹⁾ The aggregate intrinsic value of stock options vested and exercisable and vested and expected to vest as of January 26, 2020 is calculated based on the difference between the exercise price and the \$52.52 closing price of the Company's common stock as of January 26, 2020.

The aggregate unrecognized compensation expense for the outstanding stock options as of January 26, 2020 was \$1.9 million, which will be recognized over a weighted-average period of 2.2 years.

The following table summarizes information regarding unvested stock option awards at January 26, 2020:

(in thousands, except per share data)	Number of Shares	Weighted-Average Exercise Price (per share)	Weighted-Average Grant Date Fair Value (per share)
Balance at January 27, 2019	400	\$ 34.52	\$ 10.07
Granted	—	—	—
Vested	(193)	27.40	7.86
Forfeited	(11)	42.44	12.50
Balance at January 26, 2020	196	\$ 41.14	\$ 12.13

Market Condition Restricted Stock Units

In fiscal years 2020, 2019 and 2018, the Company granted, 266,000, 200,442 and 215,857, respectively, of restricted stock units to certain executives of the Company that have a pre-defined market condition that determines the number of shares that ultimately vest and a service condition that are accounted for as equity awards (the "TSR Awards"). The market condition is determined based upon the Company's total stockholder return ("TSR") benchmarked against the TSR of the S&P SPDR

Semiconductor ETF (NYSE:XSD) over a one, two, three, and some cases four-year period. Award recipients must be employed for the entire service period and be an active employee at the time of vesting. The Company uses a Monte Carlo simulation to determine the grant-date fair value for the TSR Awards, which takes into consideration the possible outcomes pertaining to the TSR market condition. The estimated fair market values for each tranche of the TSR Awards granted in fiscal year 2020 were \$55.82, \$59.36, \$61.45 and \$62.98 for the one-year, two-year, three-year and four-year vesting periods, respectively.

The following table summarizes the activity for TSR Awards for fiscal year 2020:

(in thousands, except per share data)	Total Units		Weighted-Average Grant Date Fair Value (per share)
Balance at January 27, 2019	203	\$	37.51
Granted	266		59.49
Vested	(79)		36.30
Cancelled/Forfeited ⁽¹⁾	(133)		48.94
Balance at January 26, 2020	257	\$	54.61

⁽¹⁾ Represents cancellations due to awards vesting below the TSR target

Amounts in the table above include the stated number of awards granted and outstanding. However, the number of awards that ultimately vest may be higher or lower than the originally granted amounts depending upon the actual TSR achievement level over the performance period. For example, of the 214,100 awards scheduled to vest on January 26, 2020, only 79,245 actually vested due to lower than target TSR achievement levels.

The aggregate unrecognized compensation expense for TSR Awards as of January 26, 2020, was \$8.4 million, which will be recognized over a weighted-average period of 1.6 years.

During the fourth quarter of fiscal year 2020, management identified certain immaterial errors related to share-based compensation expense of market-based awards granted during fiscal years 2018, 2019 and 2020. We concluded that the impact of the errors was not material and have corrected our consolidated financial statements and all other financial information presented in this Annual Report on Form 10-K for these errors. Refer to Note 20 for a discussion of the Company's assessment of the errors and impact on its consolidated financial statements.

CEO Market Condition Restricted Stock Units

On March 5, 2019, the Company granted its Chief Executive Officer ("CEO") 320,000 restricted stock units with a market condition. The award is eligible to vest during the period commencing March 5, 2019, and ending March 5, 2024 (the "Performance Period") as follows: 30% of the restricted stock units covered by the award will vest if, during any consecutive 30 day trading period that commences and ends during the Performance Period, the average per-share closing price of the Company's common stock equals or exceeds \$71.00 ("Tranche 1") and the award will vest in full if, during any consecutive 30 day trading period that commences and ends during the Performance Period, the average per-share closing price of the Company's common stock equals or exceeds \$95.00 ("Tranche 2"). The award will also vest as to 30% if a majority change in control of the Company occurs during the Performance Period and, in connection with such event, the Company's stockholders become entitled to receive per-share consideration having a value equal to or greater than \$71.00 but less than \$95.00. If the Change in Control Per-Share Consideration is equal to or greater than \$95.00 the award will fully vest. The fair value of Tranche 1 and Tranche 2 at the grant date was determined to be \$44.32 and \$33.19, respectively, by application of the Monte Carlo simulation model. The aggregate unrecognized compensation expense for the CEO market condition RSU award as of January 26, 2020 was \$4.8 million, which will be recognized over a weighted-average period of 1.1 years.

Restricted Stock Units, Employees

The Company grants restricted stock units to certain employees, which are expected to be settled with shares of the Company's common stock. The grant date for these awards is equal to the measurement date. These awards are valued as of the measurement date, based on the fair value of the Company's common stock at the grant date, and recognized as share-based compensation expense over the requisite vesting period (typically 4 years).

The following table is a summary of the status of non-vested restricted stock unit awards as of January 26, 2020, and changes during the year.

(in thousands, except per share data)	Restricted Stock Units, Stock Grants and Stock Units	
	Shares	Weighted-Average Grant Date Fair Value (per share)
Nonvested at January 27, 2019	2,204	\$ 36.62
Granted	921	47.88
Vested	(892)	31.62
Forfeited	(131)	40.55
Nonvested at January 26, 2020	2,102	\$ 43.43

The aggregate unrecognized compensation for the non-vested restricted stock units as of January 26, 2020 was \$71.8 million, which will be recognized over a weighted-average period of 2.4 years.

Restricted Stock Units, Non-Employee Directors

The Company maintains a compensation program pursuant to which restricted stock units are granted to the Company's directors that are not employed by the Company or any of its subsidiaries. Under the Company's director compensation program, a portion of the stock units granted under the program would be settled in cash and a portion would be settled in shares of the Company's common stock. Restricted stock units awarded under the program are scheduled to vest on the earlier of (i) one year after the grant date or (ii) the day immediately preceding the annual meeting of stockholders in the year following the grant. The portion of a restricted stock unit award under the program that is to be settled in cash will, subject to vesting, be settled when the director who received the award separates from the board of directors. The portion of a restricted stock unit award under the program that is to be settled in shares of stock will, subject to vesting, be settled promptly following vesting. There were no changes to the terms and conditions of the existing awards.

The restricted stock units that are to be settled in cash are accounted for as liabilities. These awards are not typically settled until a non-employee director's separation from service, so the value of both the unvested and vested but unsettled awards are re-measured at the end of each reporting period until settlement. As of January 26, 2020, the total number of vested, but unsettled awards was 190,873 units, and \$10.5 million of the liability associated with these awards was included in "Other long-term liabilities" in the Balance Sheets.

The restricted stock units that are to be settled in shares are accounted for as equity. The grant date for these awards is equal to the measurement date. These awards are valued as of the measurement date, based on the fair value of the Company's common stock at the grant date, and recognized as share-based compensation expense over the requisite vesting period (typically one year).

The following table summarizes the activity for the non-employee directors restricted stock units for the fiscal year ended January 26, 2020:

(in thousands, except per share data)	Total Units	Units Subject to Share Settlement	Units Subject to Cash Settlement	Weighted-Average Grant Date Fair Value (per share)
Balance at January 27, 2019	26	12	14	\$ 48.84
Granted	26	12	14	50.55
Vested	(26)	(12)	(14)	48.84
Forfeited	—	—	—	—
Balance at January 26, 2020	26	12	14	\$ 50.55

Performance-Based Restricted Stock Units

Prior to fiscal year 2018, the Company granted performance-based restricted stock units to select employees. These awards had a performance condition in addition to a service condition. The performance metrics were based on a pre-defined cumulative three-year performance of the Company's revenue and non-GAAP operating income measured against internal goals. For these awards, the performance was tied to the Company's performance in the grant year and the succeeding two fiscal years. The performance award recipients must be employed for the entire three-year period, which is the explicit service and requisite service period, and be an active employee at the time of vesting of the awards (cliff vesting at the end of the third year). At January 27, 2019, the performance metrics associated with the remaining outstanding awards, which were issued in fiscal year 2017, were met at a level which resulted in a grant that vested at 180.8% of target. Under the terms of these awards, 187,116

shares were settled in shares and 187,116 shares were settled in cash, in the amount of \$9.3 million, during fiscal year 2020. There are no remaining awards outstanding as of January 26, 2020.

Award Modifications

In the first quarter of fiscal year 2019, the Company modified the terms of 159,000 fully vested shares held by 8 employees. As a result of the modification, additional compensation cost of \$2.8 million was recognized during the first quarter of fiscal year 2019.

Warrant

On October 5, 2016, the Company issued a warrant (the "Warrant") to Comcast Cable Communications Management LLC ("Comcast") to purchase up to 1,086,957 shares (the "Warrant Shares") of the common stock of Semtech Corporation. The Warrant was issued by the Company to Comcast in connection with an agreement between the parties regarding the intended trial deployment by Comcast of a low-power wide-area network in the U.S., based on the Company's LoRa® devices and wireless radio frequency technology. The Warrant was accounted for as equity and the cost was recognized as an offset to net sales over the respective performance period. The Warrant consisted of five performance tranches. The cost associated with each tranche had been recognized based on the fair value at each reporting date until vesting, which was the measurement date. On April 27, 2018, the Company accelerated the vesting of the remaining 586,956 unvested shares from the Warrant ("Acceleration Event"), resulting in the full recognition of the remaining costs to be recognized for the Warrant. For the fiscal year ended January 27, 2019, the net sales offset reflects the cost associated with the Warrant of \$21.5 million, including \$15.9 million related to the Acceleration Event. As of January 27, 2019, the Warrant was fully vested and exercisable for a total of 869,565 shares, with no additional costs to be recognized in future periods. The Warrant was fully exercised and no longer outstanding as of March 15, 2019.

Note 12: Income Taxes

The Company's regional income before income taxes and equity in net gains (losses) of equity method investments was as follows:

(in thousands)	Fiscal Year Ended		
	January 26, 2020	January 27, 2019	January 28, 2018
Domestic	\$ (24,530)	\$ (13,667)	\$ (16,585)
Foreign	69,115	83,787	74,341
Total	\$ 44,585	\$ 70,120	\$ 57,756

The provision for income taxes consisted of the following:

(in thousands)	Fiscal Year Ended		
	January 26, 2020	January 27, 2019	January 28, 2018
Current income tax provision (benefit)			
Federal	\$ 6,463	\$ (147)	\$ 2,108
State	100	—	—
Foreign	11,861	21,753	13,442
Subtotal	18,424	21,606	15,550
Deferred income tax provision (benefit)			
Federal	74	(24,928)	7,363
State	(33)	—	—
Foreign	(5,637)	3,677	(60)
Subtotal	(5,596)	(21,251)	7,303
Provision for income taxes	\$ 12,828	\$ 355	\$ 22,853

The provision for income taxes reconciles to the amount computed by applying the statutory federal rate to income before taxes as follows:

(in thousands)	Fiscal Year Ended		
	January 26, 2020	January 27, 2019	January 28, 2018
Federal income tax at statutory rate	\$ 9,328	\$ 14,725	\$ 19,591
State income taxes, net of federal benefit	68	(55)	(159)
Foreign taxes differential	(966)	2,910	(8,698)
Tax credits generated	(2,026)	(3,344)	(3,278)
Changes in valuation allowance	(2,722)	(23,029)	(41,911)
Gain on intra-entity asset transfer	6,802	—	—
Changes in uncertain tax positions	8,636	2,219	1,538
Equity compensation	(6,008)	786	(8,040)
Permanent differences	—	—	264
GILTI and Subpart F income	538	1,164	299
Impact of U.S. tax reform ⁽¹⁾	—	1,904	65,442
Other	(822)	3,075	(2,195)
Provision for income taxes	\$ 12,828	\$ 355	\$ 22,853

⁽¹⁾ During fiscal year 2020, the Company continued to maintain a valuation allowance against foreign tax credits. The impact of the U.S. tax reform for fiscal year 2019 included a tax benefit from the overall reduction to the transition tax of approximately \$5.0 million and a tax expense from the reduction to foreign tax credits of approximately \$6.9 million. The impact of the U.S. tax reform for fiscal year 2018 includes \$66.5 million of expense due to the estimated impact of the transition tax, net of foreign tax credits generated.

The Company's tax expense benefited from its operations in lower tax jurisdictions such as Switzerland, research tax credits and the recognition of excess tax benefits related to share-based compensation. These benefits were offset by one-time tax expense related to gain on intra-entity asset transfer and the impact of finalized regulations on the U.S. transition tax.

On December 6, 2016, the Company was granted a tax holiday ("Tax Holiday") with an effective date of January 30, 2017. The Tax Holiday provides Semtech (International) AG with a 70% reduction to the Swiss Cantonal tax rate, bringing the statutory Swiss Cantonal tax rate down from 12.56% to 3.77%. The maximum benefit under this Tax Holiday is CHF 500.0 million of cumulative after tax profit, which equates to a maximum potential tax savings of CHF 44.0 million. The Tax Holiday is effective for five years and can be extended for an additional five years if the Company meets certain staffing targets by January 30, 2022.

On May 19, 2019, Switzerland approved the Federal Act on Tax Reform ("Swiss Tax Reform"). One main component of the Swiss Tax Reform included reduction of Cantonal income tax rates. The Swiss Tax Reform dropped the statutory Swiss Cantonal tax rate down from 12.56% to 8.46%. Semtech's Tax Holiday provides Semtech (International) AG with a 70% reduction to this new Swiss Cantonal tax rate, bringing the statutory Swiss Cantonal tax rate down from 8.46% to 2.54%. All other provisions of the existing Tax Holiday discussed above still apply.

The Tax Cuts and Jobs Act of 2017

On December 22, 2017, the U.S. enacted the Tax Act that instituted fundamental changes to the taxation of multinational corporations. The Tax Act included a permanent reduction in the corporate tax rate to 21%, repeal of the corporate alternative minimum tax, expensing of capital investment, and limitation of the deduction for interest expense. Furthermore, as part of the transition to the new tax system, a one-time transition tax was imposed on a U.S. stockholder's historical undistributed earnings of foreign affiliates.

Corporate Tax Rate Change: For the year ended January 28, 2018, the Company recorded an income tax benefit of approximately \$2.6 million due to the decrease in the corporate tax rate from 35% to 21% and resulting re-measurement of the Company's indefinite-lived deferred tax liability.

Global Intangible Low Taxed Income: The Tax Act imposed a U.S. tax on global intangible low taxed income ("GILTI") that is earned by certain foreign affiliates owned by a U.S. stockholder. The GILTI provisions effectively tax the foreign earnings of U.S. multinational companies at 10.5%, half the current corporate tax rate. During fiscal year 2019, as a result of the Company obtaining the information necessary to evaluate the impact of the GILTI provisions, the Company finalized its analysis regarding the interplay of foreign tax credits associated with this income, which are allowed against the U.S. tax liability generated as a result of the GILTI provision, and the potential impact on the related valuation allowance. As a result, the Company recorded a tax benefit of \$15.8 million during the first quarter of fiscal year 2019 related to the reduction of the valuation allowance on certain U.S. deferred tax assets generated prior to fiscal year 2019. In accordance with guidance issued by the FASB, the Company has made a policy election to treat future taxes related to GILTI as a current period expense in the reporting period in which the tax is incurred.

Mandatory Transition Tax: For the year ended January 28, 2018, the Company recorded a provisional income tax expense of \$2.1 million (net of valuation allowance) due to the imposition of the mandatory transition tax on the deemed repatriation of undistributed foreign earnings. As of January 27, 2019, the Company completed its accounting for the tax effects of the Tax Act and was able to use approximately \$76.5 million of tax attributes to completely offset any cash tax liability resulting from the transition tax. During the fourth quarter of fiscal year 2019, the Company completed the final accounting related to the remeasurement of its existing deferred tax assets under Staff Accounting Bulletin ("SAB") 118 and recorded a net \$1.9 million increase to the tax provision expense.

Undistributed Foreign Earnings: Prior to the enactment of the Tax Act, with few exceptions, U.S. federal income and foreign withholding taxes had not been provided on the excess of the amount for financial reporting over the tax basis of investments in the Company's foreign subsidiaries that were essentially permanent in duration. With the enactment of the Tax Act, all post-1986 previously unremitted earnings for which no U.S. deferred tax liability had been accrued have now been subject to U.S. tax. Notwithstanding the U.S. taxation of these amounts, the Company has determined that \$547.9 million of foreign earnings will continue to be reinvested indefinitely outside of the U.S. As a result, the Company has not provided any tax on these amounts because the Company believes that it currently has the ability to keep those earnings indefinitely invested and the Company has specific plans for reinvestment of these undistributed foreign earnings. In connection with the enactment of the Tax Act, the Company determined it will remit approximately \$240.0 million of foreign earnings in the foreseeable future, and as a result, established a deferred income tax liability for the withholding tax that will be due upon distribution of these earnings. During fiscal years 2020 and 2019, approximately \$76.1 million and \$80.0 million, respectively, of foreign earnings were remitted, and the deferred income tax liability for the withholding tax was adjusted accordingly.

While management believes the amounts recorded during fiscal year 2019 represent reasonable estimates of the ultimate impact U.S. tax reform will have on the Company's consolidated financial statements, it is possible the Company may materially adjust these amounts in consideration of future administrative guidance, notices, implementation regulations, potential legislative amendments and interpretations. These adjustments could have a material impact on the Company's Balance Sheets and Statements of Income.

The components of the net deferred income tax assets and liabilities at January 26, 2020 and January 27, 2019 were as follows:

(in thousands)	January 26, 2020	January 27, 2019
Non-current deferred tax assets:		
Inventory reserve	4,147	4,984
Bad debt reserve	20	17
Foreign tax credits	1,331	2,996
Research credit carryforward	6,063	6,693
NOL carryforward	7,659	8,773
Payroll and related accruals	9,383	8,133
Share-based compensation	5,607	14,047
Foreign pension deferred	2,070	832
Accrued sales reserves	746	763
Research and development charges	2,864	—
Goodwill and other intangibles	2,875	—
Leasing deferred assets	2,396	—
Other deferred assets	1,713	1,031
Valuation allowance	(16,189)	(18,912)
Total non-current deferred tax assets	30,685	29,357
Non-current deferred tax liabilities:		
Goodwill and other intangibles	—	(3,227)
Property, plant and equipment	(6,034)	(6,482)
Repatriation of foreign earnings	(4,323)	(8,158)
Leasing deferred liabilities	(2,285)	—
Other non-current deferred tax liabilities	(1,549)	(592)
Total non-current deferred tax liabilities	(14,191)	(18,459)
Net deferred tax assets	\$ 16,494	\$ 10,898

As of January 26, 2020, the Company had state net operating loss carryforwards of \$105.6 million, which, subject to certain limitations, are available to offset future taxable income through fiscal year 2040.

As of January 26, 2020, the Company had gross federal and state research credits available of approximately \$11.0 million and \$15.1 million, respectively, which are available to offset taxable income. These credits will expire between fiscal years 2029 through 2040. The Company also had gross Canadian research credits available of approximately \$0.5 million. These credits will expire by fiscal year 2040.

As of January 26, 2020 and January 27, 2019, the Company had approximately \$32.7 million and \$29.8 million of net deferred tax assets, respectively, the majority of which are in the U.S. and Canada. The Company has recorded valuation allowances of \$16.2 million and \$18.9 million against its deferred tax assets at January 26, 2020 and January 27, 2019, respectively, based on the Company's assessment of its ability to utilize its deferred tax assets. The valuation allowances established relate to certain U.S. deferred tax assets, for which the Company has determined that it is more likely than not that a benefit will not be realized. In considering whether a valuation allowance was required for the Company's U.S. deferred income tax assets, the Company considered all available positive and negative evidence. Positive evidence considered included reversing taxable temporary differences. Negative evidence considered included the cumulative pre-tax losses in the U.S. recorded during the three-year period ended January 26, 2020, on both an annual and cumulative basis.

Changes in the valuation allowance for the three years ended January 26, 2020 are summarized in the table below:

(in thousands)	Fiscal Year Ended		
	January 26, 2020	January 27, 2019	January 28, 2018
Beginning balance	\$ 18,912	\$ 41,050	\$ 82,961
Additions	159	152	74
Releases	(2,882)	(22,290)	(41,985)
Ending balance	\$ 16,189	\$ 18,912	\$ 41,050

Uncertain Tax Positions

The Company uses a two-step approach to recognize and measure uncertain tax positions ("UTP"). The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. The second step is to measure the tax benefit as the largest amount that is more than 50% likely of being realized upon ultimate settlement.

A reconciliation of the beginning and ending amount of gross unrecognized tax benefits (before federal impact of state items) is as follows:

(in thousands)	Fiscal Year Ended	
	January 26, 2020	January 27, 2019
Beginning balance	\$ 18,293	\$ 16,059
Net additions based on tax positions related to the current year	2,252	2,642
Additions based on tax positions related to prior years	6,850	—
Reductions as a result of lapsed statutes	(399)	—
Reductions for settlements with tax authorities	(1,530)	(408)
Ending balance	\$ 25,466	\$ 18,293

Included in the balance of gross unrecognized tax benefits at January 26, 2020 and January 27, 2019, are \$8.6 million and \$4.5 million, respectively, of net tax benefits (after federal impact of state items) that, if recognized, would impact the effective tax rate.

The liability for UTP is reflected on the Balance Sheets as follows:

(in thousands)	Fiscal Year Ended	
	January 26, 2020	January 27, 2019
Deferred tax assets - non-current	\$ 15,575	\$ 12,492
Other long-term liabilities	8,555	4,479
Total accrued taxes	\$ 24,130	\$ 16,971

The Company's policy is to include net interest and penalties related to unrecognized tax benefits within the provision for taxes in the Statements of Income. Since the Company has sufficient research and development ("R&D") credit carryforwards, there was no cash tax liability and, therefore, no additional penalties or interest accrued during fiscal year 2020. The Company had approximately \$0.3 million of net interest and penalties accrued at January 26, 2020.

Tax years prior to 2013 (the Company's fiscal year 2014) are generally not subject to examination by the Internal Revenue Service ("IRS") except for items involving tax attributes that have been carried forward to tax years whose statute of limitations remains open. For state returns, the Company is generally not subject to income tax examinations for years prior to 2012 (the Company's fiscal year 2013). The Company has a significant tax presence in Switzerland for which Swiss tax filings have been examined through fiscal year 2019. The Company is also subject to routine examinations by various foreign tax jurisdictions in which it operates. The Company believes that adequate provisions have been made for any adjustments that may result from tax examinations. However, the outcome of tax audits cannot be predicted with certainty. If any issues addressed in the Company's tax audits are resolved in a manner not consistent with the Company's expectations, the Company could be required to adjust its provision for income taxes in the period such resolution occurs.

Note 13: Leases

The Company has operating leases for real estate, vehicles, and office equipment. Real estate leases are used to secure office space for the Company's administrative, engineering, production support and manufacturing activities. The Company's leases have remaining lease terms of up to 7 years, some of which include options to extend the leases for up to 3 years, and some of which include options to terminate the leases within 1 year.

The components of lease expense for the fiscal year ended January 26, 2020 were as follows:

(in thousands)	
Operating lease cost	\$ 4,820
Short-term lease cost	372
Less: sublease income	(130)
Total lease cost	<u>\$ 5,062</u>

Supplemental cash flow information for the fiscal year ended January 26, 2020 related to leases was as follows:

(in thousands)	
Cash paid for amounts included in the measurement of lease liabilities	\$ 5,189
Right-of-use assets obtained in exchange for new operating lease liabilities	\$ 3,366
Write-down of right-of-use assets	\$ 1,363
Weighted-average remaining lease term - operating leases	4.71
Weighted-average discount rate - operating leases	6.8%

Supplemental balance sheet information as of January 26, 2020 related to leases was as follows:

(in thousands)	
Operating lease right-of-use assets ^{(1) (2)}	\$ 10,958
Other current liabilities ⁽¹⁾	\$ 3,273
Operating lease liabilities ⁽¹⁾	8,185
Total operating lease liabilities	<u>\$ 11,458</u>

⁽¹⁾ Operating lease right-of-use assets are included in "Other assets," other current liabilities are included in "Accrued liabilities" and operating lease liabilities are included in "Other long-term liabilities" in the Balance Sheets.

⁽²⁾ The difference between the ROU assets and lease liabilities primarily represents the existing deferred rent liabilities balance, resulting from historical straight-lining of operating leases, which was effectively reclassified upon adoption to reduce the measurement of the ROU assets.

Maturities of lease liabilities as of January 26, 2020 are as follows:

(in thousands)	
Fiscal Year Ending:	
2021	\$ 3,945
2022	2,791
2023	1,776
2024	1,524
2025	1,374
Thereafter	2,164
Total lease payments	<u>13,574</u>
Less: imputed interest	(2,116)
Total	<u>\$ 11,458</u>

Note 14: Commitments and Contingencies

Leases

The Company leases facilities and certain equipment under operating lease arrangements expiring in various years through fiscal year 2027. Rent expense was \$6.5 million, \$6.3 million and \$5.9 million for fiscal years 2020, 2019 and 2018, respectively. The Company received \$130,000, \$138,000 and \$141,000 of sub-lease income in fiscal years 2020, 2019 and 2018, respectively. Refer to Note 13 for a summary of the future aggregate minimum annual lease payments under leases in effect as of January 26, 2020.

Unconditional Purchase Commitments

The following table presents the Company's open capital commitments and other open purchase commitments for the purchase of plant, equipment, raw material, supplies and services as of January 26, 2020:

(in thousands)	Less than 1 year	1-3 years	Total
Open capital purchase commitments	\$ 1,097	\$ —	\$ 1,097
Other open purchase commitments	48,740	5,856	54,596
Total purchase commitments	\$ 49,837	\$ 5,856	\$ 55,693

Legal Matters

In accordance with ASC 450-20, "Loss Contingencies," the Company accrues an undiscounted liability for those contingencies where the incurrence of a loss is probable and the amount can be reasonably estimated. The Company also discloses the amount accrued and the amount of a reasonably possible loss in excess of the amount accrued, if such disclosure is necessary for its consolidated financial statements not to be misleading. The Company does not record liabilities when the likelihood that the liability has been incurred is probable but the amount cannot be reasonably estimated, or when the liability is believed to be only reasonably possible or remote. The Company evaluates, at least quarterly, developments in its legal matters that could affect the amount of liability that has been previously accrued, and makes adjustments as appropriate. Significant judgment is required to determine both probability and the estimated amount. The Company may be unable to estimate a possible loss or range of possible loss due to various reasons, including, among others: (i) if the damages sought are indeterminate; (ii) if the proceedings are in early stages, (iii) if there is uncertainty as to the outcome of pending appeals, motions or settlements, (iv) if there are significant factual issues to be determined or resolved, and (v) if there are novel or unsettled legal theories presented. In such instances, there is considerable uncertainty regarding the ultimate resolution of such matters, including a possible eventual loss, if any.

Because the outcomes of litigation and other legal matters are inherently unpredictable, the Company's evaluation of legal matters or proceedings often involves a series of complex assessments by management about future events and can rely heavily on estimates and assumptions. While the consequences of certain unresolved matters and proceedings are not presently determinable, and an estimate of the probable and reasonably possible loss or range of loss in excess of amounts accrued for such proceedings cannot be reasonably made, an adverse outcome from such proceedings could have a material adverse effect on the Company's earnings in any given reporting period. However, in the opinion of management, after consulting with legal counsel, any ultimate liability related to current outstanding claims and lawsuits, individually or in the aggregate, is not expected to have a material adverse effect on the Company's consolidated financial statements, as a whole. However, legal matters are inherently unpredictable and subject to significant uncertainties, some of which are beyond the Company's control.

As such, even though the Company intends to vigorously defend itself with respect to its legal matters, there can be no assurance that the final outcome of these matters will not materially and adversely affect the Company's business, financial condition, operating results, or cash flows.

From time to time, the Company is involved in various claims, litigation, and other legal actions that are normal to the nature of its business, including with respect to IP, contract, product liability, employment, and environmental matters. In the opinion of management, after consulting with legal counsel, any ultimate liability related to current outstanding claims and lawsuits, individually or in the aggregate, is not expected to have a material adverse effect on the Company's consolidated financial statements, as a whole.

Settlements

On August 1, 2018, the Company announced the settlement of a lawsuit filed against HiLight Semiconductor Limited and related individual defendants in accordance with which the Company was paid \$9.0 million to cover damages for claims, costs and attorneys' fees. The Company recorded gains of \$1.0 million and \$8.0 million during fiscal years 2020 and 2019, respectively, for recoveries related to this settlement. All recoveries were presented in "Selling, general and administrative" ("SG&A") expense in the Statements of Income in the respective periods in which the cash was received.

The Company's currently pending legal matters of note are discussed below:

Environmental Matters

The Company vacated a former facility in Newbury Park, California in 2002, but continues to address groundwater and soil contamination at the site. The Company's efforts to address site conditions have been at the direction of the Los Angeles Regional Water Quality Control Board ("RWQCB"). In October 2013, an order was issued including a scope of proposed additional site work, monitoring and remediation activities. The Company has been complying with RWQCB orders and direction, and continues to implement an approved remedial action plan addressing the soil, groundwater and soil vapor at the site.

The Company has accrued liabilities where it is probable that a loss will be incurred and the cost or amount of loss can be reasonably estimated. Based on the latest determinations by the RWQCB and the most recent actions taken pursuant to the remedial action plan, the Company estimates the range of probable loss between \$5.9 million and \$7.5 million. To date, the Company has made \$4.4 million in payments towards the remedial action plan and, as of January 26, 2020, has a remaining accrual of \$1.5 million related to this matter. Given the uncertainties associated with environmental assessment and the remediation activities, the Company is unable to determine a best estimate within the range of loss. Therefore, the Company has recorded the minimum amount of probable loss. These estimates could change as a result of changes in planned remedial actions, further actions from the regulatory agency, remediation technology and other factors.

Indemnification

The Company has entered into agreements with its current and former executives and directors indemnifying them against certain liabilities incurred in connection with the performance of their duties. The Company's Certificate of Incorporation and Bylaws contain comparable indemnification obligations with respect to the Company's current directors and employees.

Product Warranties

The Company's general warranty policy provides for repair or replacement of defective parts. In some cases, a refund of the purchase price is offered. In certain instances the Company has agreed to other or additional warranty terms, including indemnification provisions.

The product warranty accrual reflects the Company's best estimate of probable liability under its product warranties. The Company accrues for known warranty issues if a loss is probable and can be reasonably estimated, and accrues for estimated incurred but unidentified issues based on historical experience. Historically, warranty expense and the related accrual has been immaterial to the Company's consolidated financial statements.

Retirement Plans

The Company contributed \$1.2 million, \$1.0 million and \$1.3 million in fiscal years 2020, 2019 and 2018, respectively, to the 401(k) retirement plan maintained for its employees based in the U.S.

In addition, the Company also contributed \$0.8 million, \$0.6 million and \$0.8 million in fiscal years 2020, 2019 and 2018, respectively, to a defined contribution plan for its employees in Canada.

The Company has defined benefit pension plans for the employees of its Swiss subsidiaries (the "Swiss Plans"), which it accounts for in accordance with ASC 715-30, "Defined Benefit Plans – Pension." The Swiss Plans provide government-mandated retirement, death and disability benefits. Under the Swiss Plans, the Company and its employees make government-mandated minimum contributions. Minimum contributions are based on the respective employee's age, salary and gender. As of January 26, 2020, the Swiss Plans had an unfunded net pension obligation of approximately \$13.4 million, plan assets of approximately \$32.8 million and a projected benefit obligation of approximately \$46.2 million. Net periodic pension expense and contributions made by the Company for fiscal year 2020 were \$2.4 million and \$1.6 million, respectively. The entire pension liability has been classified as non-current because the current portion of the liability is not material.

The Company records a post-retirement benefit for the employees of its French subsidiary (the "French Plan"), which it accounts for in accordance with ASC 715-30. The French Plan is defined by the collective bargaining agreement of R&D, IT and consulting firms. Minimum contributions are based on the respective years of service for all permanent employees. As of January 26, 2020, the French Plan had an unfunded net pension obligation of approximately \$0.4 million, plan assets of zero and a projected benefit obligation of approximately \$0.4 million. Net periodic pension expense and contributions made by the Company were not material for all periods presented. The entire pension liability has been classified as non-current because the current portion of the liability is not material.

Deferred Compensation

The Company maintains a deferred compensation plan for certain officers and key executives that allows participants to defer a portion of their compensation for future distribution at various times permitted by the plan. This plan provides for a discretionary Company match up to a defined portion of the employee's deferral, with any match subject to a vesting period.

Under this plan, the Company incurred expense, net of forfeitures, of \$6.8 million, \$1.3 million and \$6.0 million in fiscal years 2020, 2019 and 2018, respectively.

The Company's liability for the deferred compensation plan is presented below:

(in thousands)	January 26, 2020		January 27, 2019	
Accrued liabilities	\$	1,365	\$	2,203
Other long-term liabilities		35,243		27,251
Total deferred compensation liabilities under this plan	\$	36,608	\$	29,454

The Company has purchased whole life insurance on the lives of certain current deferred compensation plan participants. This Company-owned life insurance is held in a grantor trust and is intended to cover a majority of the Company's costs of the deferred compensation plan. The cash surrender value of the Company-owned life insurance was \$24.3 million and \$20.4 million as of January 26, 2020 and January 27, 2019, respectively, and is included in "Other assets" in the Balance Sheets.

Earn-out Liability

Pursuant to the terms of the amended earn-out arrangement ("Cycleo Earn-out") with the former stockholders of Cycleo SAS ("Cycleo Earn-out Beneficiaries"), which the Company acquired in March 2012, as of January 26, 2020, the Company potentially may make payments totaling up to approximately \$11.3 million based on the achievement of a combination of certain sales and operating income milestones over a defined period ("Cycleo Defined Earn-out Period"). To date, the Company has made \$7.7 million in payments related to the Cycleo Earn-out. The Cycleo Defined Earn-out Period covers the period April 27, 2015, to April 26, 2020. For certain of the Cycleo Earn-out Beneficiaries, payment of the earn-out liability is contingent upon continued employment and is accounted for as post-acquisition compensation expense over the service period. The portion of the earn-out liability that is not dependent on continued employment is not considered as compensation expense. Based on historic and projected performance, the Company has recorded a liability for the Cycleo Earn-out of \$2.1 million and \$4.5 million as of January 26, 2020 and January 27, 2019, respectively.

On July 1, 2017, we acquired AptoVision for an upfront cash payment of \$17.6 million at closing, net of acquired cash, and a commitment to pay an additional contingent consideration of up to a maximum of \$47.0 million over three years if certain goals are achieved in each of the earn-out periods (the "AptoVision Earn-out"), based on the achievement of a combination of certain net sales, adjusted earnings and product development targets measured from the acquisition date through July 26, 2020. To date, the Company has made \$9.4 million in payments related to the AptoVision Earn-out. The Company fully released its remaining liability for the AptoVision Earn-out during fiscal year 2020 based on the Company's assessment of performance.

A summary of earn-out liabilities, included in "Accrued liabilities" and "Other long-term liabilities" in the Balance Sheets, by classification was as follows:

(in thousands)	Balance at January 26, 2020			Balance at January 27, 2019		
	AptoVision	Cycleo	Total	AptoVision	Cycleo	Total
Compensation expense	\$ —	\$ 1,830	\$ 1,830	\$ —	\$ 4,052	\$ 4,052
Not conditional upon continued employment	—	278	278	2,161	462	2,623
Total liability	\$ —	\$ 2,108	\$ 2,108	\$ 2,161	\$ 4,514	\$ 6,675
Amount expected to be settled within twelve months	\$ —	\$ 2,108	\$ 2,108			

Note 15: Concentration of Risk

The following significant customers accounted for at least 10% of net sales in one or more of the periods indicated:

(percentage of net sales)	Fiscal Year Ended		
	January 26, 2020	January 27, 2019	January 28, 2018
Trend-tek Technology Ltd. (and affiliates)	13%	14%	10%
Frontek Technology Corporation (and affiliates)	11%	11%	7%
Arrow Electronics (and affiliates)	9%	10%	11%
Samsung Electronics (and affiliates)	4%	8%	8%
Premier Technical Sales Korea, Inc. (and affiliates) ⁽¹⁾	7%	4%	6%

⁽¹⁾ Premier is a distributor with a concentration of sales to Samsung. The above percentages represent the Company's estimate of the sales activity related to Samsung that is passing through this distributor.

The following table shows the customers that have an outstanding receivable balance that represents at least 10% of total net receivables as of the dates indicated:

(percentage of net receivables)	Balance as of	
	January 26, 2020	January 27, 2019
Trend-tek Technology Ltd. (and affiliates)	13%	11%
Frontek Technology Corporation (and affiliates)	11%	10%
CEAC International Limited	11%	7%

Outside Subcontractors and Suppliers

The Company relies on a limited number of third-party subcontractors and suppliers for the production of silicon wafers, packaging and certain other tasks. Disruption or termination of supply sources or subcontractors, including due to natural disasters such as an earthquake or other causes, could delay shipments and could have a material adverse effect on the Company. Although there are generally alternate sources for these materials and services, qualification of the alternate sources could cause delays sufficient to have a material adverse effect on the Company. Several of the Company's third-party subcontractors and suppliers, including third-party foundries that supply silicon wafers, are located in foreign countries, including China, Israel and Taiwan. A significant amount of the Company's assembly and test operations are conducted by third-party contractors in China, Malaysia, Taiwan, Thailand, South Korea and the Philippines. For fiscal years 2020, 2019 and 2018, approximately 24%, 16% and 20%, respectively, of the Company's silicon in terms of cost of wafers was supplied by a third-party foundry in China. For fiscal years 2020, 2019 and 2018, approximately 11%, 11% and 14%, respectively, of the Company's silicon in terms of cost of wafers was supplied by a third-party foundry in Israel. These percentages could be higher in future periods.

For fiscal years 2020, 2019 and 2018, authorized distributors accounted for approximately 72%, 68% and 66%, respectively, of the Company's net sales. Generally, the Company does not have long-term contracts with its distributors and most can terminate their agreement with little or no notice. For fiscal year 2020, the Company's largest distributors were based in Asia.

Note 16: Segment Information

The Company's CEO functions as the chief operating decision maker ("CODM"). The CODM makes operating decisions and assesses performance based on the Company's major product lines, which represent its operating segments. The Company has three operating segments—Protection, Signal Integrity, and Wireless and Sensing—that have similar economic characteristics and have been aggregated into one reportable segment identified as the "Semiconductor Products Group."

The Company's assets are commingled among the various operating segments and the CODM does not use asset information in making operating decisions or assessing performance. Therefore, the Company has not included asset information by segment in the segment disclosures below.

Net sales by reportable segment were as follows:

(in thousands)	Fiscal Year Ended		
	January 26, 2020	January 27, 2019	January 28, 2018
Semiconductor Products Group	\$ 547,512	\$ 627,196	\$ 587,847
Total	\$ 547,512	\$ 627,196	\$ 587,847

The following table presents a reconciliation of operating income by segment to consolidated income before taxes: (historical amounts have been adjusted to conform to the current presentation):

(in thousands)	Fiscal Year Ended		
	January 26, 2020	January 27, 2019	January 28, 2018
Semiconductor Products Group	\$ 124,911	\$ 186,975	\$ 160,810
Operating income by segment	124,911	186,975	160,810
<i>Items to reconcile segment operating income to consolidated income before taxes:</i>			
Share-based compensation	52,049	66,837	50,051
Intangible amortization	16,546	26,649	27,867
Investment impairments	1,211	30,000	4,250
Changes in the fair value of contingent earn-out obligations	(2,345)	(9,419)	3,892
Restructuring and other reserves	4,621	769	6,196
Litigation cost, net of recoveries	1,340	(6,137)	2,183
Transaction and integration related	691	2,777	3,810
Amortization of fair value adjustments related to acquired property, plant and equipment	—	—	190
Interest expense	9,106	9,202	7,963
Non-operating income, net	(2,893)	(3,823)	(3,348)
Income before taxes and equity in net gains (losses) of equity method investments	\$ 44,585	\$ 70,120	\$ 57,756

Information by Product Line

The Company operates exclusively in the semiconductor industry and primarily within the analog and mixed-signal sector.

The table below provides net sales activity by product line on a comparative basis:

(in thousands, except percentages)	Fiscal Year Ended					
	January 26, 2020		January 27, 2019		January 28, 2018	
Signal Integrity	\$ 222,846	40%	\$ 276,040	44 %	\$ 263,015	45 %
Wireless and Sensing	167,454	31%	190,589	30 %	164,569	28 %
Protection	157,212	29%	182,068	29 %	176,482	30 %
Other: Warrant Shares ⁽¹⁾	—	—%	(21,501)	(3)%	(16,219)	(3)%
Total net sales	\$ 547,512	100%	\$ 627,196	100 %	\$ 587,847	100 %

⁽¹⁾ For fiscal years 2019 and 2018, the net sales offset reflects the cost associated with the Warrant (see Note 11 for discussion regarding Share-Based Compensation).

Information by Sales Channel

(in thousands)	Fiscal Year Ended		
	January 26, 2020	January 27, 2019	January 28, 2018
Distributor	\$ 392,582	\$ 442,518	\$ 390,618
Direct	154,930	206,179	213,448
Other: Warrant Shares	—	(21,501)	(16,219)
Total net sales	\$ 547,512	\$ 627,196	\$ 587,847

Geographic Information

Net sales activity by geographic region was as follows:

(in thousands, except percentages)	Fiscal Year Ended					
	January 26, 2020		January 27, 2019		January 28, 2018	
Asia-Pacific	\$ 421,584	77%	\$ 480,680	76 %	\$ 439,342	75 %
North America	76,652	14%	118,664	19 %	121,144	21 %
Europe	49,276	9%	49,353	8 %	43,580	7 %
Other: Warrant Shares	—	—%	(21,501)	(3)%	(16,219)	(3)%
Total net sales	\$ 547,512	100%	\$ 627,196	100 %	\$ 587,847	100 %

The Company attributes sales to a country based on the ship-to address. The table below summarizes sales activity to countries that represented greater than 10% of total sales for at least one of the periods presented:

(percentage of total net sales)	Fiscal Year Ended		
	January 26, 2020	January 27, 2019	January 28, 2018
China (including Hong Kong)	53%	55%	51%
United States	9%	11%	9%
Total net sales	62%	66%	60%

Long-lived Assets

The following table summarizes the Company's long-lived assets, which consist of property, plant and equipment, net of accumulated depreciation, classified by location:

(in thousands)	Fiscal Year Ended	
	January 26, 2020	January 27, 2019
United States	\$ 54,357	\$ 46,285
Rest of North America	32,559	34,493
Asia and all others	26,133	28,871
Europe	11,369	8,839
Total	\$ 124,418	\$ 118,488

Some of these assets are at locations owned or operated by the Company's suppliers. The Company has consigned certain equipment to a foundry based in China to support its specialized processes run at the foundry. The Company has also installed its own equipment at some of its packaging and testing subcontractors in order to ensure a certain level of capacity, assuming the subcontractor has ample employees to operate the equipment.

The net book value of equipment and machinery that were consigned to multiple foundries in China was \$18.5 million and \$17.4 million as of January 26, 2020 and January 27, 2019, respectively. The net book value of equipment and machinery that were consigned to a foundry in Malaysia was \$5.5 million and \$5.6 million as of January 26, 2020 and January 27, 2019, respectively.

Note 17: Restructuring

From time to time, the Company takes steps to realign the business to focus on high-growth areas, provide customer value and make the Company more efficient. As a result, the Company has realigned resources and infrastructure, which resulted in restructuring expense of \$2.2 million, \$0.7 million and \$6.3 million in fiscal years 2020, 2019 and 2018, respectively.

Restructuring related liabilities were included in "Accrued liabilities" in the Balance Sheets as of January 26, 2020 and January 27, 2019. Restructuring charges were presented in "Selling, general and administrative" expense in the Statements of Income.

Activity related to the restructuring plans is summarized as follows:

(in thousands)	One-time employee termination benefits	Contract commitments	Total
Balance at January 29, 2017	\$ 13	\$ —	\$ 13
Charges	5,615	686	6,301
Cash payments	(1,565)	—	(1,565)
Balance at January 28, 2018	4,063	686	4,749
Charges	695	—	695
Cash payments	(4,038)	(397)	(4,435)
Balance at January 27, 2019	720	289	1,009
Charges	1,483	683	2,166
Cash payments	(2,026)	(911)	(2,937)
Balance at January 26, 2020	\$ 177	\$ 61	\$ 238

Note 18: Stock Repurchase Program

The Company maintains a stock repurchase program that was initially approved by its Board of Directors in March 2008. The stock repurchase program does not have an expiration date and the Company's Board of Directors has authorized expansion of the program over the years. The following table summarizes activity under the program for the fiscal years listed below:

(in thousands, except number of shares)	Fiscal Year Ended					
	January 26, 2020		January 27, 2019		January 28, 2018	
	Shares	Price Paid	Shares	Price Paid	Shares	Price Paid
Shares repurchased under the stock repurchase program	1,471,703	\$ 70,219	2,448,133	\$ 116,210	442,607	\$ 14,849

As of January 26, 2020, the Company had repurchased \$337.8 million in shares of its common stock under the program since its inception and the remaining authorization under the program was \$110.6 million. Under the program, the Company may repurchase its common stock at any time or from time to time, without prior notice, subject to market conditions and other considerations. The Company's repurchases may be made through Rule 10b5-1 and/or Rule 10b-18 or other trading plans, open market purchases, privately negotiated transactions, block purchases or other transactions. The Company intends to fund repurchases under the program from cash on hand. The Company has no obligation to repurchase any shares under the program and may suspend or discontinue it at any time.

Note 19: Derivatives and Hedging Activities

The Company is exposed to certain risk arising from both its business operations and economic conditions and principally manages its exposures to a wide variety of business and operational risks through management of its core business activities. The Company, on a routine basis and in the normal course of business, experiences expenses denominated in Swiss Franc ("CHF"), Canadian Dollar ("CAD") and Great British Pound ("GBP"). Such expenses expose the Company to exchange rate fluctuations between these foreign currencies and the U.S. Dollar ("USD"). From time to time, the Company uses derivative financial instruments in the form of forward contracts to mitigate risk associated with adverse movements in these foreign currency exchange rates on a portion of foreign denominated expenses expected to be realized during the current and following fiscal year. Currency forward contracts involve fixing the exchange rate for delivery of a specified amount of foreign currency on a specified date. The Company's accounting treatment for these instruments is based on whether or not the instruments are designated as a hedging instrument. At January 26, 2020, the Company had no outstanding foreign exchange contracts. At January 27, 2019, the Company had a foreign currency derivative designated as a cash flow hedge that had a notional value of \$3.9 million and a fair value of \$0.1 million.

Subsequent to the end of fiscal year 2020, we entered into an interest rate swap agreement to hedge the variability of interest payments on \$150.0 million of debt outstanding under our Credit Facility. The swap has a three-year term and based on our current leverage ratio, interest payments on \$150.0 million of our debt are now fixed at 1.9775%.

Note 20: Correction of Immaterial Errors in Prior Period Financial Statements

During the fourth quarter of fiscal year 2020, management identified certain immaterial errors related to share-based compensation expense of market-based awards granted during fiscal years 2018, 2019 and 2020. At the inception of these grants, the Company appropriately determined that the awards contained a market condition and that the effect of the market condition should be reflected in the grant date fair value of the awards, with the resulting compensation expense fixed at inception and recognized ratably over the requisite service period, regardless of when, if ever, the market condition is satisfied. The actual awards, however, were incorrectly accounted for as performance-based awards, whereby the number of shares expected to vest and corresponding compensation expense was adjusted on a quarterly basis. The Company assessed the materiality of the errors from a qualitative and quantitative perspective, and concluded that the impact of the errors is not material. Therefore, the correction of the errors did not require the amendment of the Company's previously filed Annual Reports on Form 10-K or its Quarterly Reports on Form 10-Q for the impacted periods. The Company has corrected its consolidated financial statements for these errors for all annual periods presented in this Annual Report on Form 10-K, as well as the unaudited interim financial information presented in Note 21.

The impact of the corrections on the Company's Statements of Income and Statements of Comprehensive Income are presented in the table below:

(in thousands)	Fiscal Year Ended			
	January 27, 2019		January 28, 2018	
	As Reported	As Corrected	As Reported	As Corrected
Selling, general and administrative	\$ 151,397	\$ 145,246	\$ 146,303	\$ 148,146
Product development and engineering	\$ 109,918	\$ 109,047	\$ 104,798	\$ 105,070
Total operating costs and expenses	\$ 278,545	\$ 271,523	\$ 283,235	\$ 285,350
Operating income	\$ 98,477	\$ 105,499	\$ 68,736	\$ 66,621
Income before taxes and equity in net gains (losses) of equity method investments	\$ 63,098	\$ 70,120	\$ 59,871	\$ 57,756
(Benefit) provision for income taxes	\$ (84)	\$ 355	\$ 23,191	\$ 22,853
Net income before equity in net gains (losses) of equity method investments	\$ 63,182	\$ 69,765	\$ 36,680	\$ 34,903
Net income	\$ 63,056	\$ 69,639	\$ 36,426	\$ 34,649
Earnings per share:				
Basic	\$ 0.96	\$ 1.06	\$ 0.55	\$ 0.52
Diluted	\$ 0.92	\$ 1.02	\$ 0.54	\$ 0.51
Comprehensive income	\$ 60,649	\$ 67,232	\$ 36,520	\$ 34,743

The impact of the corrections on the Company's Balance Sheets are presented in the table below:

(in thousands)	As of			
	January 27, 2019		January 28, 2018	
	As Reported	As Corrected	As Reported	As Corrected
Deferred tax assets	\$ 14,362	\$ 14,261	\$ 4,236	\$ 4,574
Total assets	\$ 1,062,881	\$ 1,062,780	\$ 1,085,776	\$ 1,086,114
Additional paid-in capital	\$ 456,791	\$ 451,884	\$ 415,056	\$ 417,171
Retained earnings	\$ 574,930	\$ 579,736	\$ 502,346	\$ 500,569
Total stockholders' equity	\$ 682,681	\$ 682,580	\$ 665,013	\$ 665,351
Total equity	\$ 682,681	\$ 682,580	\$ 665,013	\$ 665,351
Total liabilities and equity	\$ 1,062,881	\$ 1,062,780	\$ 1,085,776	\$ 1,086,114

There was no impact to the total operating cash flows in the Statement of Cash Flows for any year or period presented.

Note 21: Selected Quarterly Financial Data (Unaudited)

The following tables set forth a summary of data from the Company's Statements of Income for each of the eight quarterly periods ended January 26, 2020, including disclosure of corrections to previously reported amounts. Refer to Note 20 for more information regarding the correction of immaterial errors related to share-based compensation expense, which are reflected in the summary data below. The sum of quarterly per share amounts may differ from full year amounts due to rounding.

(in thousands, except per share data)	Fiscal Year 2020							
	Q4 2020		Q3 2020		Q2 2020		Q1 2020	
		As Reported	As Corrected	As Reported	As Corrected	As Reported	As Corrected	
Net sales	\$ 138,001	\$ 141,011	\$ 141,011	\$ 137,146	\$ 137,146	\$ 131,354	\$ 131,354	
Gross profit	84,277	86,248	86,248	84,884	84,884	81,275	81,275	
Operating income	10,196	22,165	17,877	15,548	11,769	12,817	12,167	
Net income attributable to common stockholders	\$ 2,934	\$ 17,599	\$ 13,997	\$ 5,366	\$ 2,192	\$ 13,294	\$ 12,748	
Earnings per share:								
Basic	\$ 0.04	\$ 0.27	\$ 0.21	\$ 0.08	\$ 0.03	\$ 0.20	\$ 0.19	
Diluted	\$ 0.04	\$ 0.26	\$ 0.21	\$ 0.08	\$ 0.03	\$ 0.20	\$ 0.19	
Weighted average number of shares:								
Basic	66,041	66,387	66,387	66,519	66,519	66,105	66,105	
Diluted	67,051	67,318	67,318	67,746	67,746	67,976	67,976	

(in thousands, except per share data)	Fiscal Year 2019							
	Q4 2019		Q3 2019		Q2 2019		Q1 2019	
	As Reported	As Corrected	As Reported	As Corrected	As Reported	As Corrected	As Reported	As Corrected
Net sales	\$ 160,006	\$ 160,006	\$ 173,550	\$ 173,550	\$ 163,211	\$ 163,211	\$ 130,429	\$ 130,429
Gross profit	98,867	98,867	106,562	106,562	100,124	100,124	71,469	71,469
Operating income (loss)	26,771	27,167	41,867	44,784	32,936	35,221	(3,097)	(1,673)
Net income attributable to common stockholders	\$ 13,340	\$ 13,843	\$ 12,165	\$ 14,787	\$ 25,169	\$ 27,260	\$ 12,382	\$ 13,749
Earnings per share:								
Basic	\$ 0.20	\$ 0.21	\$ 0.18	\$ 0.22	\$ 0.38	\$ 0.41	\$ 0.19	\$ 0.21
Diluted	\$ 0.20	\$ 0.20	\$ 0.18	\$ 0.22	\$ 0.37	\$ 0.40	\$ 0.18	\$ 0.20
Weighted average number of shares:								
Basic	65,525	65,525	66,014	66,014	66,063	66,063	66,324	66,324
Diluted	68,165	68,165	68,731	68,731	68,880	68,880	68,195	68,195

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

None.

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

The Company carried out an evaluation, under the supervision and with the participation of the CEO and Chief Financial Officer ("CFO"), of the effectiveness of the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e)) as of January 26, 2020. Based on that evaluation, the Company's CEO and CFO have concluded that such disclosure controls and procedures were effective as of such date.

Report of Management on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in the Securities Exchange Act of 1934, as amended (the "Exchange Act") Rules 13a-15(f) and 15d-15(f). Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework set forth in Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our evaluation under the framework, our management has concluded that as of January 26, 2020 the Company's internal control over financial reporting was effective 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.

Deloitte & Touche LLP, an independent registered public accounting firm, audited the consolidated financial statements included in this report, and has audited our internal control over financial reporting as of January 26, 2020 as stated in their report included below.

Changes in Internal Controls

During the fourth quarter of fiscal year 2020, we identified and remediated a material weakness in our internal controls related to the evaluation of new or unusual transactions. The deficiency resulted in an error over the accounting treatment for restricted stock units granted during fiscal years 2018, 2019 and 2020, which have a pre-defined market condition and service condition. We determined that this error was caused by a deficiency in the design of our control related to the evaluation of new or unusual transactions. This control required a review of the accounting treatment and did not include a review step requiring the reviewer to agree the accounting treatment outlined in the related memo to the underlying accounting treatment and records.

To remediate this material weakness, we enhanced the design of the above-mentioned control to include a review step whereby the reviewer agrees the memo to the underlying accounting treatment and records.

We also implemented a supplemental annual control during the fourth quarter of fiscal year 2020, which requires all of the accounting memos prepared for the year to be reviewed and agreed to the underlying accounting treatment and records at year end. We have completed our testing of the design and operating effectiveness of these controls and concluded that the material weakness has been remediated as of January 26, 2020.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Stockholders of
Semtech Corporation
Camarillo, California

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Semtech Corporation and subsidiaries (the "Company") as of January 26, 2020, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of January 26, 2020, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended January 26, 2020, of the Company and our report dated March 20, 2020, expressed an unqualified opinion on those financial statements and included an explanatory paragraph regarding the Company's adoption of a new accounting standard.

Basis for Opinion

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

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

Definition and Limitations of Internal Control over Financial Reporting

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

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

/s/ Deloitte & Touche LLP

Los Angeles, California

March 20, 2020

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

We have adopted a written Code of Conduct that applies to everyone in the Company, including our CEO, CFO and Controller. Our Code of Conduct serves as our written code of ethics for those officers, and for persons performing similar functions. Our current Code of Conduct is available at the Corporate Governance section of the Investors page on our website at www.semtech.com. Alternatively, you can request a copy of the Code of Conduct free of charge by sending a written request to the Company's Secretary at 200 Flynn Road, Camarillo, CA 93012. If we make any substantive amendments to the Code of Conduct or grant any waiver, including an implicit waiver, from the Code of Conduct to our CEO, CFO or Controller, to the extent required by the rules adopted by the SEC or Nasdaq, we will within four business days of the event disclose the nature of the amendment or waiver on our website at www.semtech.com.

The remaining information required by this item will be contained in our Proxy Statement relating to our annual meeting of stockholders to be held on June 11, 2020, to be filed with the SEC pursuant to Regulation 14A of the Exchange Act and is hereby specifically incorporated by reference thereto.

Item 11. Executive Compensation

The information required by this item will appear in our Proxy Statement relating to our annual meeting of stockholders to be held on June 11, 2020, to be filed by us with the SEC pursuant to Regulation 14A of the Exchange Act, and is hereby specifically incorporated herein by reference thereto.

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

The information required by this item will appear in our Proxy Statement relating to our annual meeting of stockholders to be held on June 11, 2020, to be filed by us with the SEC pursuant to Regulation 14A of the Exchange Act, and is hereby specifically incorporated herein by reference thereto.

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

The information required by this item will appear in our Proxy Statement relating to our annual meeting of stockholders to be held on June 11, 2020, to be filed by us with the SEC pursuant to Regulation 14A of the Exchange Act, and is hereby specifically incorporated herein by reference thereto.

Item 14. Principal Accounting Fees and Services

The information required by this item will appear in our Proxy Statement relating to our annual meeting of stockholders to be held on June 11, 2020, to be filed by us with the SEC pursuant to Regulation 14A of the Exchange Act, and is hereby specifically incorporated herein by reference thereto.

PART IV

Item 15. Exhibits, Financial Statement Schedules

- (a)(1) The financial statements, schedules, and reports included in this Form 10-K are listed in the index under Item 8 in this report.
- (a)(2) Schedules other than those listed in Item 8 are omitted since they are not applicable, not required, or the information required to be set forth herein is included in the consolidated financial statements or notes thereto.

SCHEDULE II

SEMTECH CORPORATION AND SUBSIDIARIES
 SCHEDULE II - VALUATION AND QUALIFYING ACCOUNTS
 THREE YEARS ENDED JANUARY 26, 2020
 (in thousands)

Total of Accounts Receivable and Other Sales Allowances	Balance at Beginning of Year ⁽¹⁾	Additions	Deductions	Balance at End of Year
Year ended January 28, 2018	\$ 8,230	\$ 11,366	\$ (10,507)	\$ 9,089
Year ended January 27, 2019	\$ 2,700	\$ 129	\$ (2,055)	\$ 774
Year ended January 26, 2020	\$ 774	\$ 4	\$ (145)	\$ 633

⁽¹⁾ For fiscal year 2019, as a result of the adoption of ASC 606, \$6.4 million of sales allowances was reclassified from "Accounts receivable" to "Accrued liabilities" on the Balance Sheets.

- (a)(3) Exhibits. These exhibits are available without charge upon written request directed to the Company's Secretary at 200 Flynn Road, Camarillo, CA 93012. Documents that are not physically filed with this report are incorporated herein by reference to the location indicated.

<u>Exhibit No.</u>	<u>Description</u>	<u>Location</u>
3.1	Restated Certificate of Incorporation of Semtech Corporation	Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended October 26, 2003
3.2	Bylaws of Semtech Corporation	Exhibit 3.2 to the Company's Annual Report on Form 10-K for the fiscal year ended January 27, 2008
4.1	Description of Common Stock	Filed herewith.
10.1	Amended and Restated Credit Agreement dated November 7, 2019 entered into among Semtech Corporation, the guarantors party thereto, the lenders party thereto and HSBC Bank USA, National Association, as administrative agent and as swing line lender and L/C issuer.	Exhibit 10.1 to the Company's Current Report on Form 8-K filed on November 12, 2019
10.2 *	Form of Indemnification Agreement for Directors and Executive Officers	Exhibit 10.1 to the Company's Current Report on Form 8-K filed November 24, 2010
10.3 *	Amended and Restated Employment Offer, dated as of November 20, 2019, by and between the Company and Mohan Maheswaran	Exhibit 10.1 to the Company's Current Report on Form 8-K filed November 22, 2019
10.4 *	Employment Offer Letter to Emeka Chukwu, accepted as of November 11, 2006	Exhibit 10.26 to the Company's Annual Report on Form 10-K for the fiscal year ended January 28, 2007

<u>10.5</u> *	<u>Memo to Emeka Chukwu, dated April 5, 2007</u>	<u>Exhibit 10.27 to the Company's Annual Report on Form 10-K for the fiscal year ended January 28, 2007</u>
<u>10.6</u> *	<u>Transition Agreement dated as of March 3, 2020 by and between the Company and James J. Kim</u>	<u>Exhibit 10.1 to the Company's Current Report on Form 8-K filed March 6, 2020</u>
<u>10.7</u> *	<u>Semtech Corporation Executive Change in Control Retention Plan</u>	<u>Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended October 27, 2019</u>
<u>10.8</u> *	<u>Form of Participation Agreement under the Semtech Corporation Executive Change in Control Retention Plan</u>	<u>Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q for the quarter ended October 27, 2019</u>
<u>10.9</u> *	<u>Letter Agreement dated as of August 17, 2015 by and between Semtech Canada Corporation and Gary M. Beauchamp</u>	<u>Exhibit 10.1 to the Company's Current Report on Form 8-K filed August 18, 2015</u>
<u>10.10</u> *	<u>Letter Agreement dated as of August 28, 2018 by and between Semtech Canada Corporation and Gary M. Beauchamp</u>	<u>Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended July 29, 2018</u>
<u>10.11</u> *	<u>Amended Semtech Corporation Executive (non-CEO) Bonus Plan, as amended and restated on November 15, 2017</u>	<u>Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended October 29, 2017</u>
<u>10.12</u> *	<u>Semtech Corporation Chief Executive Officer Bonus Plan, as amended and restated on November 15, 2017</u>	<u>Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended October 29, 2017</u>
<u>10.13</u> *	<u>Form of Long-Term Stock Incentive Plan Restricted Stock Unit Award Certificate</u>	<u>Exhibit 10.1 to the Company's Current Report on Form 8-K filed March 20, 2008</u>
<u>10.14</u> *	<u>Semtech Corporation 2008 Long-Term Equity Incentive Plan</u>	<u>Exhibit 10.40 to the Company's Annual Report on Form 10-K for the fiscal year ended January 27, 2008</u>
<u>10.15</u> *	<u>Form of Semtech Corporation 2008 Long-Term Equity Incentive Plan Option Award Certificate for Non-Employee Directors</u>	<u>Exhibit 10.3 to the Company's Current Report on Form 8-K filed July 1, 2008</u>
<u>10.16</u> *	<u>Form of Semtech Corporation 2008 Long-Term Equity Incentive Plan Stock Unit Award Certificate for Non-Employee Directors</u>	<u>Exhibit 10.4 to the Company's Current Report on Form 8-K filed July 1, 2008</u>
<u>10.17</u> *	<u>Form of Semtech Corporation 2008 Long-Term Equity Incentive Plan Employee Restricted Stock Award Certificate for Non-Employee Directors</u>	<u>Exhibit 10.5 to the Company's Current Report on Form 8-K filed July 1, 2008</u>
<u>10.18</u> *	<u>Form of Semtech Corporation 2008 Long-Term Equity Incentive Plan Employee Option Award Certificate</u>	<u>Exhibit 10.6 to the Company's Current Report on Form 8-K filed July 1, 2008</u>
<u>10.19</u> *	<u>Form of Semtech Corporation 2008 Long-Term Equity Incentive Plan Option Award Agreement for Non-Employee Directors</u>	<u>Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q for the quarter ended May 1, 2011</u>
<u>10.20</u> *	<u>Semtech Corporation 2009 Long-Term Equity Inducement Plan</u>	<u>Exhibit 10.2 to the Company's Current Report on Form 8-K filed December 15, 2009</u>
<u>10.21</u> *	<u>Form of Semtech Corporation 2009 Long-Term Equity Inducement Plan Award Agreements (Time-Based Vesting)</u>	<u>Exhibit 10.38 to the Company's Annual Report on Form 10-K for the fiscal year ended January 31, 2010</u>
<u>10.22</u> *	<u>Semtech Corporation 2007 SMI Assumed Plan</u>	<u>Exhibit 4.3 to the Company's Registration Statement on Form S-8, Registration No. 333-163780, filed on December 16, 2009</u>
<u>10.23</u> *	<u>Semtech Corporation 2013 Long-Term Equity Incentive Plan</u>	<u>Exhibit 10.1 to our Current Report on Form 8-K filed on June 24, 2013</u>

<u>10.24</u> *	<u>Form of Semtech Corporation 2013 Long-Term Equity Incentive Plan Restricted Stock Unit Award Agreement for Ownership Grants</u>	<u>Exhibit 10.31 to the Company's Annual Report on Form 10-K for the fiscal year ended January 31, 2016</u>
<u>10.25</u> *	<u>Form of Semtech Corporation 2013 Long-Term Equity Incentive Plan Performance Stock Unit Award Agreement</u>	<u>Exhibit 10.32 to the Company's Annual Report on Form 10-K for the fiscal year ended January 31, 2016</u>
<u>10.26</u> *	<u>Form of Semtech Corporation 2013 Long-Term Equity Incentive Plan Stock Option Award Agreement for Employees in Switzerland</u>	<u>Exhibit 10.33 to the Company's Annual Report on Form 10-K for the fiscal year ended January 31, 2016</u>
<u>10.27</u> *	<u>Form of Semtech Corporation 2013 Long-Term Equity Incentive Plan Stock Option Award Certificate for Non-Employee Directors</u>	<u>Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended May 1, 2016</u>
<u>10.28</u> *	<u>Form of Semtech Corporation 2013 Long-Term Equity Incentive Plan Non-Employee Director Stock Unit Award Certificate (Deferred)</u>	<u>Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended May 1, 2016</u>
<u>10.29</u> *	<u>Form of Semtech Corporation 2013 Long-Term Equity Incentive Plan Non-Employee Director Stock Unit Award Certificate (Non-Deferred)</u>	<u>Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q for the quarter ended May 1, 2016</u>
<u>10.30</u> *	<u>Form of Semtech Corporation 2013 Long-Term Equity Incentive Plan Stock Option Award Agreement for Employees</u>	<u>Exhibit 10.36 to the Company's Annual Report on Form 10-K for the fiscal year ended January 31, 2016</u>
<u>10.31</u> *	<u>Form of Semtech Corporation 2013 Long-Term Equity Incentive Plan Restricted Stock Unit Award Agreement for Employees</u>	<u>Exhibit 10.37 to the Company's Annual Report on Form 10-K for the fiscal year ended January 31, 2016</u>
<u>10.32</u> *	<u>Form of Semtech Corporation 2013 Long-Term Equity Incentive Plan Performance Unit Award Certificate</u>	<u>Exhibit 10.40 to the Company's Annual Report on Form 10-K for the fiscal year ended January 29, 2017</u>
<u>10.33</u> *	<u>Policy Regarding Director Compensation</u>	<u>Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended July 29, 2018</u>
<u>10.34</u> *	<u>Semtech Corporation 2017 Long-Term Equity Incentive Plan</u>	<u>Exhibit 10.1 to the Company's Current Report on Form 8-K filed on June 21, 2017</u>
<u>10.35</u> *	<u>Form of Semtech Corporation 2017 Long-Term Equity Incentive Plan Executive Ownership Restricted Stock Unit Award Certificate</u>	<u>Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended July 30, 2017</u>
<u>10.36</u> *	<u>Form of Semtech Corporation 2017 Long-Term Equity Incentive Plan Restricted Stock Unit Award Certificate</u>	<u>Exhibit 10.37 to the Company's Annual Report on Form 10-K for the fiscal year ended January 27, 2019</u>
<u>10.37</u> *	<u>Form of Semtech Corporation 2017 Long-Term Equity Incentive Plan Performance Unit Award Certificate</u>	<u>Exhibit 10.38 to the Company's Annual Report on Form 10-K for the fiscal year ended January 27, 2019</u>
<u>10.38</u> *	<u>Form of Semtech Corporation 2017 Long-Term Equity Incentive Plan Option Award Certificate</u>	<u>Exhibit 10.6 to the Company's Quarterly Report on Form 10-Q for the quarter ended July 30, 2017</u>
<u>10.39</u> *	<u>Form of Semtech Corporation 2017 Long-Term Equity Incentive Plan Option Award Certificate - Switzerland Employees</u>	<u>Exhibit 10.7 to the Company's Quarterly Report on Form 10-Q for the quarter ended July 30, 2017</u>
<u>10.40</u> *	<u>Form of Semtech Corporation 2017 Long-Term Equity Incentive Plan Non-Employee Director Stock Unit Award Certificate (deferred)</u>	<u>Exhibit 10.8 to the Company's Quarterly Report on Form 10-Q for the quarter ended July 30, 2017</u>
<u>10.41</u> *	<u>Form of Semtech Corporation 2017 Long-Term Equity Incentive Plan Non-Employee Director Stock Unit Award Certificate (non-deferred)</u>	<u>Exhibit 10.9 to the Company's Quarterly Report on Form 10-Q for the quarter ended July 30, 2017</u>

<u>10.42</u> *	<u>Form of Semtech Corporation 2017 Long-Term Equity Incentive Plan Option Award Certificate (non-employee director)</u>	<u>Exhibit 10.10 to the Company's Quarterly Report on Form 10-Q for the quarter ended July 30, 2017</u>
<u>10.43</u> *	<u>Form of Semtech Corporation 2017 Long-Term Equity Incentive Plan Restricted Stock Unit Award Certificate (rollover award in accordance with acquisition of AptoVision)</u>	<u>Exhibit 10.11 to the Company's Quarterly Report on Form 10-Q for the quarter ended July 30, 2017</u>
<u>10.44</u> *	<u>The Executive Nonqualified Excess Plan of Semtech Corporation (Amended and Restated Effective as of March 1, 2019)</u>	<u>Exhibit 10.45 to the Company's Annual Report on Form 10-K for the fiscal year ended January 27, 2019</u>
<u>10.45</u> *	<u>CEO Restricted Stock Unit Award Certificate dated March 5, 2019</u>	<u>Exhibit 10.46 to the Company's Annual Report on Form 10-K for the fiscal year ended January 27, 2019</u>
<u>10.46</u> *	<u>CEO Performance Stock Unit Award Certificate-Relative TSR dated March 5, 2019</u>	<u>Exhibit 10.47 to the Company's Annual Report on Form 10-K for the fiscal year ended January 27, 2019</u>
<u>10.47</u> *	<u>CEO Performance Stock Unit Award Certificate-Absolute Stock Price dated March 5, 2019</u>	<u>Exhibit 10.48 to the Company's Annual Report on Form 10-K for the fiscal year ended January 27, 2019</u>
<u>21.1</u>	<u>Subsidiaries of the Company</u>	<u>Filed herewith</u>
<u>23.1</u>	<u>Consent of Independent Registered Public Accounting Firm Deloitte & Touche LLP</u>	<u>Filed herewith</u>
<u>31.1</u>	<u>Certification of the Chief Executive Officer Pursuant to Rule 13a-14(a) or Rule 15d-14(a) under the Securities Exchange Act of 1934 as amended.</u>	<u>Filed herewith</u>
<u>31.2</u>	<u>Certification of the Chief Financial Officer Pursuant to Rule 13a-14(a) or Rule 15d-14(a) under the Securities Exchange Act of 1934 as amended.</u>	<u>Filed herewith</u>
<u>32.1</u>	<u>Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350 as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act Of 2002 (As set forth in Exhibit 32.1 hereof, Exhibit 32.1 is being furnished and shall not be deemed "filed".)</u>	<u>Furnished herewith</u>
<u>32.2</u>	<u>Certification of the Chief Financial Officer Pursuant 18 U.S.C. §1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Exhibit 32.2 is being furnished and shall not be deemed "filed")</u>	<u>Furnished herewith</u>
101	The following financial statements from the Company's Annual Report on Form 10-K for the fiscal year ended January 26, 2020, formatted in Inline XBRL: (i) Consolidated Statements of Income, (ii) Consolidated Statements of Comprehensive Income, (iii) Consolidated Balance Sheets (iv) Consolidated Statements of Stockholders' Equity, (v) Consolidated Statements of Cash Flow and (v) Notes to Consolidated Financial Statements, tagged as blocks of text and including detailed tags.	
104	The cover page from the Company's Annual Report on Form 10-K for the fiscal year ended January 26, 2020, formatted in Inline XBRL (included as Exhibit 101).	

* Management contract or compensatory plan or arrangement.

Item 16. Form 10-K Summary

None.

SIGNATURES

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

Date: March 20, 2020

Semtech Corporation

/s/ Mohan R. Maheswaran

Mohan R. Maheswaran

President and Chief Executive Officer

SIGNATURES

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

Date: March 20, 2020

/s/ Mohan R. Maheswaran

Mohan R. Maheswaran
President and Chief Executive Officer
Director

Date: March 20, 2020

/s/ Emeka N. Chukwu

Emeka N. Chukwu
Executive Vice President and Chief Financial Officer
(Principal Accounting and Financial Officer)

Date: March 20, 2020

/s/ Rockell N. Hankin

Rockell N. Hankin
Chairman of the Board

Date: March 20, 2020

/s/ James P. Burra

James P. Burra
Director

Date: March 20, 2020

/s/ Bruce C. Edwards

Bruce C. Edwards
Director

Date: March 20, 2020

/s/ Ye Jane Li

Ye Jane Li
Director

Date: March 20, 2020

/s/ James T. Lindstrom

James T. Lindstrom
Director

Date: March 20, 2020

/s/ Carmelo J. Santoro

Carmelo J. Santoro
Director

Date: March 20, 2020

/s/ Sylvia Summers

Sylvia Summers
Director

Date: March 20, 2020

/s/ Rodolpho Cardenuto

Rodolpho Cardenuto
Director

Date: March 20, 2020

/s/ Saar Gillai

Saar Gillai
Director

DESCRIPTION OF COMMON STOCK

The following summary description of our Common Stock is based on the provisions of our Certificate of Incorporation, our Bylaws and the applicable provisions of the Delaware General Corporation Law. This information is qualified entirely by reference to the applicable provisions of our Certificate of Incorporation, our Bylaws and the Delaware General Corporation Law. Our Certificate of Incorporation and Bylaws have previously been filed as exhibits with the Securities and Exchange Commission.

Authorized Capital Stock

Our authorized capital shares consist of 250,000,000 shares of common stock, \$0.01 par value per share (“Common Stock”), and 10,000,000 shares of series preferred stock, \$0.01 par value per share (“Preferred Stock”). The outstanding shares of our Common Stock are fully paid and nonassessable. We have no outstanding shares of Preferred Stock.

Voting Rights

Holders of Common Stock are entitled to one vote per share on all matters voted on by the stockholders, including the election of directors. Our Common Stock does not have cumulative voting rights.

Dividend Rights

Subject to the rights of holders of outstanding shares of Preferred Stock, if any, the holders of Common Stock are entitled to receive dividends, if any, as may be declared from time to time by the Board of Directors in its discretion out of funds legally available for the payment of dividends.

Liquidation Rights

Subject to any preferential rights of outstanding shares of Preferred Stock, if any, holders of Common Stock will share ratably in all assets legally available for distribution to holders of Common Stock in the event of dissolution.

Other Rights and Preferences

Our Common Stock has no sinking fund or redemption provisions or preemptive, conversion or exchange rights.

Transfer Agent and Registrar

The transfer agent and registrar for the Common Stock is Computershare.

Listing

Our Common Stock is traded on The Nasdaq Global Select Market under the trading symbol “SMTC.”

Anti-takeover Effects of Provisions of Delaware Law and Charter Documents

Our Certificate of Incorporation and Bylaws contain provisions that could have the effect of discouraging potential acquisition proposals or tender offers or delaying or preventing a change of control of us or our management.

These provisions are as follows:

- the ability of our Board of Directors to determine the rights, preferences and privileges of our preferred shares and to issue the preferred shares without stockholder approval;
- advance notice requirements for election to our Board of Directors and for proposing matters that can be acted upon at stockholder meetings; and
- the inability of stockholders to call a special meeting.

We are subject to Section 203 of the Delaware General Corporation Law, an anti-takeover law. In general, Section 203 prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years after the date that such stockholder became an interested stockholder, with the following exceptions:

- before such date, the Board of Directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
-

- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction began, excluding for purposes of determining the voting stock outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned (1) by persons who are directors and also officers and (2) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or after such date, the business combination is approved by the Board of Directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 defines business combination to include the following:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of the stock or any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits by or through the corporation.

In general, Section 203 defines an “interested stockholder” as an entity or person who, together with the person’s affiliates and associates, beneficially owns, or within three years prior to the time of determination of interested stockholder status did own, 15% or more of the outstanding voting stock of the corporation.

Subsidiaries of Semtech Corporation

- Semtech EV, Inc. (California)
 - Semtech San Diego Corporation (California)
 - Sierra Monolithics, Inc. (California)
 - Semtech Colorado, Inc. (Colorado)
 - Semtech New York Corporation (Delaware)
 - Semtech Corpus Christi Corporation (Texas)
 - Triune IP, LLC (Texas)
 - Triune Systems, L.L.C. (Texas)
 - Semtech Canada Corporation (Nova Scotia, Canada)
 - Semtech Quebec Inc. (Quebec)
 - Semtech Semiconductor (Chengdu) Co. Ltd. (China)
 - Semtech Semiconductor (Shanghai) Co. Ltd. (China)
 - Semtech Semiconductor (Shenzhen) Company Limited (China)
 - Semtech France SAS (France)
 - Semtech Germany GmbH (Germany)
 - Semtech Semiconductor Holdings Limited (Hong Kong)
 - Semtech Advanced Systems India Private Limited (India)
 - Semtech Japan GK (Japan)
 - Semtech Semiconductor (Malaysia) Sdn Bhd (Malaysia)
 - Semtech Corpus Christi S.A. de CV (Mexico)
 - Snowbush Mexico S.A.P.I. de C.V. – 99.9% (Mexico)
 - Semtech Netherlands BV (Netherlands)
 - Semtech (International) AG (Switzerland)
 - Semtech Neuchatel SARL (Switzerland)
 - Genum UK Limited (United Kingdom)
-

- Semtech EMEA Limited (United Kingdom)
- Semtech Limited (United Kingdom)

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement Nos. 333-80319, 333-50448, 333-60396, 333-118804, 333-163780, 333-192703, 333-221810 and 333-152939 on Form S-8 of our reports dated March 20, 2020, relating to the consolidated financial statements and financial statement schedule of Semtech Corporation and subsidiaries (the "Company") (which report expresses an unqualified opinion and includes an explanatory paragraph regarding the Company's adoption of a new accounting standard), and the effectiveness of the Company's internal control over financial reporting, appearing in this Annual Report on Form 10-K of the Company for the year ended January 26, 2020.

/s/ Deloitte & Touche LLP

Los Angeles, California

March 20, 2020

CERTIFICATION

I, Mohan R. Maheswaran, certify that:

1. I have reviewed this annual report on Form 10-K of Semtech Corporation;
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(s) 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(s) 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 20, 2020

/s/ Mohan R. Maheswaran

Mohan R. Maheswaran

President and Chief Executive Officer

CERTIFICATION

I, Emeka N. Chukwu, certify that:

1. I have reviewed this annual report on Form 10-K of Semtech Corporation;
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(s) 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(s) 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 20, 2020

/s/ Emeka N. Chukwu

Emeka N. Chukwu

Executive Vice President and Chief 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 Semtech Corporation (the "Company") on Form 10-K for the fiscal year ended January 26, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Mohan R. Maheswaran, Chief Executive Officer of the Company, hereby certify pursuant to 18 U.S.C. Section 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.

Date: March 20, 2020

/s/ Mohan R. Maheswaran

Mohan R. Maheswaran

President and Chief Executive Officer

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to Semtech Corporation and will be retained by Semtech Corporation and furnished to the Securities and Exchange Commission or its staff upon request.

The information contained in this Exhibit 32.2 is being furnished and shall not be deemed "filed" for the purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liabilities of that section. The information in this Exhibit 32.2 shall not be incorporated by reference into any registration statement or other document pursuant to the Securities Exchange Act of 1934, as amended, or the Securities Act of 1933, as amended, except as shall be expressly set forth by specific reference to this Exhibit 32.2 in such filing.

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 Semtech Corporation (the "Company") on Form 10-K for the fiscal year ended January 26, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Emeka N. Chukwu, Chief Financial Officer of the Company, hereby certify pursuant to 18 U.S.C. Section 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.

Date: March 20, 2020

/s/ Emeka N. Chukwu

Emeka N. Chukwu

Executive Vice President and Chief Financial Officer

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to Semtech Corporation and will be retained by Semtech Corporation and furnished to the Securities and Exchange Commission or its staff upon request.

The information contained in this Exhibit 32.2 is being furnished and shall not be deemed "filed" for the purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liabilities of that section. The information in this Exhibit 32.2 shall not be incorporated by reference into any registration statement or other document pursuant to the Securities Exchange Act of 1934, as amended, or the Securities Act of 1933, as amended, except as shall be expressly set forth by specific reference to this Exhibit 32.2 in such filing.