Lumentum Holdings Inc. Form 10-K/A March 29, 2018 Table of Contents

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

Form 10-K/A Amendment No. 1

(Mark One)

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

For the fiscal year ended July 1, 2017

OR

o 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 001-36861 Lumentum Holdings Inc. (Exact name of Registrant as specified in its charter)

Delaware 47-3108385 (State or other jurisdiction of (I.R.S. Employer incorporation or organization) Identification Number) 400 North McCarthy Boulevard, Milpitas, California 95035 (Address of principal executive offices including Zip code)

(408) 546-5483

(Registrant's telephone number, including area code)

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

Title of each class

Name of exchange on which registered

Common Stock, par value of \$0.001 per share Nasdaq Global Select Market

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

None

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

Yes o No x

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

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 x No o

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No o

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Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained to the best of the Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. o 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 definition of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filero Non-accelerated filero (Do not check if a smaller reporting company o Smaller reporting company o

Emerging Growth company

o

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. o

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

As of December 31, 2016, the aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant was approximately \$1,655 million based on the closing sales price of the registrant's common stock as reported on the NASDAQ Stock Market on December 30, 2016 of \$38.65 per share. Shares of common stock held by officers, directors and holders of more than five percent of the outstanding common stock have been excluded from this calculation because such persons may be deemed to be affiliates.

As of August 18, 2017, the Registrant had 61,515,528 shares of common stock outstanding.

#### DOCUMENTS INCORPORATED BY REFERENCE

Portions of the information called for by Part III of this Amendment to Annual Report on Form 10-K/A is hereby incorporated by reference from the definitive proxy statement for the Registrant's annual meeting of stockholders, which was filed with the Securities and Exchange Commission on September 19, 2017.

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#### **EXPLANATORY NOTE**

This Amendment No. 1 on Form 10-K/A (the "Form 10-K/A" or the "Amendment") amends the Annual Report of Lumentum Holdings Inc. (the "Company") on Form 10-K for the fiscal year ended July 1, 2017, as filed with the Securities and Exchange Commission (the "SEC") on August 29, 2017 (the "Original Filing").

This Amendment is being filed solely to correct an administrative error in the content of the Report of Independent Registered Public Accounting Firm of PricewaterhouseCoopers LLP (the "PwC Report"), the Company's prior independent registered public accounting firm, contained in Part II, Item 8 of the Original Filing. The PwC Report in the Original Filing referenced the financial position of the Company at July 2, 2016 and June 27, 2015, and results of the Company's operations and its cash flows for each of the three years in the period ended July 2, 2016 which includes the fiscal year ended June 28, 2014. Although PricewaterhouseCoopers LLP did audit the Company's financial position at June 27, 2015, and results of the Company's operations and its cash flows for the fiscal year ended June 28, 2014, such financial statements were not required to be included, and were not included, in the Original Filing. Accordingly, the PwC Report was amended to remove the extraneous references.

Deloitte & Touche LLP, the Company's current Independent Registered Public Accounting Firm, provided a report on the consolidated financial statements and financial statement schedule for the fiscal year ended July 1, 2017 in the Original Filing.

Pursuant to Rule 12b-15 under the Securities Exchange Act of 1934, as amended, this Form 10-K/A contains all of Item 8 as well as new certifications pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 and Section 906 of the Sarbanes-Oxley Act of 2002, which are attached hereto. Item 15 of this Amendment reflects new consents of Deloitte & Touche LLP and PricewaterhouseCoopers LLP and was updated to correct filing dates for exhibits 4.2, 4.3 and 10.10, and to include footnote references in the exhibit list. For ease of future reference, the Company has voluntarily included all sections of the Original Filing in this Amendment, but, except as stated above, no other changes to the Original Filing have been made.

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#### FORWARD-LOOKING STATEMENTS

This Amendment contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, (the "Exchange Act"). These statements are based on our current expectations and involve risks, uncertainties and assumptions that, if they never materialize or prove incorrect, could cause our results to differ materially from those expressed or implied by such forward-looking statements. These statements relate to, among other things, our markets, products and strategy, sales, gross margins, operating expenses, capital expenditures and requirements, liquidity, product development and R&D efforts, manufacturing plans, litigation, effective tax rates and tax reserves, our corporate and financial reporting structure, and our plans for growth and innovation, and are often identified by the use of words such as, but not limited to, "anticipate," "believe," "can," "continue," "could," "estimate," "expect," "intend," "may," "might," "plan," "project "target," "will," "would" and similar expressions or variations intended to identify forward-looking statements. These statements are based on the beliefs and assumptions of our management, which are in turn based on information currently available to management. Such forward-looking statements are subject to risks, uncertainties and other important factors that could cause actual results and the timing of certain events to differ materially from future results expressed or implied by such forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in the section entitled "Risk Factors" included under Part I, Item 1A below. Furthermore, such forward-looking statements speak only as of the date of this report. Except as required by law, we undertake no obligation to update any forward-looking statements to reflect events or circumstances after the date of such statements.

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PART I

ITEM 1. BUSINESS

General

Overview

Lumentum Holdings Inc. ("we", "our", "Lumentum" or the "Company") is an industry leading provider of optical and photonic products addressing a range of end market applications including data communications ("Datacom") and telecommunications ("Telecom") networking and commercial lasers ("commercial lasers") for manufacturing, inspection and life-science applications, as defined by revenue and market share. In addition, we are using our core optical and photonic technology and our volume manufacturing capability to expand into emerging markets that benefit from advantages that optical or photonics-based solutions provide, including 3D sensing for consumer electronics and diode light sources for a variety of consumer and industrial applications. The majority of our customers are original equipment manufacturers ("OEMs") that incorporate our products into their products which address end-market applications. For example, we sell fiber optic components that our network equipment manufacturer ("NEM") customers assemble into communications networking systems, which they sell to network service providers or enterprises with their own networks. Increasingly, we are also selling Datacom products to owners and operators of large data centers, which we refer to as hyperscale datacenters. Similarly, many of our customers for our Lasers products incorporate our products into tools they produce, which are used for manufacturing processes by their customers.

We operate in two reportable segments: Optical Communications ("OpComms") and Commercial Lasers ("Lasers").

We operate in two reportable segments: Optical Communications ("OpComms") and Commercial Lasers ("Lasers"). We have a global marketing and sales footprint that enables us to address global market opportunities for our products. We have manufacturing capabilities and facilities in North America, Asia-Pacific and Europe, the Middle East and Africa ("EMEA") with employees engaged in R&D, administration, manufacturing, support and sales and marketing activities. Our headquarters are located in Milpitas, CA and we employed approximately 2,057 full-time employees around the world as of July 1, 2017.

Lumentum was incorporated in Delaware as a wholly owned subsidiary of JDS Uniphase Corporation ("JDSU") on February 10, 2015 and is comprised of the former communications and commercial optical products ("CCOP") segment and WaveReady product lines of JDSU. In August 2015, we became an independent publicly-traded company through the distribution by JDSU to its stockholders of 80.1% of our outstanding common stock (the "Separation"). Each JDSU stockholder of record as of the close of business on July 27, 2015 received one share of Lumentum common stock for every five shares of JDSU common stock held on such date. JDSU was renamed Viavi Solutions Inc. ("Viavi") and at the time of distribution, retained ownership of 19.9% of Lumentum's outstanding shares.

Our business traces its origins to Uniphase Corporation, which was formed in 1979, and became publicly traded in 1992. Uniphase was originally a supplier of commercial lasers, and later, a leading supplier of optical transmission products, In 1999, JDS Fitel Inc., a pioneer in products for fiber optic networking which was formed in 1981, merged with Uniphase to become JDSU, a global leader in optical networking. Subsequent acquisitions by JDSU broadened the depth and breadth of the OpComms and Lasers businesses, as well as the intellectual property, technology and product offerings, of what is now Lumentum. Notable amongst these acquisitions in the OpComms business were Agility Communications, Inc. in 2005 and Picolight, Inc. in 2007 which respectively brought widely tunable, long wavelength laser technology for metro and long haul networking applications and short wavelength vertical-cavity surface-emitting lasers ("VCSELs") for enterprise, datacenter networking, and 3D sensing applications. The fundamental laser component technologies which we acquired through these acquisitions, forms the basis of virtually all optical networks today and we believe will continue to do so for the foreseeable future. These technologies will enable us to develop highly integrated products to satisfy our communications customers' ever increasing needs for smaller, lower power and lower cost optical products. Notable acquisitions in the Lasers business were Lightwave Electronics Corporation in 2005 and Time-Bandwidth Products Inc. ("Time-Bandwidth") in 2014. Both of these Lasers acquisitions brought high power pulsed solid-state laser products and technology to our business which address the micro laser machining market and expanded our addressable market.

Industry Trends and Business Risks

Our business is driven by end-market applications which benefit from the performance advantages that optical solutions enable.

The OpComms markets we serve are experiencing continually increasing needs for higher data transmission speeds, fiber optic network capacity and network agility. This is driven by rapid growth in both the number of higher bandwidth broadband connections, notably those associated with mobile devices, such as high-definition video, online gaming, cloud computing and the number and scale of datacenters that require fiber optic links to enable the higher speeds and increased scale necessary to deliver high bandwidth video and other services. Our technology, which was originally developed for communications applications is also finding use in other emerging market opportunities including 3D sensing applications that employ our laser technology in mobile devices, computers, augmented and virtual reality and other consumer electronics devices.

In the Lasers markets, customer demand is driven by the need to enable faster, higher precision volume manufacturing techniques with lower power consumption, reduced manufacturing footprint and increased productivity. These capabilities are critical as industries develop products that are smaller and lighter, increasing productivity and yield and lowering their energy consumption.

Our optical and laser solutions, developed in close collaboration with OEM partners, are well positioned to meet demand resulting from these trends. We do, however, expect to continue to encounter a number of industry and market risks and uncertainties. These risks and uncertainties may limit our visibility, and consequently, our ability to predict future revenue, profitability and general financial performance, and could create quarter over quarter variability in our financial measures. For example, the demand environment in China has fluctuated significantly over the past year, and has created volatility and uncertainty in our future demand. We cannot predict when or to what extent these uncertainties will be resolved. Our revenues, profitability and general financial performance may also be affected by: (i) pricing pressures, particularly within our OpComms markets, due to, among other things, a highly concentrated customer base, increasing competition, particularly from Asia-Pacific-based competitors, and a general commoditization trend for certain products; (ii) high product mix variability which affects revenue and gross margin; (iii) fluctuations in customer buying patterns, which cause volatility in demand, revenue and profitability; and (iv) the current trend of communication industry consolidation, which is expected to continue, that directly affects our customer bases and adds additional risk and uncertainty to our financial and business projections.

## Reportable Segments

We are an industry leading provider of optical and photonic products defined by revenue and market share addressing a range of end-market applications including optical communications and commercial lasers. We have two operating segments, Optical Communications, which we refer to as OpComms, and Commercial Lasers, which we refer to as Lasers. The two operating segments were primarily determined based on how the Chief Operating Decision Maker ("CODM") views and evaluates our operations. Operating results are regularly reviewed by the CODM to make decisions about resources to be allocated to the segments and to assess their performance. Other factors, including market separation and customer specific applications, go-to-market channels, products and manufacturing, are considered in determining the formation of these operating segments.

The table below discloses the percentage of our total net revenue attributable to our two reportable segments. In addition, it discloses the percentage of our total net revenue attributable to product offerings within the OpComms segment:

	Years Ended				
	July 1,	July 2,	June 27,		
	2017	2016	2015		
Optical Communications:	85.6%	84.3%	82.9 %		
Telecom	61.0%	61.5%	60.6 %		
Datacom	20.1%	18.1%	17.4 %		
Consumer and Industrial	4.5 %	4.7 %	4.9 %		
Lasers	14.4%	15.7%	17.1 %		

For further information regarding our operating segments, please refer to "Note 19. Operating Segments and Geographic Information" in the Notes to Consolidated Financial Statements.

**OpComms** 

Markets

Our OpComms products address the following markets: telecommunications (Telecom), data communications (Datacom) and Consumer and Industrial.

Our OpComms products include a wide range of components, modules and subsystems to support and maintain customers in our two primary markets: Telecom and Datacom. The Telecom market includes carrier networks for access (local), metro (intracity), long-haul (city-to-city and worldwide) and submarine (undersea) networks. The Datacom market addresses enterprise,

cloud and data center applications, including storage-access networks ("SANs"), local-area networks ("LANs") and wide-area networks ("WANs"). These products enable the transmission and transport of video, audio and text data over high-capacity fiber-optic cables. We maintain leading positions in the fast growing OpComms markets, including reconfigurable optical add/drop multiplexers ("ROADMs"), tunable 10-gigabit small form-factor pluggable transceivers and tunable small form-factor pluggable transceivers. Our 10G, 40G legacy transceivers and a growing portfolio of 100G pluggable transceivers support LAN/SAN/WAN needs and the cloud for customers building enterprise and hyperscale data center networks.

In the Consumer and Industrial markets, our OpComms products include laser light sources, which are integrated into 3D sensing platforms being used in applications for mobile devices, gaming, computers, virtual and augmented reality, other consumer electronics devices, and industrial segments. These systems simplify the way people interact with technology by enabling the use of natural body gestures, like the wave of a hand, to control a product or application. Systems can also be used for identification, safety, and process efficiency, among numerous other application spaces. Emerging applications for this technology include various mobile device applications, autonomous vehicles, self-navigating robotics and drones in industrial applications and 3D capture of objects coupled with 3D printing. Our laser light sources are also used in a variety of other industrial laser and processing applications. Customers

Our OpComms customers include Ciena, Cisco Systems, Coriant, Fujitsu, Arista, Alphabet (formerly Google), Facebook, Yahoo, Microsoft, Huawei Technologies, FiberHome, Infinera, Microsoft, and Nokia Networks (including Alcatel-Lucent International). During fiscal 2017, 2016, and 2015, net revenue generated from a single customer which represented 10% or more of our total net revenue of the applicable fiscal year is summarized in the table below:

Years Ended
July 1, July 2, June 27,
2017 2016 2015
18.5% 17.1% 14.4%
16.7% 17.1% \*
12.4% 13.0% 11.8%

\*Represents less than 10% of total net revenue

Trends

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**CISCO** 

To remain competitive, network operators worldwide must offer broader suites of digital services. To do this, they are migrating to Internet-protocol ("IP") networks and expanding long-haul, metro regional and metro access networks, which effectively deliver broadband services while lowering capital and operating costs of dense-wavelength-division multiplexing networks.

The growing demand for capacity encourages the adoption of OpComms products across the Datacom and Telecom markets. Demand for capacity in the Datacom market is driven by the growing needs of LANs and WANs. Growth in Datacom is also driven by web and cloud services companies that are expanding data center infrastructure, increasing the need for network capacity within and between these data centers.

Demand in the Telecom market is driven by new bandwidth-intensive applications that can result in sudden and severe changes in demand almost anywhere on the network. Increasing agility in optical networks by employing ROADMs, wavelength selective switches, wavelength tunable transmission products and other agile optical products provides an effective way to respond to unpredictable bandwidth demands and to manage expenses. With more agile optical networks, a network operator can add capacity by using remote management applications rather than dispatching technicians to perform manual operations in the field.

In addition, the high-end routers, switches and cross-connect equipment that must handle legacy and internet-protocol traffic are becoming increasingly complex in order to meet higher bandwidth, scalability, speed and reliability needs. Products must provide higher levels of functionality and performance in compact designs that must also meet requirements for quality, reliability and cost.

Deployment of fiber closer to the end user increases the availability of high-bandwidth services and we expect it will result in increased demand on the metro regional and long-haul networks into which these services feed. The dynamically reconfigurable nature of today's agile networks enables lower operating costs and other competitive

advantages, allowing service providers to use and scale network capacity more flexibly, streamline service provisioning, accelerate rerouting around points of failure and modify network topology through simple point-and-click network management systems.

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Our optical products are well positioned to meet these demands. Our innovation has resulted in products that have more functionality, are less than half the size, require less power and are more cost-effective, particularly in the area of photonic integrated circuits. Higher levels of integration have also led to development of our Super Transport Blade, which delivers all transport functions (wavelength switching, pre-amplification, post-amplification, optical supervisory channel and monitoring) in a single, integrated platform, essentially replacing three blades with one. Strategy

In our OpComms segment, we are focused on technology leadership through collaborative innovation with our customers, cost leadership and functional integration. We align the latest technologies with industry leading, scalable manufacturing and operations to drive the next phase of optical communications for Telecom and Datacom applications that are faster, more agile and more reliable, making us a valuable business and technology partner for NEMs, consumer electronic companies, cloud service providers and data center operators.

## Competition

We compete against various public and private companies in the markets we serve. Publicly traded companies providing optical communications components include II-VI, Acacia Communications, Foxconn Interconnect Technology, Finisar, Fujitsu Optical Components, Furukawa Electric, Neophotonics, Oclaro, Applied Optoelectronic, Innolight Technology, and Sumitomo Electric Industries.

## Offerings

In addition to a full selection of active and passive components, we offer increasing levels of functionality and integration in modules, circuit packs and subsystems for transmission, amplification, wavelength management and more.

In the Telecom market, we provide transmission and transport solutions for optical networks that make up the backbone of the wireline Telecom infrastructure, thereby enabling the internet. Transmission products, such as our tunable transponder, transceiver and transmitter modules, transmit and receive high-speed data signals at the ingress/egress points of the network. These products use dense wavelength division multiplexing technology to enable high capacity (from 20 to 40Tb/s in the C-Band) links driven by increasing internet demand. We also offer components including tunable lasers, receivers and modulators to address the higher end of these same network applications.

Our transport products, such as ROADMs, amplifiers and optical channel monitors provide switching, routing and conditioning of signals. We also make components for transport, including 980nm, multi-mode and Raman pumps for optical amplifiers, and passive components. Passive components include switches, attenuators, photodetectors, gain flattening filters, isolators, WDM filters, AWG's, multiplex/de-multiplexers and integrated passive modules. Our innovation led to the Super Transport Blade, which integrates all major optical transport functions into a single-slot blade. This all-in-one solution reduces the size, cost and power requirements of optical components, incorporates nano wavelength selective switch technology and enables greater chassis density and a smaller footprint. In the Datacom market, which relies on storing, moving and manipulating vast amounts of data, we offer transmission products, such as our optical transceivers for Fiber Channel and Ethernet applications. Our transceivers are also used to connect servers, switches, routers and other information technology infrastructure critical for today's email, enterprise resource planning and other cloud services such as streaming of high definition and 4k video. Our integrated fiber optic transceivers provide cost effective and scalable connectivity and are used in the hardware that runs many of the applications people use daily such as email, social networking, cloud storage, online gaming and streaming video. They are available in several hot-pluggable form factors and allow for very compact, high-density hardware designs.

For the high 100G data rate, we offer several technologies to balance technical and commercial requirements. For high volume, short distance applications we developed our vertical-cavity surface-emitting lasers ("VCSELs"). VCSELs are ideal for short reaches because they are low power consumption, low cost and highly scalable. For high-performance, longer distance applications we have our distributed feedback laser ("DFB") and electro-absorption modulated laser ("EML"). Our individual lasers and compact laser arrays offer an innovative solution for the LANs, SANs, broadband Internet and metro-area network as well as hyperscale datacenter applications.

Our 3D sensing technology enables real time depth information to any photo or video image. This represents a fundamental transition for image capture akin to the transition from monochrome to color and gives devices the ability to see the world around them in three dimensions. The immediate applications include full body imaging for gaming, 3D scanning for space mapping and facial recognition for security. Emerging applications are in mobile devices, computers, augmented and virtual reality and other consumer electronics devices, automotive, robotics and industrial. 3D sensing can be applied to any device with a camera. The

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technologies to achieve accurate and stable 3D sensing are converging to laser based solutions. We are a leading supplier of the critical laser illumination sources for 3D sensing systems being used in applications for gaming, computing, mobile devices and home entertainment.

Lasers

Markets

Our Lasers products serve our customers in markets and applications such as sheet metal processing, general manufacturing, biotechnology, graphics and imaging, remote sensing, and precision machining such as drilling in printed circuit boards, wafer singulation, glass cutting and solar cell scribing.

Our Lasers products are used in a variety of original equipment manufacturer ("OEM") applications including diode-pumped solid-state, fiber, diode, direct-diode and gas lasers such as argon-ion and helium-neon lasers. Fiber lasers provide kW-class output powers combined with excellent beam quality and are used in sheet metal processing and metal welding applications. Diode-pumped solid-state lasers provide excellent beam quality, low noise and exceptional reliability and are used in biotechnology, graphics and imaging, remote sensing, materials processing and precision machining applications. Diode and direct-diode lasers address a wide variety of applications, including laser pumping, thermal exposure, illumination, ophthalmology, image recording, printing, plastic welding and selective soldering. Gas lasers such as argon-ion and helium-neon lasers provide a stable, low-cost and reliable solution over a wide range of operating conditions, making them well suited for complex, high-resolution OEM applications such as flow cytometry, DNA sequencing, graphics and imaging and semiconductor inspection.

Our acquisition of Time-Bandwidth enabled us to provide high-powered and ultrafast lasers for the industrial and scientific markets. Manufacturers use high-power, ultrafast lasers to create micro parts for consumer electronics and to process semiconductor, LED, and other types of chips. Use of ultrafast lasers for micromachining applications is being driven primarily by the increasing use of consumer electronics and connected devices globally.

Our portfolio of Lasers products includes components and subsystems used in a variety of OEM applications that range in output power from milliwatts to kilowatts and include ultraviolet, visible and infrared wavelengths. We support customer applications in the biotechnology, graphics and imaging, remote sensing, materials processing and other precision machining areas.

## Customers

Our Lasers customers include Amada, ASML Holding, Beckman Coulter, Becton, Dickinson and Company, DISCO, Electro Scientific Industries, EO Technics, and KLA-Tencor. During fiscal 2017, 2016, and 2015, we did not have any single customer attributable to our Lasers segment that generated net revenue of 10% or more of our total net revenue of the applicable fiscal year.

## Trends

As technology advances, industries such as consumer electronics manufacturing increasingly turn to lasers when they need more precision, higher productivity and energy efficient, or "green," alternatives for problems that cannot be solved by mechanical, electronic or other means. For example, these industries are using lasers to develop products that are smaller and lighter to increase productivity and yield and to lower their energy consumption. Lasers have been used for years to help achieve the scale and precision needed in semiconductor processing. In biotech applications, lasers have been instrumental for advances (and new standard procedures) in cytology, hematology, genome sequencing and crime scene investigations, among others. We believe the long-term trends in these industries will likely lead to increased demand for lasers.

Sheet metal processing and metal welding applications are increasingly using kW-class fiber lasers instead of kW-class CO2 lasers. Fiber lasers generate higher productivity at lower cost in such applications because they exhibit lower power consumption, better quality and generally lower user maintenance costs.

In addition, demand continues for electronic products, as well as products and components in other industries, with greater functionality while becoming smaller, lighter and less expensive. Innovative / Next generation product designs require precise micromachining and materials processing, such as micro bending, soldering and welding. At the scale and processing speed needed, lasers are replacing mature mechanical tools such as drills for minute holes, or "vias," in printed circuit boards and saws and scribes for singulating silicon wafers, resulting in greater precision and productivity. As these trends continue, we believe that manufacturers and other industries will increase their reliance

on lasers in order to maintain or increase their competitiveness.

We believe we are well-positioned with key OEM providers of laser solutions to these industries. We continue to develop our laser portfolio to offer smaller and more cost-effective products designed specifically for the performance, integration, reliability and support needs of our OEM customers.

### Strategy

In our Lasers segment, we leverage our long-term relationships with OEM customers to drive commercial laser innovation. Using established manufacturing, engineering, lasers and photonics expertise, we deliver products that meet cost-of-ownership and reliability needs while delivering on volume production demands.

## Competition

We compete against various public and private companies in the commercial laser markets we serve. Publicly traded companies providing commercial laser products include IPG Photonics and Coherent.

## Offerings

Our broad range of Lasers products includes diode-pumped solid-state, fiber, diode, direct-diode and gas lasers such as argon-ion and helium-neon lasers. Diode-pumped solid-state and fiber lasers that provide excellent beam quality, low noise and exceptional reliability are used in biotechnology, graphics and imaging, remote sensing, materials processing and precision machining applications. Diode and direct-diode lasers address a wide variety of applications, including laser pumping, thermal exposure, illumination, ophthalmology, image recording, printing, plastic welding and selective soldering. Gas lasers such as argon-ion and helium-neon lasers provide a stable, low-cost and reliable solution over a wide range of operating conditions, making them well suited for complex, high-resolution OEM applications such as flow cytometry, DNA sequencing, graphics and imaging and semiconductor inspection. Acquisitions

We evaluate strategic opportunities regularly and, where appropriate, may acquire additional businesses, products, or technologies that are complementary to, or broaden the markets for our products. We believe we have strengthened our business model by expanding our addressable markets, customer base and expertise, diversifying our product

our business model by expanding our addressable markets, customer base and expertise, diversifying our product portfolio and fortifying our core businesses from acquisitions as well as through organic initiatives.

In February 2017, we completed the acquisition of a privately held company to enhance our manufacturing and vertical integration capabilities. We acquired all of the outstanding shares of the company. In connection with the

vertical integration capabilities. We acquired all of the outstanding snares of the company. In connection with the acquisition, we paid upfront cash consideration of \$5.1 million, incurred liabilities of \$2.7 million contingent upon the achievement of certain production targets being achieved within 36 months following the acquisition date and retained \$0.9 million of the purchase price as security for the seller's indemnification obligations under the purchase agreement. This resulted in total purchase consideration of \$8.7 million.

Please refer to "Note 6. Mergers and Acquisitions" in the Notes to Consolidated Financial Statements.

### **Restructuring Programs**

We continue to engage in targeted restructuring plans primarily intended to reduce costs, consolidate our operations, rationalize the manufacturing of our products and align our business in response to market needs. We have focused on improving efficiencies and reducing costs by consolidating operations where appropriate, while taking into consideration our current investment strategy, product offerings, core competencies, opportunities to enhance cost efficiency and the availability of alternative manufacturers, as appropriate.

Please refer to "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Note 14. Restructuring and Related Charges" in the Notes to Consolidated Financial Statements for information on restructuring charges.

## Research and Development

During fiscal 2017, 2016 and 2015, we incurred R&D expenses of \$148.3 million, \$141.1 million and \$140.8 million, respectively. The number of employees engaged in R&D was approximately 598 as of July 1, 2017, 570 as of July 2, 2016 and 550 as of June 27, 2015.

We devote substantial resources to R&D for the development of new and enhanced products to serve our markets. Once the design of a product is complete, our engineering efforts shift to enhancing both product performance and our ability to manufacture it in greater volume and at lower cost.

In our OpComms segment, we are maintaining our capability to provide products throughout the network, while focusing on several important sub-segments. We are increasing our emphasis on Datacom products, such as 100G and 400G transceivers while we continue to maintain strong investments in Telecom components and modules such as ROADMs and tunable devices needed for long-haul and metro markets. We are also responding to our customers' requests for higher levels of integration, including the integration of optics, electronics and software in our modules, subsystems and circuit packs. We are providing optical technology for 3D sensing systems that simplify the way that people interact with technology. These solutions are initially being used in computing, mobile, and industrial applications, including automotive applications.

In our Lasers segment, we continue to develop new product offerings in both solid-state and fiber lasers that take advantage of technologies and components we develop. These products are targeted at serving customers engaging in biotechnology, graphics and imaging, remote sensing, and materials processing and precision micromachining markets.

## Manufacturing

Our significant manufacturing facilities are located in the United States, Thailand, and Switzerland. In March 2017, we completed the purchase of a property in Thailand for additional manufacturing capacity for our future growth. Our significant contract manufacturing partners are located primarily in Thailand, Taiwan and China. Contract manufacturers can save a significant amount of dollars on labor, material and other related production expenses. We rely on the capabilities of our contract manufactures to procure the components and manage the inventory in these locations.

#### Sources and Availability of Raw Materials

We use various suppliers and contract manufacturers to supply parts and components for the manufacture and support of multiple product lines. Although our intention is to establish at least two sources of supply for materials whenever possible, for certain components we have sole or limited source supply arrangements. We may not be able to procure these components from alternative sources at acceptable prices and quality within a reasonable time, or at all; therefore, the risk of loss or interruption of such arrangements could impact our ability to deliver certain products on a timely basis.

## Intellectual Property

Intellectual property rights that apply to our various products include patents, trade secrets and trademarks. We do not intend to broadly license our intellectual property rights unless we can obtain adequate consideration or enter into acceptable patent cross-license agreements. As of July 1, 2017, we own 681 U.S. patents and 241 foreign patents with expiration dates ranging from 2017 through 2035, and have 153 patent applications pending throughout the world.

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### Seasonality

Our revenue may be influenced on a quarter to quarter basis by customer demand patterns and new product introductions. Some of our products may be incorporated into consumer electronic products, which are subject to seasonality and fluctuations in demand.

### Backlog

Backlog consists of purchase orders for products for which we have assigned shipment dates.

As of July 1, 2017, our backlog was \$218.4 million, as compared to \$168.5 million as of July 2, 2016. Due to possible changes in product delivery schedules and cancellation of product orders, and because our sales often reflect orders shipped in the same quarter in which they are received, our backlog at any particular date is not necessarily indicative of actual revenue or the level of orders for any succeeding period.

## **Employees**

As of July 1, 2017, we employed approximately 2,057 full-time employees including approximately 1,084 employees in manufacturing, 598 employees in R&D and 375 employees in SG&A.

Outside of the United States, our business is subject to labor laws that differ from those in the United States. We follow the statutory requirements of those countries where we operate. We consider our employee relations to be good.

#### Environmental

Our R&D, manufacturing and distribution operations involve the use of hazardous substances and are regulated under international, federal, state and local laws governing health and safety and the environment. We apply strict standards for protection of the environment and occupational health and safety to sites inside and outside the United States, even if not subject to regulation imposed by foreign governments. We believe that our properties and operations at our facilities comply in all material respects with applicable environmental laws and occupational health and safety laws. However, the risk of environmental liabilities cannot be completely eliminated and there can be no assurance that the application of environmental and health and safety laws will not require us to incur significant expenditures. We are also regulated under a number of international, federal, state and local laws regarding recycling, product packaging and product content requirements. The environmental, product content/disposal and recycling laws are gradually becoming more stringent and may cause us to incur significant expenditures in the future.

In connection with the Separation, we agreed to indemnify Viavi for any liability associated with contamination from past operations at all properties transferred to us from Viavi, to the extent the resulting issues primarily related to our business.

## **International Operations**

During fiscal 2017, 2016 and 2015, net revenue from customers outside the United States based on the geographic region and country where our product is initially shipped, represented 85.2%, 82% and 80.6% of net revenue, respectively. In certain circumstances customers may request shipment of our products to a contract manufacturer in one country, which may differ from the location of their end customers. During fiscal 2017, our net revenue from Hong Kong, Mexico and Japan represented 22.6%, 18.5% and 9.9% of our consolidated net revenue, respectively. During fiscal 2016, our net revenue from Hong Kong, Mexico, and Japan represented 23.7%, 12.5% and 10.3% of our consolidated net revenue, respectively. During fiscal 2015, our net revenue from Hong Kong, Mexico and Japan represented 14.4%, 13.5% and 12.7% of our consolidated net revenue, respectively. Our net revenue is primarily denominated in U.S. dollars, including our net revenue from customers outside the United States based on customer shipment locations as presented above.

As of July 1, 2017 and July 2, 2016, long-lived assets, namely our net property, plant and equipment, located outside of the United States comprised 67.8% and 62.4% of our total property, plant and equipment, net, respectively. As of July 1, 2017, 30.1% and 31.2% of our net property, plant and equipment were located in China and Thailand, respectively. As of July 2, 2016, 25.4% and 23.9% of our net property, plant and equipment were located in China and Thailand, respectively.

Please refer to "Note 19. Operating Segments and Geographic Information" in the Notes to Consolidated Financial Statements. For information regarding risks associated with our international operations, see "Item 1A. Risk Factors."

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#### **Available Information**

Our website is located at www.lumentum.com, and our investor relations website is located at www.investor.lumentum.com. Copies of our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to these reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act, as amended, are available free of charge on our investor relations website as soon as reasonably practicable after we file such material electronically with or furnish it to the Securities and Exchange Commission (the "SEC"). The SEC also maintains a website that contains our SEC filings at www.sec.gov.

#### ITEM 1A. RISK FACTORS

Investors in our securities should carefully consider all of the relevant factors disclosed by us, including the following factors that could affect our results of operations, financial condition or stock price. The risk factors generally have been separated into three groups: risks related to our business, risks related to the Separation and risks related to our common stock.

Risks Related to Our Business

Changing technology and intense competition require us to continuously innovate while controlling product costs, and our failure to do so may result in decreased revenues and profitability.

The markets in which we operate are dynamic and complex, and our success depends upon our ability to deliver both our current product offerings and new products and technologies on time and at acceptable prices to our customers. The markets for our products are characterized by rapid technological change, frequent new product introductions, substantial capital investment, changes in customer requirements, continued price pressures and a constantly evolving industry. Historically, these pricing pressures have led to a continued decline of average selling prices across our business. The development of new, technologically advanced products is a complex and uncertain process requiring high levels of innovation and the accurate prediction of technological and market trends. The introduction of new products also requires significant investment to ramp up production capacity, for which benefit may not be realized if we are not successful in the production of such products or if customer demand does not develop as expected. Ramping of production capacity also entails risks of delays which can limit our ability to realize the full benefit of new product introductions. We cannot assure you that we will be able to identify, develop, manufacture, market or support new or enhanced products successfully, if at all, or on a timely basis. We also cannot assure you that potential markets for our new products will materialize on the timelines we anticipate, or at all, or that our technology will meet our customers' specifications. Our future performance will depend on the successful development, introduction, deployment and market acceptance of new and enhanced features and products that meet our customers' current and future needs.

The market for optical communications products in particular has matured over time and these products have increasingly become subject to commoditization. Both legacy competitors as well as new entrants, predominantly Asia-based competitors, have intensified market competition in recent years leading to pricing pressure. To preserve our revenues and product margin structures, we remain reliant on an integrated customer and market approach that anticipates end customer needs as Telecom and Datacom requirements evolve. We also must continue to develop more advanced, differentiated products that command a premium with customers, while conversely continuing to focus on streamlining product costs for established legacy products. If we fail to continue to develop enhanced or new products, or over time are unable to adjust our cost structure to continue to competitively price more mature products, our financial condition and results of operations could be materially and adversely affected.

Continued competition in our markets may lead to an accelerated reduction in our prices, revenues and market share. The end markets for optical products have experienced significant industry consolidation during the past few years. As a result, the markets for optical subsystems and components are highly competitive. Our current competitors include a number of domestic and international companies, many of which may have substantially greater financial, technical, marketing and distribution resources and brand name recognition than we have. These competitors include II-VI, Acacia Communications, Applied Optoelectronics, Coherent (including Rofin-Sinar Technologies), Finisar, Fujitsu Optical Components, Furukawa Electric, InnoLight Technology, IPG Photonics, Neophotonics, Oclaro, and Sumitomo Electric Industries. We may not be able to compete successfully against either current or future competitors. Our competitors may continue to enter markets or gain or retain market share through introduction of new or improved products or with aggressive low pricing strategies that may impact the efficacy of our approach. Additionally, if significant competitors were to merge or consolidate, they may be able to offer a lower cost structure through economies of scale that we may be unable to match and which may intensify competition in the Lasers market. Increased competition could result in significant price erosion, reduced revenue, lower margins or loss of

market share, any of which would significantly harm our business.

We compete against various public and private companies in the markets we serve. Publicly traded companies providing optical communications components include II-VI, Acacia Communications, Foxconn Interconnect Technology, Finisar, Fujitsu Optical Components, Furukawa Electric, Neophotonics, Oclaro, Applied Optoelectronic, Innolight Technology, and Sumitomo Electric Industries.

The manufacturing of our products may be adversely affected if our contract manufacturers and suppliers fail to meet our production requirements or if we are unable to manufacture certain products in our manufacturing facilities. We rely on several independent contract manufacturers to supply us with certain products. For many products, a particular contract manufacturer may be the sole source of the finished-good products. We depend on these manufacturers to meet our

production and capacity requirements and to provide quality products to our customers. Despite rigorous testing for quality, both by us and the contract manufacturers to whom we sell products, we may receive and ship defective products. We may incur significant costs to correct defective products which could result in the loss of future sales, indemnification costs or costs to replace or repair the defective products, litigation and damage to our reputation and customer relations. Defective products may also cause diversion of management attention from our business and product development efforts.

Additionally, the ability of our contract manufacturers to fulfill their obligations may be affected by natural disasters, legal requirements and economic, political or other forces that are beyond our control. In particular, certain of our contract manufacturers are located in China, which exposes us to risks associated with Chinese laws and regulations, such as those related to import and export tariffs, taxation and intellectual property. Chinese laws and regulations are subject to frequent change, and if our contract manufacturers are unable to obtain or retain the requisite legal permits or otherwise to comply with Chinese legal requirements, we may be forced to obtain products from other manufacturers or to make other operational changes. Any such developments could have a material impact on our ability to meet our customers' expectations and may materially impact our operating results. In addition, some of our purchase commitments with contract manufacturers are not cancellable which may impact our earnings if customer forecasts driving these purchase commitments do not materialize and we are unable to sell the products to other customers. Alternatively, our contract manufacturers may not be able to meet our demand which would inhibit our ability to meet customer demand and maintain or grow our revenues. Furthermore, it could be costly and require a long period of time to move products from one contract manufacturer to another which could result in interruptions in supply and adversely impact our financial condition and results of operations.

We manufacture some of the components that we provide to our contract manufacturers, along with our own finished goods, in our San Jose, California manufacturing facilities and, until its closure in June 2017, our Bloomfield, Connecticut manufacturing facility. For some of the components and finished good products we are the sole manufacturer. Our manufacturing processes are highly complex and issues are often difficult to detect and correct. From time to time we have experienced problems achieving acceptable yields in our manufacturing facilities, resulting in delays in the availability of our products. In addition, if we experience problems with our manufacturing facilities, it would be costly and require a long period of time to move the manufacture of these components and finished good products to a different facility or contract manufacturer which could then result in interruptions in supply, and would likely materially impact our financial condition and results of operations.

In addition, the closing of our Bloomfield, Connecticut manufacturing facility required the transfer to other manufacturing sites of complex technologies and processes. If the other manufacturing sites are unsuccessful, it could result in interruptions in supply and would likely impact our financial condition and results of operations. Changes in manufacturing processes are often required due to changes in product specifications, changing customer needs and the introduction of new products. These changes may reduce manufacturing yields at our contract manufacturers and at our own manufacturing facilities resulting in reduced margins on those products. We depend on a limited number of suppliers for raw materials, packages and components, and any failure or delay by these suppliers in meeting our requirements could have an adverse effect on our business and results of operations. We purchase raw materials, packages and components from a limited number of suppliers, who are often small and specialized. We depend on the continued supply and quality of the materials, packages and components that they supply to us. Our business and results of operations have been, and could continue to be, adversely affected by this dependency. Specific concerns we periodically encounter with our suppliers include receipt of defective parts or contaminated materials, stoppages or delays of supply, insufficient resources to supply our requirements, substitution of more expensive or less reliable materials, increases in the price of supplies, and an inability to obtain reduced pricing from our suppliers in response to competitive pressures. Any disruption in the supply of the raw materials, packaging or components used in the manufacture and delivery of our products could have a material adverse impact on our business, financial condition and results of operations.

We rely on a limited number of customers for a significant portion of our sales; and the majority of our customers do not have contractual purchase commitments.

We have consistently relied on a small number of customers for a significant portion of our sales (please refer to "Note 19. Operating Segments and Geographic Information" in the Notes to Consolidated Financial Statements) and we expect that this customer concentration will continue in the future. The majority of our customers purchase products under purchase orders or under contracts that do not contain volume purchase commitments. Changes in the business requirements, vendor selection, project prioritization, financial prospects, capital resources, and expenditures, or purchasing behavior (including product mix purchased) of our key customers, or any real or perceived quality issues related to the products that we sell to such customers, could significantly decrease our sales to such customers or could lead to delays or cancellations of planned purchases of our products or services, which increases the risk of quarterly fluctuations in our revenues and operating results. If forecasted orders do not materialize, we may need to reduce investment in R&D activities, we may fail to optimize our manufacturing capacity, or we may have excess inventory. Any of these factors could adversely affect our business, financial condition and results of operations. We contract with a number of large OEM and end-user service providers that have considerable bargaining power, which may require us to agree to terms and conditions that could have an adverse effect on our business or ability to recognize revenues.

Large OEM and end-user service providers comprise a significant portion of our customer base. These customers generally have greater purchasing power than smaller entities and, accordingly, often request and receive more favorable terms from suppliers. As we seek to expand our sales to existing customers and acquire new customers, we may be required to agree to terms and conditions that are favorable to our customers and that may affect the timing of our ability to recognize revenue, increase our costs and have an adverse effect on our business, financial condition, and results of operations. Furthermore, large customers have increased buying power and ability to require onerous terms in our contracts with them. If we are unable to satisfy the terms of these contracts, it could result in liabilities of a material nature, including litigation, damages, additional costs, loss of market share and loss of reputation. Additionally, the terms these large customers require, such as most-favored nation or exclusivity provisions, may impact our ability to do business with other customers and generate revenues from such customers. Our products may contain defects that could cause us to incur significant costs, divert our attention from product

Our products may contain defects that could cause us to incur significant costs, divert our attention from product development efforts and result in a loss of customers.

Our products are complex and defects may be found from time to time. Networking products in particular frequently contain undetected software or hardware defects when first introduced or as new versions are released. In addition, our products are often embedded in or deployed in conjunction with our customers' products which incorporate a variety of components produced by third parties. As a result, when problems occur, it may be difficult to identify the source of the problem. These problems may cause us to incur significant damages or warranty and repair costs, divert the attention of our engineering personnel from our product development efforts and cause significant customer relation problems or loss of customers, all of which would harm our business.

We expect to change our international corporate structure in the near future in order to minimize our effective tax rate; however, if we are unable to adopt this structure or if it is challenged by U.S. or foreign tax authorities, we may be unable to realize such tax savings which could materially and adversely affect our operating results.

We have taken certain preliminary steps to implement an international corporate structure more closely aligned with our international operations. This potential corporate structure is intended to reduce our overall effective tax rate through changes among our wholly-owned subsidiaries in how we use our intellectual property, and how we structure our international procurement and sales operations. The contemplated structure includes legal entities located in jurisdictions with income tax rates lower than the U.S. statutory tax rate. Such intercompany arrangements would be designed to result in income earned by such entities in accordance with arm's-length principles and commensurate with functions performed, risks assumed and ownership of valuable corporate assets. We believe that income taxed in certain foreign jurisdictions at a lower rate relative to the U.S. statutory rate will have a beneficial impact on our worldwide effective tax rate over the medium to long term.

We have agreed to reimburse Viavi for certain tax liabilities and related costs that may be incurred by Viavi, under certain circumstances, in the event that we implement this revised corporate structure. In addition, the implementation

of such a structure has required us to incur expenses, and may require that we incur additional expenses, for which we may not realize related benefits, and in any event, we do not expect to materially realize such benefits for several years.

If we put the intended structure into effect and it is not accepted by the applicable taxing authorities, if changes in domestic and international tax laws negatively impact the proposed structure, including proposed legislation to reform U.S. taxation of international business activities, or if we do not operate our business consistent with the proposed structure and applicable tax provisions, we may fail to achieve the financial and operational efficiencies that we anticipate as a result of the proposed structure, and our business, financial condition and operating results may be materially and adversely affected.

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We are subject to risks arising from our international operations, which may adversely affect our business, financial condition, and results of operations.

We derive a majority of our revenue from our international operations, and we plan to continue expanding our business in international markets in the future. In addition, we have extensive international manufacturing capabilities through third-party contract manufacturers, as well as through our own international facilities, with employees engaged in R&D, administration, manufacturing, support and sales and marketing activities.

As a result of our international operations, we are affected by economic, business regulatory, social, and political conditions in foreign countries, including the following:

- changes in general IT spending;
- the imposition of government controls, inclusive of critical infrastructure protection:

changes or limitations in trade protection laws or other regulatory requirements, which may affect our ability to import or export our products from various countries;

- varying and potentially conflicting laws and regulations;
- fluctuations in local economies;
- wage inflation or a tightening of the labor market;
- political developments of foreign nations;

the impact of the following on service provider and government spending patterns: political considerations, unfavorable changes in tax treaties or laws, unfavorable events that affect foreign currencies, natural disasters, epidemic disease, labor unrest, earnings expatriation restrictions, misappropriation of intellectual property, military actions, acts of terrorism, political and social unrest and difficulties in staffing and managing international operations. Any or all of these factors could have a material adverse impact on our business, financial condition, and results of operations.

Moreover, local laws and customs in many countries differ significantly from or conflict with those in the United States or other countries in which we operate. In many foreign countries, particularly in those with developing economies, it is common for others to engage in business practices that are prohibited by our internal policies and procedures or U.S. regulations applicable to us. There can be no assurance that our employees, contractors, channel partners, and agents will not take actions in violation of our policies and procedures, which are designed to ensure compliance with U.S. and foreign laws and policies. Violations of laws or key control policies by our employees, contractors, channel partners, or agents could result in termination of our relationships with customers and suppliers, financial reporting problems, fines and/or penalties for us, or prohibition on the importation or exportation of our products, and could have a material adverse effect on our business, financial condition and results of operations. Our operating results may be subject to volatility due to fluctuations in foreign currency.

We are exposed to foreign exchange risks with regard to our operating expenses which may affect our operating results. Although we price our products primarily in U.S. dollars, a portion of our operating expenses are incurred in foreign currencies. If the value of the U.S. dollar depreciates relative to certain other foreign currencies, it would increase our costs as expressed in U.S. dollars. Conversely, if the U.S. dollar strengthens relative to other currencies, such strengthening could raise the relative cost of our products to non-U.S. customers, especially as compared to foreign competitors, and could reduce demand.

Although we intend to hedge for a portion of our foreign currency exposure, significant fluctuations in exchange rates between the U.S. dollar and foreign currencies may adversely affect our net income (loss). Additionally, hedging programs rely on our ability to forecast accurately and could expose us to additional risks that could adversely affect our financial condition and results of operations.

Our ability to develop, market, and sell products could be harmed if we are unable to retain or hire key personnel. Our future success depends upon our ability to recruit and retain the services of executive, engineering, sales and marketing, and support personnel. The supply of highly qualified individuals, in particular engineers in very specialized technical areas, or sales people specializing in the service provider, enterprise and commercial laser markets, is limited and competition for such individuals is intense. None of our officers or key employees is bound by

an employment agreement for any specific term. The loss of the services of any of our key employees, the inability to attract or retain personnel in the future or delays in hiring required

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personnel and the complexity and time involved in replacing or training new employees, could delay the development and introduction of new products, and negatively impact our ability to market, sell, or support our products.

Our ability to hire and retain employees may be negatively impacted by changes in immigration laws, regulations and procedures.

Foreign nationals who are not U.S. citizens or permanent residents constitute an important part of our U.S. workforce, particularly in the areas of engineering and product development. Our ability to hire and retain these workers and their ability to remain and work in the United States are impacted by laws and regulations, as well as by procedures and enforcement practices of various government agencies. Changes in immigration laws, regulations or procedures, including those that may be enacted by the new U.S. presidential administration, may adversely affect our ability to hire or retain such workers, increase our operating expenses and negatively impact our ability to deliver our products and services.

We face a number of risks related to our strategic transactions.

We have made acquisitions of other businesses or technologies in the past and we will continue to review acquisition and other strategic opportunities. Such strategic transactions involve numerous risks, including the following:

diversion of management's attention from normal daily operations of the

business;

unforeseen expenses, delays or conditions imposed upon the acquisition or transaction, including due to required regulatory approvals or consents;

unanticipated changes in the combined business due to potential divestitures or other requirements imposed by antitrust regulators;

the ability to retain and obtain required regulatory approvals, licenses and permits;

difficulties and costs in integrating the operations, technologies, products, IT and other systems, facilities and personnel of the purchased businesses;

potential difficulties in completing projects associated with in-process R&D;

an acquisition or strategic transaction may not further our business strategy as we expected or we may overpay for, or otherwise not realize the expected return on, our investments;

insufficient net revenue to offset increased expenses associated with acquisitions;

potential loss of key employees of the acquired companies;

difficulty forecasting revenues and margins;

dilution of our current stockholders as a result of any issuance of equity securities as acquisition consideration;

expenditure of cash that would otherwise be available to operate our business; and

incurrence of indebtedness on terms that are unfavorable to us or that we are unable to repay.

If we are unable to successfully manage any of these risks in relation to any future acquisitions, our business, financial condition and results of operations could be adversely impacted.

We may require additional capital to support business growth, and this capital might not be available on acceptable terms, if at all.

We intend to continue to make investments to support our business growth and may require additional funds to respond to business challenges, including to support product development and introduce new products, address new markets, engage in strategic transactions and partnerships, improve or expand our operating infrastructure or acquire complementary businesses and technologies. In March 2017, we issued and sold a total of \$450 million in aggregate principal amount of Convertible Senior Notes due in 2024 (the "2024 Notes") and we may in the future engage in additional equity or debt financings to secure additional funds. If we raise additional funds through future issuances of equity, equity-linked or convertible debt securities, our existing stockholders could suffer significant dilution, and any new equity securities we issue could have rights, preferences and privileges superior to those of holders of our common stock. Any debt financing we secure in the future could involve restrictive covenants relating to our capital raising activities and other financial and operational matters, which may make it more difficult for us to obtain additional capital and to pursue business opportunities, including potential acquisitions. We may not be able to obtain additional financing

on terms favorable to us, if at all. If we are unable to obtain adequate financing or financing on terms satisfactory to us when we require it, our ability to continue to support our business growth and to respond to business challenges could be significantly impaired, and our business may be harmed.

Any failure, disruption or security breach of our information technology infrastructure or information management systems could have an adverse impact on our business and operations.

Our business depends significantly on effective and efficient information management systems, and the reliability and security of our information technology infrastructure are essential to the health and expansion of our business. For example, the information gathered and processed by our information management systems assists us in managing our supply chain and monitoring customer accounts, among other things. We must continue to expand and update this infrastructure in response to our changing requirements.

In some cases, we may rely upon third-party providers of hosting, support and other services to meet our information technology requirements. Any failure to manage, expand and update our information technology infrastructure, including our Enterprise Resource Planning ("ERP") system and other applications, any failure in the extension implementation or operation of this infrastructure, or any failure by our hosting and support partners or other third-party service providers in the performance of their services could materially harm our business. In addition, we have partnered with third parties to support our information technology systems and to help design, build, test, implement and maintain our information management systems. Our merger, acquisition and divestiture activity may also require transitions to or from, and the integration of, various information management systems within our overall enterprise architecture.

Despite our implementation of security measures, our systems and those of our third-party service providers are vulnerable to damage from computer viruses, natural disasters, unauthorized access and other similar disruptions. Any system failure, accident or security breach affecting us or our third-party providers could result in disruptions to our operations and loss of or unauthorized access or damage to our data or in inappropriate disclosure of confidential information. Any actual or alleged disruption to, or security breach affecting, our systems or those of our third-party partners could cause significant damage to our reputation, result in legal obligations or liability, affect our relationships with our customers, and ultimately harm our business. In addition, we may be required to incur significant costs to protect against or mitigate damage caused by these disruptions or security breaches in the future. Our operating results may be adversely affected by unfavorable economic and market conditions.

The uncertain state of the global economy has contributed and continues to contribute to decreases in demand and spending in the technology industry at large, as well as to the specific markets in which we operate. The slow pace of global economic recovery and the resulting effects on global credit markets has created uncertainty in the timing and overall demand from our customers. This uncertainty may lead to decreased demand for our products and revenue fluctuations, increased price competition for our products, and may increase the risk of excess and obsolete inventories and higher overhead costs as a percentage of revenue. The impact of continued economic challenges on the global financial markets could further negatively impact our operations by affecting the solvency of our customers, the solvency of our key suppliers or the ability of our customers to obtain credit to finance purchases of our products. If economic conditions do not improve or if they deteriorate, our financial condition and results of operations would likely be materially and adversely impacted.

If we have insufficient proprietary rights or if we fail to protect our rights, our business would be materially harmed. We seek to protect our products and product roadmaps in part by developing and/or securing proprietary rights relating to those products, including patents, trade secrets, know-how and continuing technological innovation. The steps we take to protect our intellectual property may not adequately prevent misappropriation or ensure that others will not develop competitive technologies or products. Other companies may be investigating or developing technologies that are similar to our own. It is possible that patents may not be issued from any of our pending applications or those we may file in the future and, if patents are issued, the claims allowed may not be sufficiently broad to deter or prohibit others from making, using or selling products that are similar to ours, or such patents could be invalidated or ruled unenforceable. We do not own patents in every country in which we sell or distribute our products, and thus others may be able to offer identical products in countries where we do not have intellectual property protections. In addition, the laws of some territories in which our products are or may be developed,

manufactured or sold, including Europe, Asia-Pacific or Latin America, may not protect our products and intellectual property rights to the same extent as the laws of the United States. Any patents issued to us may be challenged, invalidated or circumvented. Additionally, we are currently a licensee for a number of third-party technologies including software and intellectual property rights from academic institutions, our competitors and others, and we are required to pay royalties to these licensors for the use thereof. In the future, if such licenses are unavailable or if we are unable to obtain such licenses on commercially reasonable terms, we may not be able to rely on such third-party technologies which could inhibit our development of new products, impede the sale of some of our current products, substantially increase the cost to provide these products to our customers, and could have a significant adverse impact on our operating results.

We also seek to protect our important trademarks by endeavoring to register them in certain countries. We have not registered our trademarks in every country in which we sell or distribute our products, and thus others may be able to use the same or confusingly similar marks in countries where we do not have trademark registrations. We have adopted Lumentum as a house trademark and trade name for our company, and are in the process of establishing rights in this name and brand. We have also adopted the Lumentum logo as a house trademark for our company, and are in the process of establishing rights in this brand. The Lumentum brand is the subject of trademark applications in the United States or other jurisdictions, but the trademarks have not yet proceeded to registration. The efforts we take to register and protect trademarks, including the Lumentum brand, may not be sufficient or effective. Although we will seek to obtain trademark registrations for the Lumentum brand, it is possible we may not be able to protect our brand through registration in one or more jurisdictions, for example, the applicable governmental authorities may not approve the registration. Furthermore, even if the applications are approved, third parties may seek to oppose or otherwise challenge registration. There is the possibility that, despite efforts, the scope of the protection obtained for our trademarks, including the Lumentum brand, will be insufficient or that a registration may be deemed invalid or unenforceable in one or more jurisdictions throughout the world.

Our products may be subject to claims that they infringe the intellectual property rights of others, the resolution of which may be time-consuming and expensive, as well as require a significant amount of resources to prosecute, defend, or make our products non-infringing.

Lawsuits and allegations of patent infringement and violation of other intellectual property rights occur regularly in our industry. We have in the past received, and anticipate that we will receive in the future, notices from third parties claiming that our products infringe upon their proprietary rights, with two distinct sources of such claims becoming increasingly prevalent. First, large technology companies, including some of our customers and competitors, are seeking to monetize their patent portfolios and have developed large internal organizations that may approach us with demands to enter into license agreements. Second, patent-holding companies that do not make or sell products (often referred to as "patent trolls") may claim that our products infringe upon their proprietary rights. We respond to these claims in the course of our business operations. The litigation or settlement of these matters, regardless of the merit of the claims, could result in significant expense and divert the efforts of our technical and management personnel, regardless of whether or not we are successful. If we are unsuccessful, we could be required to expend significant resources to develop non-infringing technology or to obtain licenses to the technology that is the subject of the litigation. We may not be successful in such development, or such licenses may not be available on commercially reasonable terms, or at all. Without such a license, or if we are the subject of an exclusionary order, our ability to make our products could be limited and we could be enjoined from future sales of the infringing product or products, which could adversely affect our revenues and operating results. Additionally, we often indemnify our customers against claims of infringement related to our products and may incur significant expenses to defend against such claims. If we are unsuccessful defending against such claims, we may be required to indemnify our customers against any damages awarded.

We also face risks that third parties may assert trademark infringement claims against us in one or more jurisdictions throughout the world related to our Lumentum brand and/or other trademarks. The litigation or settlement of these matters, regardless of the merit of the claims, could result in significant expense and divert the efforts of our technical and management personnel, regardless of whether or not we are successful. If we are unsuccessful, trademark infringement claims against us could result in significant monetary liability or prevent us from selling some or all of our products or services under the challenged trademark. In addition, resolution of claims may require us to alter our products, labels or packaging, license rights from third parties, or cease using the challenged trademark altogether, which could adversely affect our revenues and operating results.

We face certain litigation risks that could harm our business.

From time to time we have been, and in the future we may become, subject to various legal proceedings and claims that arise in or outside the ordinary course of business. The results of legal proceedings are difficult to predict. Moreover, many of the complaints filed against us may not specify the amount of damages that plaintiffs seek, and we therefore may be unable to estimate the possible range of damages that might be incurred should these lawsuits be resolved against us. While we may be unable to estimate the potential damages arising from such lawsuits, certain of

them assert types of claims that, if resolved against us, could give rise to substantial damages. Thus, an unfavorable outcome or settlement of one or more of these lawsuits could have a material adverse effect on our financial condition, liquidity and results of operations. Even if these lawsuits are not resolved against us, the uncertainty and expense associated with unresolved lawsuits could seriously harm our business, financial condition and reputation. Litigation is generally costly, time-consuming and disruptive to normal business operations. The costs of defending these lawsuits have been significant in the past, will continue to be costly and may not be covered by our insurance policies. The defense of these lawsuits could also result in continued diversion of our management's time and attention away from business operations, which could harm our business. For additional discussion regarding litigation, see "Part I, Item 3. Legal Proceedings."

Our products incorporate and rely upon licensed third-party technology, and if licenses of third-party technology do not continue to be available to us or are not available on terms acceptable to us, our revenues and ability to develop and introduce new products could be adversely affected.

We integrate licensed third-party technology into certain of our products. From time to time, we may be required to license additional technology from third-parties to develop new products or product enhancements. Third-party licenses may not be available or continue to be available to us on commercially reasonable terms. The failure to comply with the terms of any license, including free open source software, may result in our inability to continue to use such license. Our inability to maintain or re-license any third-party licenses required in our products or our inability to obtain third-party licenses necessary to develop new products and product enhancements, could potentially require us to develop substitute technology or obtain substitute technology of lower quality or performance standards or at a greater cost, any of which could delay or prevent product shipment and harm our business, financial condition, and results of operations.

We are subject to laws and other regulations worldwide including with respect to environmental matters, securities laws, privacy and personal data collection compliance with which could increase our expenses and harm our operating results.

Our operations and our products are subject to various federal, state and foreign laws and regulations, including those governing pollution and protection of human health and the environment in the jurisdictions in which we operate or sell our products. These laws and regulations govern, among other things, wastewater discharges and the handling and disposal of hazardous materials in our products. Our failure to comply with current and future environmental or health or safety requirements could cause us to incur substantial costs, including significant capital expenditures, to comply with such environmental laws and regulations and to clean up contaminated properties that we own or operate. Such clean-up or compliance obligations could result in disruptions to our operations. Additionally, if we are found to be in violation of these laws, we could be subject to governmental fines or civil liability for damages resulting from such violations. These costs could have a material adverse impact on our financial condition or operating results. From time to time new regulations are enacted, and it is difficult to anticipate how such regulations will be implemented and enforced. We continue to evaluate the necessary steps for compliance with regulations as they are enacted. These regulations include, for example, the Registration, Evaluation, Authorization and Restriction of Chemicals ("REACH"), the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Directive ("RoHS") and the Waste Electrical and Electronic Equipment Directive ("WEEE") enacted in the European Union which regulate the use of certain hazardous substances in, and require the collection, reuse and recycling of waste from, certain products we manufacture. These regulations and similar legislation may require us to re-design our products to ensure compliance with the applicable standards, for example by requiring the use of different types of materials, which could have an adverse impact on the performance of our products, add greater testing lead-times for product introductions or other similar effects. We believe we comply with all such legislation where our products are sold and we continuously monitor these laws and the regulations being adopted under them to determine our responsibilities.

In addition, pursuant to Section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act, the SEC has promulgated rules requiring disclosure regarding the use of certain "conflict minerals" that are mined from the Democratic Republic of Congo and adjoining countries and procedures regarding a manufacturer's efforts to prevent the sourcing of such minerals. Complying with these disclosure requirements involves substantial diligence efforts to determine the source of any conflict minerals used in our products and may require third-party auditing of our diligence process. These efforts may demand internal resources that would otherwise be directed towards operations activities.

Since our supply chain is complex, we may face reputational challenges if we are unable to sufficiently verify the origins of the conflict minerals used in our products. Additionally, if we are unable to satisfy those customers who require that all of the components of our products are determined to be conflict free, they may choose a competitor's products which could materially impact our financial condition and operating results.

Additionally, we are subject to laws and regulations with respect to personal data we collect from our employees, customers, and others. These laws and regulations are subject to frequent modifications and updates and require

ongoing supervision. For example, the European Union recently adopted a General Data Protection Regulation, effective in May 2018, that will establish new, and in some cases more stringent, requirements for data protection in Europe. We may be required to modify our practices in order to comply with these or other requirements, which may require us to incur costs and expenses, and we may face difficulties in complying with all privacy and data protection legal requirements that apply to us now or in the future.

Our failure to comply with any of the foregoing legal and regulatory requirements could result in increased costs for our products, monetary penalties, damages to our reputation, government inquiries and investigations, and legal action. Furthermore, the legal and regulatory requirements that are applicable to our business are subject to change from time to time, which increases our monitoring and compliance costs and the risk that we may fall out of compliance. Additionally, we may be required to ensure that our suppliers comply with such laws and regulations. If we or our suppliers fail to comply with such laws or regulations, we

could face sanctions for such noncompliance, and our customers may refuse to purchase our products, which would have a material adverse effect on our business, financial condition and results of operations.

Our sales may decline if we are unable to obtain government authorization to export certain of our products, and we may be subject to legal and regulatory consequences if we do not comply with applicable export control laws and regulations.

Exports of certain of our products are subject to export controls imposed by the U.S. government and administered by the U.S. Departments of State and Commerce. In certain instances, these regulations may require pre-shipment authorization from the administering department. For products subject to the Export Administration Regulations ("EAR") administered by the Department of Commerce's Bureau of Industry and Security, the requirement for a license is dependent on the type and end use of the product, the final destination, the identity of the end user and whether a license exception might apply. Virtually all exports of products subject to the International Traffic in Arms Regulations ("ITAR") administered by the Department of State's Directorate of Defense Trade Controls, require a license. Certain of our fiber optics products are subject to EAR and certain of our RF-over-fiber products, as well as certain products and technical data, are developed with government funding, and are currently subject to ITAR. Products and the associated technical data developed and manufactured in our foreign locations are subject to export controls of the applicable foreign nation.

Given the current global political climate, obtaining export licenses can be difficult and time-consuming. Failure to obtain export licenses for these shipments could significantly reduce our revenue and materially adversely affect our business, financial condition and results of operations. Compliance with U.S. government regulations also subjects us to additional fees and costs. The absence of comparable restrictions on competitors in other countries may adversely affect our competitive position.

In addition, certain of our significant customers and suppliers have products that are subject to U.S. export controls, and therefore these customers and suppliers may also be subject to legal and regulatory consequences if they do not comply with applicable export control laws and regulations. Such regulatory consequences could disrupt our ability to obtain components from our suppliers, or to sell our products to major customers, which could significantly increase our costs, reduce our revenue and materially adversely affect our business, financial condition and results of operations.

Our revenues, operating results, and cash flows may fluctuate from period to period due to a number of factors, which makes predicting financial results difficult.

Spending on optical communication and laser products is subject to cyclical and uneven fluctuations, which could cause our financial results to fluctuate unevenly and unpredictably. It can be difficult to predict the degree to which end-customer demand and the seasonality and uneven sales patterns of our OEM partners or other customers will affect our business in the future, particularly as we release new or enhanced products. While our fourth fiscal quarters are typically strongest, future buying patterns may differ from historical seasonality. If the mix of revenue changes, it may also cause results to differ from historical seasonality. Accordingly, our quarterly and annual revenues, operating results, cash flows, and other financial and operating metrics may vary significantly in the future, and the results of any prior periods should not be relied upon as an indication of future performance.

Risks Related to the Separation and Our Operation as an Independent Public Company

Potential indemnification liabilities to Viavi pursuant to the Separation agreement could materially and adversely affect our business, financial condition, results of operations and cash flows.

The Separation Agreement provides for, among other things, indemnification obligations designed to make us financially responsible for:

any Lumentum Liability (as defined in the Separation and Distribution Agreement dated as of July 31, 2015 by and among JDS Uniphase Corporation, Lumentum Holdings Inc. and Lumentum Operations LLC (the "Separation Agreement");

our failure to pay, perform or otherwise promptly discharge any Lumentum Liability or contracts, in accordance with their respective terms, whether prior to, at or after the distribution;

any guarantee, indemnification obligation, surety bond or other credit support agreement, arrangement, commitment or understanding by Viavi for our benefit, except to the extent it relates to an Excluded Liability (as defined in the

## Separation Agreement);

any breach by us of the Separation agreement or certain of its ancillary agreements or any action by us in contravention of our amended and restated certificate of incorporation or amended and restated bylaws; and any untrue statement or alleged untrue statement of a material fact or omission or alleged omission to state a material fact required to be stated therein or necessary to make the statements therein not misleading, with respect

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to all information contained in the Registration Statement on Form 10 (the "Registration Statement") and information statement filed in connection with the Separation or any other disclosure document that describes the Separation or the distribution, or us and our subsidiaries, or primarily relates to the transactions contemplated by the Separation agreement, subject to certain exceptions.

Our indemnification obligations are not subject to maximum loss clauses. If we are required to indemnify Viavi under the circumstances set forth in the Separation Agreement, we may be subject to substantial liabilities.

In connection with the Separation, Viavi has agreed to indemnify us for certain liabilities. However, there can be no assurance that the indemnity will be sufficient to insure us against the full amount of such liabilities, or that Viavi's ability to satisfy its indemnification obligation will not be impaired in the future.

Pursuant to the Separation agreement, Viavi will indemnify us for certain liabilities relating to, arising out of or resulting from:

any Excluded Liability (as defined in the Separation Agreement);

the failure of Viavi or any of its subsidiaries, other than us, to pay, perform or otherwise promptly discharge any of the Excluded Liabilities, in accordance with their respective terms, whether prior to or after the effective time of the distribution;

any guarantee, indemnification obligation, surety bond or other credit support agreement, arrangement, commitment or understanding by us for the benefit of Viavi, except to the extent it relates to a Lumentum Liability; any breach by Viavi or any of its subsidiaries, other than us, of the Separation Agreement or certain of its ancillary agreements; and