

II-VI INC  
Form 10-K  
August 28, 2018  
ityP!@

United States

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

Annual Report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934  
for the fiscal year ended June 30, 2018

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: 0-16195

II-VI INCORPORATED

(Exact name of registrant as specified in its charter)

PENNSYLVANIA	25-1214948
(State or other jurisdiction of	(I.R.S. Employer
incorporation or organization)	Identification No.)

375 Saxonburg Boulevard

Saxonburg, PA	16056
(Address of principal executive offices)	(Zip code)

Registrant's telephone number, including area code: 724-352-4455

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





## DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement, which will be issued in connection with the 2018 Annual Meeting of Shareholders of II-VI Incorporated, are incorporated by reference into Part III of this Annual Report on Form 10-K.

### Forward-Looking Statements

This Annual Report on Form 10-K (including certain information incorporated herein by reference) contains forward-looking statements made pursuant to Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 (the "PSLRA"). The statements in this Annual Report on Form 10-K that are not purely historical, but are forward-looking statements, including, without limitation, statements regarding our expectations, assumptions, beliefs, intentions or strategies regarding the future. In some cases, these forward-looking statements can be identified by terminology such as, "may," "will," "should," "expects," "plans," "anticipates," "believes," "intends," "estimates," "predicts," "projects," "potential," or "could," or the negative of these terms or other comparable terminology. Forward-looking statements address, among other things, our assumptions, our expectations, our assessments of the size and growth rates of our markets, our growth strategies, our efforts to increase bookings, sales and revenues, projections of our future profitability, cash generation, success of our research, development and engineering investments, results of operations, capital expenditures, our financial condition, our ability to integrate acquired businesses or other "forward-looking" information and include statements about revenues, costs, investments, earnings, margins, or our projections, actions, plans or strategies.

The forward-looking statements in this Annual Report on Form 10-K involve risks and uncertainties, which could cause actual results, performance or trends to differ materially from those expressed in the forward-looking statements herein or in previous disclosures. We believe that all forward-looking statements made by us have a reasonable basis, but there can be no assurance that these expectations, beliefs or projections will actually occur or prove to be correct, at least on the timetable of our expectations. Actual results could differ materially. We claim the protection of the safe harbor for forward-looking statements contained in the PSLRA for our forward-looking statements.

The following factors, among others, in some cases have affected and in the future could affect our financial performance and actual results, and could cause actual results for fiscal 2019 and beyond to differ materially from those expressed or implied in any forward-looking statements included in this Annual Report on Form 10-K or otherwise made by our management:

- Investments in future markets of potential significant growth may not result in expected returns.
- Our competitive position depends on our ability to develop new products and processes.
- Our competitive position may still require significant investments.
- Our future success depends on continued international sales, and our global operations are complex to manage, and present multiple challenges to manage.
- Foreign currency risk may negatively affect our revenues, cost of sales and operating margins and could result in foreign exchange losses.
- Any inability to access financial markets from time to time to raise required capital, finance our working capital requirements or our acquisition strategies, or otherwise to support our liquidity needs could negatively impact our ability to finance our operations, meet certain obligations or implement our growth strategy.
- We may incur substantially more indebtedness.
- We may not be able to settle conversions of our convertible senior notes in cash or to repurchase the notes in accordance with their terms.
- The conditional conversion feature of our outstanding convertible senior notes, if triggered, may adversely affect our financial condition and operating results.

- We may fail to accurately estimate the size and growth of our markets and our customers' demands.
- We may encounter increased competition.
- There are limitations on the protection of our intellectual property and we may from time to time be involved in costly intellectual property litigation or indemnification.
- A significant portion of our business depends on cyclical industries.

2

---

- Changes in laws and regulations governing data privacy and data protection could have a material adverse impact on our business.
- Data breach incidents and breakdown of information and communication technologies could disrupt our operations and impact our financial results.
- Global economic downturns may adversely affect our business, operating results and financial condition.
- We are subject to complex and rapidly changing governmental import and export regulations.
- Changes in U.S. trade policies could impact the Company's international operations and the cost of imported goods into the U.S., which may narrow the size of our markets, materially impact our revenues or increase our operating costs and expose us to contract litigation.
- We have entered into supply agreements which commit us to supply products on specified terms.
- We depend on highly complex manufacturing processes that require feeder materials, components and products from limited sources of supply.
- Our global operations are subject to complex legal and regulatory requirements.
- We use and generate potentially hazardous substances that are subject to stringent environmental regulations.
- We may be adversely affected by climate change regulations.
- Some systems that use our products are complex in design, and our products may contain defects that are not known or detected until deployed which could increase our costs, reduce our revenues, cause us to lose key customers and may expose us to litigation arising from derivative lawsuits related to consumer products.
- Unfavorable changes in tax rates, tax liabilities or tax accounting rules could negatively affect future results.
- Increases in commodity prices may adversely affect our results of operations and financial condition.
- Natural disasters or other global or regional catastrophic events could disrupt our operations, give rise to substantial environmental hazards and adversely affect our results.
- Our success depends on our ability to attract, retain, and develop key personnel and requires continued good relations with our employees.
- Our stock price has been volatile in the past and may be volatile in the future.
- Some anti-takeover provisions contained in our articles of incorporation and by-laws, as well as provisions of Pennsylvania law, could impair a takeover attempt, which could also reduce the market price of our common stock.
- Because we do not currently intend to pay dividends, holders of our common stock will benefit from an investment in our common stock only if it appreciates in value, and by the intended anti-dilution actions of our share-buyback program.

The foregoing and additional risk factors are described in more detail herein under Item 1A. "Risk Factors". All such factors, as well as factors described or referred to in other filings we make with the Securities and Exchange Commission (the "SEC") from time to time, should be considered in evaluating our business and prospects. Many of these factors are beyond our reasonable control. In addition, we operate in a highly competitive and rapidly changing environment, and, therefore, new risk factors can arise and be present without market players like us knowing until a substantial amount of time has passed. It is not possible for management to predict all such risk factors, assess the impact of all such risk factors on our business nor estimate the extent to which any individual risk factor, or combination of risk factors, nor to mitigate them all and therefore they may cause results to differ materially from those contained in any forward-looking statement. The forward-looking statements included in this Annual Report on Form 10-K speak only as of the date of this Annual Report on Form 10-K. We do not assume any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or developments, or otherwise, except as may be required by the securities laws. We caution you not to rely on them unduly.

II-VI Incorporated does communicate with securities analysts from time to time and those communications are conducted in accordance with applicable securities laws. Investors should not assume that II-VI Incorporated agrees with any statement or report issued by any analyst, irrespective of the content of the statement or report.

## PART I

## Item 1. BUSINESS

## Definitions

II-VI Incorporated (“II-VI,” the “Company,” “we,” “us,” or “our”) was incorporated in Pennsylvania in 1971. Our headquarters are located at 375 Saxonburg Boulevard, Saxonburg, Pennsylvania 16056. Our telephone number is 724-352-4455. Reference to “II-VI,” the “Company,” “we,” “us,” or “our” in this Annual Report on Form 10-K, unless the context requires otherwise, refers to II-VI Incorporated and its wholly-owned subsidiaries. The Company’s name is pronounced “Two Six Incorporated.” The name II-VI refers to Groups II and VI on the Periodic Table of Elements from which II-VI originally designed and produced infrared optics for high-power CO<sub>2</sub> lasers used in materials processing. We address 7 major markets. The majority of our revenues are attributable to the sale of engineered materials and optoelectronic components, devices and subsystems for the industrial materials processing, optical communications and military markets. Reference to “fiscal” or “fiscal year” means our fiscal year ended June 30 for the year referenced.

The following acronyms are defined for reference: 3 dimensional (“3D”); 4th generation (“4G”) wireless; 5th generation (“5G”) wireless; bismuth telluride (“Bi<sub>2</sub>Te<sub>3</sub>”); cadmium telluride (“CdTe”); carbon monoxide (“CO”); carbon dioxide (“CO<sub>2</sub>”); chemical vapor deposited (“CVD”) materials including diamond; wavelength division multiplexing (“WDM”); dense wavelength division multiplexing (“DWDM”); extreme ultraviolet (“EUV”) lithography; gallium arsenide (“GaAs”); gallium nitride (“GaN”); gigabit Ethernet (“GbE”); gigabit per second (“Gb/s”); indium phosphide (“InP”); infrared (“IR”); light detection and ranging (“LiDAR”); near infrared (“NIR”); nanometers (“nm”); original equipment manufacturer (“OEM”); organic light-emitting diode (“OLED”); optical time domain reflectometer (“OTDR”); research, development and engineering (“RD&E”); radio frequency (“RF”); reconfigurable optical add/drop multiplexer (“ROADM”); silicon carbide (“SiC”); ultraviolet (“UV”); vertical cavity surface emitting laser (“VCSEL”); zinc selenide (“ZnSe”); and zinc sulfide (“ZnS”).

## General Description of Business

We develop, manufacture and market engineered materials, optoelectronic components and devices for precision use in industrial materials processing, optical communications, military, consumer electronics, semiconductor equipment, life sciences and automotive applications and markets. We use advanced engineered materials growth technologies coupled with proprietary high-precision fabrication, micro-assembly, optical thin-film coating and electronic integration to manufacture complex optoelectronic devices and modules. Our products are deployed in a variety of applications, including (i) laser cutting, welding and marking operations; (ii) 3D sensing consumer applications; (iii) optical, data and wireless communication products; (iv) strategic military applications including intelligence, surveillance and reconnaissance; (v) semiconductor processing and tooling; and (vi) thermoelectric cooling and power generation solutions.

Through RD&E and acquisitions, II-VI has expanded its portfolio of materials. We believe that the materials that we grow and fabricate are differentiated by one or a combination of unique optical, electrical, thermal and mechanical properties. II-VI’s optics are shaped by precision surfacing techniques to meet the most stringent requirements for flat or curved geometries, functionalized with smooth or structured surfaces, or with patterned metallization. Proprietary processes developed at our global optical coating centers differentiate our products’ durability against high energy lasers and extreme operating environments. Optical coatings also provide the desired spectral characteristics ranging from the ultraviolet to the far-infrared. II-VI leverages these capabilities to deliver miniature- to large-scale precision optical assemblies, including in combination with thermal management components, integrated electronics, and/or software.

II-VI also offers a broad portfolio of compound semiconductor lasers that are used in a variety of applications in most of our end markets. These compound semiconductor lasers enable high-power lasers for materials processing, optical signal amplification in terrestrial and submarine communications networks, high bit rate server connectivity between and within datacenters, fast and accurate measurements in biomedical instruments, consumer electronics and optical communications network monitoring.

II-VI continues to work to perfect its operational capabilities, develop next generation products, and invest in new technology platforms. With a strategic focus on fast growing and sustainable markets, II-VI pursues its vision of enabling the world to be safer, healthier, closer and more efficient.

#### Information Regarding Market Segments and Foreign Operations

Financial data regarding our revenues, results of operations, industry segments and international sales for the three years ended June 30, 2018 are set forth in the Consolidated Statements of Earnings and in Note 12 to the Company's Consolidated Financial Statements included in Item 8 of this Annual Report on Form 10-K and are incorporated herein by reference. We also discuss certain Risk Factors set forth in Item 1A of this Annual Report on Form 10-K related to our foreign operations, which are incorporated herein by reference.



## Bookings and Backlog

We define our bookings as customer orders received that are expected to be converted to revenues over the next 12 months. For long-term customer orders, to address the inherent uncertainty of orders that extend far into the future, the Company records only those orders which are expected to be converted into revenues within 12 months from the end of the reporting period. Bookings are adjusted if changes in customer demands or production schedules cause the expected time of a delivery to extend beyond 12 months. For the year ended June 30, 2018, our bookings were approximately \$1.2 billion compared to bookings of approximately \$1.1 billion for the year ended June 30, 2017.

We define our backlog as bookings that have not been converted to revenues by the end of the reporting period. As of June 30, 2018, our backlog was approximately \$450 million, compared to approximately \$400 million as of June 30, 2017.

## Global Operations

II-VI is headquartered in Saxonburg, PA, with RD&E, manufacturing and sales facilities worldwide. Our U.S. production and research and development operations are located in Pennsylvania, California, New Jersey, Texas, Mississippi, Massachusetts, Connecticut, Delaware, New York, Florida and Illinois and our non-U.S. production operations are based in China, Singapore, Vietnam, the Philippines, Germany, Switzerland and the United Kingdom. We also utilize contract manufacturers and strategic suppliers. In addition to sales offices at most of our manufacturing sites, we have sales and marketing subsidiaries in Hong Kong, Japan, Germany, China, Switzerland, Belgium, the United Kingdom, Italy, South Korea, and Taiwan. Approximately 68% of our revenues for the fiscal year ended June 30, 2018, were generated from sales to customers outside of the United States.

## Employees

The table below summarizes the number of our employees as of June 30, 2018 in the main functions. We have a long-standing practice of encouraging active employee participation in areas of operations and quality management. We believe our relations with our employees are good. We reward substantially all our employees with some form of variable compensation based on achievement of performance goals. There are approximately 265 employees located in the United States and the Philippines who are covered under collective bargaining agreements. The Company's collective bargaining agreement in the Philippines expires in June 2019. The collective bargaining agreement covering certain U.S. based employees expires in January 2021. There are 730 employees of Photop in China who work under contract manufacturing arrangements for customers of the Company.

	Number of employees	Percent of total
Direct production	8,977	79%
Research, development & engineering	1,513	13%
Sales, marketing, administration, finance and supporting services	953	8%
Total:	11,443	100%

## Manufacturing Processes

Our success in developing and manufacturing many of our products depends on our ability to manufacture and to tailor the optical and physical properties of technically-challenging materials and components. The ability to produce, process and refine these complex materials and to control their quality and in-process yields is an expertise of the Company that is critical to the performance of our customers' instruments and systems. In the markets we serve, there are a limited number of high-quality suppliers of many of the components we manufacture and there are very few

industry-standard products.

Our network of worldwide manufacturing sites allows us to manufacture our products in regions that provide cost-effective advantages. We employ numerous advanced manufacturing technologies and systems at our manufacturing facilities. These include metal organic chemical vapor deposition and molecular beam epitaxy reactors, automated Computer Numeric Control optical fabrication, high throughput thin-film coaters, nano-precision metrology and custom-engineered automated furnace controls for crystal growth processes. Manufacturing products for use across the electro-magnetic spectrum requires the capability to repeatedly produce products with high yields to atomic tolerances. II-VI continuously updates its comprehensive quality management systems that feature manufacturing quality best practices. II-VI is committed to delivering products within specification, on time and with high quality, with a goal of fully satisfying customers and continually improving.

5

---

## Sources of Supply

Among the major feed stock and raw materials we use include zinc, selenium, ZnSe, ZnS, hydrogen selenide, hydrogen sulfide, tellurium, yttrium oxide, aluminum oxide, iridium, platinum, bismuth, silicon, thorium fluoride, antimony, carbon, graphite, GaAs, InP, copper, germanium, molybdenum, quartz, optical glass, diamond, and other materials.

The continued high-quality of and access to these materials is critical to the stability and predictability of our manufacturing yields. We test materials at the onset and throughout the production process. Additional research and capital investment may be needed to better define future material specifications. We have not experienced significant production delays due to shortages of materials. However, we do occasionally experience problems associated with vendor-supplied materials not meeting contract specifications for quality or purity. As discussed in greater detail in Item 1A – Risk Factors, of this Annual Report on Form 10-K, significant failure of our suppliers to deliver sufficient quantities of necessary high-quality materials to our specifications on a timely basis could have a materially adverse effect on our results of our operations.

## Business Units

The Company's organizational structure is divided into three reporting segments for the purpose of making operational decisions and assessing financial performance: (i) II-VI Laser Solutions, (ii) II-VI Photonics, and (iii) II-VI Performance Products. These segments, and the units within the segments, are reflected in the organization chart below:

II-VI Laser Solutions designs, manufactures and markets optical and electro-optical components and materials sold under the II-VI Infrared brand name that are used primarily in high-power CO<sub>2</sub> lasers, fiber-delivered beam delivery systems and processing tools and direct diode lasers for industrial lasers sold under the II-VI HIGHYAG, direct diode laser modules, sub-systems and systems sold under the II-VI SUWTECH and II-VI DIRECTPHOTONICS brand names and super-hard materials processing laser systems sold under the II-VI LASERTECH brand names. II-VI Laser Solutions also manufactures compound semiconductor epitaxial wafers under the II-VI EPIWORKS brand name for applications in optical components, wireless devices, and high-speed communication systems and manufactures 6-inch gallium arsenide wafers allowing for the production of high-performance lasers optoelectronics and integrated circuits in high volume sold under the II-VI Laser Enterprise, II-VI EpiWorks, II-VI Compound Semiconductor Ltd. and II-VI OptoElectronic Devices Division brand names.

II-VI Photonics manufactures crystal materials, optics, microchip lasers and optoelectronic modules for use in optical communication networks and other diverse consumer, life sciences and commercial applications. In addition, the segment also manufactures pump lasers, optical isolators, and optical amplifiers and micro-optics for optical amplifiers for both terrestrial and submarine applications within the optical communications market.

II-VI Performance Products designs, manufactures and markets infrared optical components and high-precision optical assemblies for military, medical and commercial laser imaging applications. In addition, the segment designs, manufactures and markets unique silicon carbide engineered materials for thermoelectric devices and subsystems for silicon carbide applications servicing the semiconductor equipment, military, communications, automotive and life science markets.



II-VI's segments are organized by business unit at the group or division level. Each of these business units develops and markets products as described below.

Segment:	Group/Division:	Our Products:
II-VI Laser Solutions	II-VI Infrared	<ul style="list-style-type: none"> <li>• Laser optics and accessories for CO<sub>2</sub> lasers used in materials processing semiconductor and life sciences</li> <li>• High power fiber and direct diode laser optics</li> <li>• Infrared thermal imaging optics and assemblies</li> </ul>
	II-VI HIGHYAG	<ul style="list-style-type: none"> <li>• II-VI compound crystalline material production including ZnSe, ZnS, ZnS multispectral and CVD diamond</li> <li>• Laser processing heads and beam delivery systems for laser materials processing with fiber lasers, disk lasers, and diode lasers</li> </ul>
	II-VI Laser Enterprise	<ul style="list-style-type: none"> <li>• High-power semiconductor lasers and laser bars enabling fiber and direct diode lasers for materials processing, medical, defense, consumer and printing applications</li> </ul>
	II-VI OEG	<ul style="list-style-type: none"> <li>• VCSELs for optical interconnects and sensing</li> <li>• VCSELs for 3D sensing in consumer electronics and automotive</li> </ul>
	II-VI Compound Semiconductor	<ul style="list-style-type: none"> <li>• RF devices for communications</li> <li>• RF electronic devices for military applications</li> </ul>
	II-VI EpiWorks	<ul style="list-style-type: none"> <li>• III-V epitaxial wafers to enable higher performance photonic and RF components for consumer, communications, network and mobile applications, including wireless handsets, tablets and the Internet of things</li> </ul>
	II-VI SUWTECH	<ul style="list-style-type: none"> <li>• Diode pumped solid state lasers, green lasers and Q-switched lasers</li> <li>• Laser diode modules for multiple markets and applications, including aiming, leveling, range finding, machine vision, bio-medical instrumentation, Raman spectroscopy, and fluorescence spectroscopy</li> </ul>
	II-VI LASERTECH	<ul style="list-style-type: none"> <li>• Fiber coupled high power diode lasers in the 8xx and 9xx nm wavelength ranges for fiber laser and solid state laser pumping, as well as for medical and other applications</li> <li>• Laser cutting and drilling machines for processing a wide variety of super hard materials such as CVD diamond, polycrystalline diamond, polycrystalline cubic boron nitride, and ceramics among others as well as for high efficiency laser cutting of non-conductive materials</li> </ul>
	II-VI DIRECTPHOTONICS	<ul style="list-style-type: none"> <li>• High brightness, high power direct diode laser engines for cutting, welding, and thermal processing applications, including optimized solutions for aluminum and aluminum-copper processing applications</li> </ul>



Segment:	Group/Division:	Our Products:
II-VI Photonics	II-VI Optical Communications	<ul style="list-style-type: none"> <li>• Products and solutions that enable high bit rate interconnects for datacenters and communication service providers, datacenter inter-connects, ROADM systems and submarine transmission</li> </ul>
	II-VI Photop	<ul style="list-style-type: none"> <li>• Fiber optics and precision optics used in projection and displays, crystal materials and components for optical communications, high power UV, visible and NIR optics for industrial lasers, filters and assemblies for life sciences, as well as for sensors, instrumentation and semiconductor equipment</li> </ul>
II-VI Performance Products	II-VI Optical Systems	<ul style="list-style-type: none"> <li>• Precision optical assemblies, objectives, infrared optics, thin film coatings and optical materials</li> </ul>
	II-VI M Cubed	<ul style="list-style-type: none"> <li>• Optical solutions to critical and complex designs, engineering and production challenges in defense, aerospace and commercial industries</li> <li>• Advanced ceramic and metal matrix composite products for semiconductor equipment, flat panel display equipment, industrial and optical equipment, as well as for defense applications</li> </ul>
	II-VI Marlow	<ul style="list-style-type: none"> <li>• Thermoelectric components, sub-assemblies and systems for heating, cooling, temperature tuning, thermal cycling and power generation in aerospace, defense, medical, industrial, automotive, consumer, telecommunications and power generation markets</li> </ul>
	II-VI Advanced Materials	<ul style="list-style-type: none"> <li>• SiC and advanced semiconductor materials for high frequency and high power electronic device applications in defense, telecommunications, automotive and industrial markets</li> </ul>
	II-VI Performance Metals	<ul style="list-style-type: none"> <li>• Specialty refining, recycling and materials recovery services for high purity rare metals such as Selenium and Tellurium, as well as related chemical products such as Tellurium Dioxide, for optics, photovoltaics, semiconductors, thermoelectric coolers, metallurgy, agriculture and industrial applications</li> </ul>

## Our Markets

Our market-focused businesses are organized by technology and products. Our businesses are composed of the following primary markets: Communications, Materials Processing, Military, Semiconductor Equipment, Life Sciences, Consumer Electronics and Automotive.

### Communications Market

II-VI's optical communications products and technologies enable the next generation of high-speed optical transmission systems, networks, and datacenter solutions necessary to meet the accelerating global bandwidth demand. At the core of both terrestrial and undersea optical networks, our market-leading 980 nm pump lasers boost the power of the optical signal in the fiber optic cable at intervals along the way to enable a larger number of high speed signals to be transmitted over longer distances. Our latest generation of 980 nm pump lasers along with miniature tunable filters and hybrid passives are part of our ultra-compact family of components critical to a new generation of small size, long reach DWDM transmission modules operating at 100, 200 and 400 Gb/s.

Customers continue to rely on us for our industry-leading optical amplification and embedded monitoring solutions for their next generation ROADM systems to compensate for the inherent signal loss and to monitor the signal integrity. Our proprietary OTDR modules allow systems to automatically detect and pinpoint issues along the transmission path in real time. The accelerating adoption of applications such as cloud computing are driving the rapid growth of datacenter buildouts. Our high-speed 25 Gb/s VCSELs enable intra-datacenter transceivers to transmit and receive signals. Our miniature WDM thin film filter assemblies are used to increase the bandwidth within 100 GbE transceivers by combining wavelengths at the transmitter end and separating them out at the receiver end.

In mobile wireless applications, II-VI supplies base SiC substrates to customers who manufacture RF power amplifier devices that are embedded in remote radio heads in 4G wireless bases stations to boost the power of RF signal before it reaches the antenna. These devices are also widely expected to be embedded in next generation active antennas for 5G wireless, where multiple devices per antenna will be required to enable higher bandwidth. SiC has a high number of intrinsic physical and electronic advantages, such as high thermal conductivity, that enable them to operate at high-power levels and still dissipate the excess heat generated.

### Materials Processing Market

Our industrial laser optics and solutions for the materials processing market remain in strong demand. There continues to be a steady global demand to support existing installations and new deployments of CO<sub>2</sub> and fiber laser systems. Our vertically integrated and market leading ZnSe optics and components, due to their inherent low loss at around 10 micron wavelength, have enabled high-power CO<sub>2</sub> laser systems for many decades and remain critical to the steady stream of new deployments as well as to continued operation, serving as replacement optics, of the installed base of CO<sub>2</sub> lasers. II-VI continues to introduce products that address new and growing applications for low-power CO<sub>2</sub> lasers, such as cutting textiles, leather, wood and other organic materials, for which the CO<sub>2</sub> laser's 10 micron wavelength is ideally suited. CO<sub>2</sub> lasers are also at the core of EUV lithography systems, which are now emerging on the market to enable a new generation of smaller and more powerful personal integrated circuits for the internet of things computing devices.

Over the past several years, fiber laser-based systems operating at one micron wavelength in pulsed or continuous mode have taken a central role in nearly all materials processing segments, and especially for precision machining such as marking and micro drilling. From the laser chips that generate the input optical power to the beam delivery systems that direct the output optical power to the target, II-VI supplies a broad set of laser optics and fused fiber products that enable many functions within these systems. The same set of II-VI products is also at the core of existing



and emerging direct diode laser systems. II-VI is also driving innovation with a direct-diode laser engine small enough to be mounted on a robotic arm so that the end user can apply square beams directly to the work piece at wavelengths optimized for aluminum processing.

Another emerging and fast growing application is the processing of displays for consumer electronics, including those based on the OLED technology that are scribed with CO lasers and sealed with UV lasers. II-VI's broad portfolio of coated optics and crystal materials serve all of these growing laser markets.

#### Military Market

Our focus in the military market is enabling lasers for targeting, night vision, navigation, as well as intelligence, surveillance and reconnaissance systems. Multiple fighter jets are equipped with our large area sapphire windows that surround advanced electro-optical targeting and imaging systems. Infrared domes are used on missiles with infrared guidance systems ranging from small, human-portable designs to larger designs mounted on helicopters, fixed-wing aircraft and ground vehicles. High-precision domes are an integral component of a missile's targeting system, providing efficient tactical capability, while serving as a protective cover to its internal components.

Rotary and fixed-wing aircraft also use missile warning systems to protect against shoulder fired human-portable missiles. Our competencies in material growth for UV crystals and our optical assembly capabilities provide significant support to these missile warning systems. A key attribute of several of these systems is the ability to filter electro-magnetic interference using micro-fine conductive mesh patterns. This technology is also applied to non-optical applications for absorbing and transmitting energy from the surfaces of aircraft and missiles.

Many military systems employ laser designation and range-finding capabilities supported by our semiconductor lasers bars and solid state laser host crystals and laser optics, all manufactured in-house, as well as our competency in short wave infrared and visible optics. Our thermoelectric coolers are used to increase thermal imaging sensitivity, or to maintain a constant window temperature in various visible and infrared applications.

We provide a range of battlefield-ready technologies for soldier equipment and specifically designed variants for law enforcement. Our precision patterned reticles are embedded in rifle scopes. Our reaction bonded boron carbide materials are shaped into torso plates and employed as in-aircraft cabin and protective body armor. Our thermo-electric coolers are used to regulate the soldier's body heat. They are also used to convert heat produced by battlefield fuel burners into electrical power, for example to extend battery life on the battlefield.

We maintain engineering and manufacturing facilities in the United States with strictly controlled access that are dedicated to our U.S. government supported contracts.

#### Semiconductor Capital Equipment Market

Semiconductor equipment requires advanced materials to meet the need for tighter tolerances, enhanced thermal stability, faster wafer transfer speeds and reduced stage settling times. Our metal matrix composites and reaction bonded ceramics enable these applications thanks to their optimum combination of light weight, strength, hardness and coefficient of thermal expansion. Our reaction bonded SiC materials are used to manufacture wafer chucks, light weight scanning stages and high temperature, corrosion resistant wafer support systems. Our cooled SiC mirrors and precision patterned reticles are used in the illumination systems of lithography tools.

In the emerging market of EUV lithography systems, CO<sub>2</sub> lasers are used to generate extreme ultraviolet light. These CO<sub>2</sub> lasers and beam delivery systems leverage our broad portfolio of CO<sub>2</sub> laser optics, CdTe Modulators, high power damage resistant polycrystalline CVD diamond windows to route the powerful laser beam to a tin droplet from which EUV light will emanate. Due to their very high mechanical and thermal performance characteristics, our reaction bonded SiC are used in structural support systems that are integral to EUV lithography optics to meet critical requirements for optical system stability.

#### Life Sciences Market

The majority of our business in the life sciences end market is in analytical tools. Many analytical tools found in modern biotech laboratories are based on some form of interaction with light. This applies to flow cytometry, cell sorting, confocal microscopy, DNA genome sequencing, Raman spectroscopy, fluorescence spectroscopy and particle sizing to name a few. Our multi-colored laser engines along with our broad portfolio of application-specific optics, filters and gratings are embedded in these analytical tools. We also supply objective lenses, precision patterned reticles and assemblies for microscopes.

Genome sequencing involves temperature cycling DNA in flow cells with a high degree of temperature uniformity and precision. We believe that our thermal engines are the state of the art in chiller technology, and they achieve what we believe to be industry-leading temperature control and uniformity across large areas. Our green lasers are used to excite the fluorescence of DNA to reveal its structure. Our flow cells are micro-machined with a high degree of

precision to insure the smooth flow of sample fluids undergoing analysis. Our thermal engines are also used in a multitude of other biomedical applications, for example to measure substance concentration in complex mixtures, to protect blood supplies and to perform heating- and cooling-based physical therapy.

Clinical procedures are increasingly performed with tools that embed our lasers and optics. For example, our semiconductor laser bars are used in hair and wrinkle removal procedures and our custom designed lens assemblies are used for laser eye surgery. We continue to leverage our core lasers, optics and temperature control expertise into new applications to grow our business in life sciences.

#### Consumer Electronics Market

II-VI manufactures low cost VCSELs, VCSEL arrays and low angle shift filters for the consumer electronics market. Our VCSEL products leverage our world-class 6-inch GaAs platform, combining our epitaxial wafer growth and wafer fabrication capabilities.

Our VCSELs, unlike many on the market, have already been designed into consumer products such as the computer mouse as well as for menu navigation in smart phones and in car steering wheels. Our VCSELs are also widely deployed in datacenters and in the emerging market for HDMI optical cables. This expertise in VCSEL technology is being leveraged for the emerging 3D sensing market. With our acquisitions of 6-inch epitaxy and wafer capabilities, we have invested significantly to round out our capacity expansion.

#### Automotive Market

Power conversion electronics for high-efficiency electric vehicles need a combination of high-power density, high-efficiency and high-temperature operation that are only afforded by advanced material systems based on SiC substrates. Our SiC substrates are available in large diameters and have what we believe to be best-in-class quality and low defect levels.

Our thermoelectric modules are used to cool batteries to extend their operating life. They are also more efficient than resistive heaters when used in heated car seats and extend an electric vehicle's range of travel in cold environments.

To operate safely, self-driving cars will rely on control systems that are informed by a comprehensive number of sensors. One such sensor is based on LiDAR, which employs semiconductor lasers to properly identify and measure the distance to obstacles ahead. Our GaAs-based semiconductor laser platform, which already enables a broad portfolio of products in communications and materials processing, is now being scaled further for consumer electronics, and will be leveraged to deliver a highly reliable and cost-effective laser product for this emerging market.

#### Marketing and Sales

We market our products through direct sales forces and through representatives and distributors around the world. Our market strategy is focused on understanding our customers' requirements and building market awareness and acceptance of our products. New products are continually being produced and introduced to our new and established customers in all markets.

The Company is centralizing its worldwide marketing and sales functions across the Company's business units. Sales offices have been strategically established to best serve and distribute products to our worldwide customer base. There are significant cooperation, coordination and synergies among our business units, which capitalize on the most efficient and appropriate marketing channels to address diverse applications within our markets.

Our sales forces develop effective communications with our OEM and end-user customers worldwide. Products are actively marketed through targeted mailings, telemarketing, select advertising, attendance at trade shows and customer partnerships. Our sales force includes a highly-trained team of applications engineers to assist customers in designing, testing and qualifying our parts as key components of our customers' systems. As of June 30, 2018, we employed approximately 263 individuals in sales, marketing and support.

We do business with a number of customers in the defense industry, who in turn generally contract with a governmental entity, typically a U.S. governmental agency. Most governmental programs are subject to funding approval and can be modified or terminated without warning by a legislative or administrative body.

Customers

The representative groups of customers by segments are as follows:

Segment:	Group/Division:	Our Customers Are:	Representative Customers:
II-VI Laser Solutions	II-VI Infrared	OEM and system integrators of industrial, medical and military laser systems. Laser end-users who require replacement optics for their existing laser systems.	<ul style="list-style-type: none"> <li>• TRUMPF GmbH + Co. KG</li> <li>• Bystronic Laser AG</li> </ul>
	II-VI HIGHYAG	Automotive manufacturers, laser manufacturers and system integrators.	<ul style="list-style-type: none"> <li>• Coherent, Inc.</li> <li>• Ford Motor Company</li> </ul>
	II-VI Laser Systems	OEM and subsystem integrators of aiming, machine vision, bio-medical instruments, and fiber lasers.  Laser cutting machines for super-hard materials.	<ul style="list-style-type: none"> <li>• Laserline GmbH</li> <li>• BGI Complete Genomics, Shenzhen Co., Ltd.</li> </ul>
	II-VI OEG	Manufacturers of industrial laser components, optical communication equipment and consumer technology applications.	<ul style="list-style-type: none"> <li>• SPI Lasers Limited</li> <li>• Laserline GmbH</li> <li>• Wuhan Raycus Fiber Laser Technologies Co., Ltd</li> </ul>
II-VI Photonics	II-VI Optical Communications & II-VI Photop	Worldwide network system and sub-system providers of telecommunications, data communications and CATV.	<ul style="list-style-type: none"> <li>• Cisco Systems, Inc.</li> <li>• Fujitsu Network Communications</li> </ul>
		Global manufacturers of industrial and medical laser optics and crystals including commercial and consumer products used in a wide array of instruments, sensors, fiber lasers, displays and projection devices.	<ul style="list-style-type: none"> <li>• Corning Incorporated</li> <li>• Coherent, Inc.</li> <li>• Acacia Communications, Inc.</li> <li>• Han's Laser Technology Industry Group Co. Ltd.</li> </ul>
II-VI Performance Products	II-VI Optical Systems	Manufacturers of equipment and devices for aerospace, defense and commercial markets.	<ul style="list-style-type: none"> <li>• Lockheed Martin Corporation</li> </ul>
	II-VI M Cubed		<ul style="list-style-type: none"> <li>• ASML Holding NV</li> </ul>

Edgar Filing: II-VI INC - Form 10-K

	Manufacturers and developers of integrated circuit capital equipment for the semiconductor industry.	<ul style="list-style-type: none"> <li>• Carl Zeiss AG</li> <li>• Nikon Corporation</li> <li>• KLA-Tencor Corporation</li> <li>• Corning Incorporated</li> </ul>
II-VI Marlow	Manufacturers and developers of products and components for various defense and industrial markets.	<ul style="list-style-type: none"> <li>• Lumentum Operations LLC</li> </ul>
II-VI Advanced Materials	Manufacturers and developers of equipment and devices for defense, space, telecommunications, medical, industrial, automotive, personal comfort and commercial markets.	<ul style="list-style-type: none"> <li>• Sumitomo Electric Device Innovations, Inc.</li> <li>• Showa Denko K. K.</li> <li>• STMicroelectronics</li> <li>• IQE PLC</li> <li>• Infineon Technologies AG</li> </ul>
II-VI Performance Metals	Primary mineral processors, refineries and providers of specialized materials that are used in laser optics, photovoltaics, semiconductors, thermoelectric coolers, metallurgy and industrial products.	<ul style="list-style-type: none"> <li>• Aurubis AG</li> </ul>

## Competition

We believe we are a global leader in many of our product families. We compete partly on the basis of our reputation for offering highly engineered products, product and technology roadmaps, intellectual property, ability to scale, quality, delivery time, technical support and pricing. We believe that we compete favorably with respect to these factors and that our vertical integration, manufacturing facilities and equipment, experienced technical and manufacturing employees and worldwide marketing and distribution channels provide us with competitive advantages. The representative groups of our competitors by segment are as follows:

Segment:	Areas of Competition:	Competitors:
II-VI Laser Solutions	Infrared laser optics	<ul style="list-style-type: none"> <li>• Sumitomo Electric Industries, Ltd.</li> <li>• MKS Instruments</li> <li>• Wavelength OptoElectronic Pte Ltd.</li> <li>• SIGMAKOKI Co., LTD.</li> <li>• Optoskand AB</li> <li>• Precitec GmbH &amp; Co. KG</li> <li>• MITSUBISHI CABLE INDUSTRIES, LTD</li> <li>• Coherent, Inc.</li> <li>• Pavilion Integration Corporation</li> <li>• SHIMADZU CORPORATION</li> <li>• Lumentum Operations LLC</li> <li>• Finisar Corporation</li> <li>• Broadcom Ltd.</li> <li>• Koninklijke Philips N.V</li> <li>• Jenoptik AG</li> <li>• Osram Licht AG</li> <li>• Sony Corporation</li> <li>• Hamamatsu Photonics K.K.</li> <li>• Oplink Communications, Inc.</li> <li>• Lumentum Operations LLC</li> <li>• Casix, Inc.</li> </ul>
	Automated equipment and laser material processing tools to deliver high-power one-micron laser systems	
	Bio-medical instruments for flow cytometry, DNA sequencing, fluorescence microscopy	
	Semiconductor laser diodes for the industrial and consumer markets	
II-VI Photonics	Optics, optical components, modules & subsystems for optical communications	

Edgar Filing: II-VI INC - Form 10-K

Optical and crystal components, thin film coatings and sub-assemblies for lasers and metrology instruments	<ul style="list-style-type: none"><li>• CASTECH Inc.</li><li>• Research Electro-Optics, Inc.</li></ul>
II-VI Performance Products	
Infrared optics for military applications	<ul style="list-style-type: none"><li>• IDEX Corporation</li><li>• In-house fabrication and thin-film coating capabilities of major military customers</li><li>• Komatsu, Ltd.</li></ul>
Thermoelectric components, sub-assemblies and systems	<ul style="list-style-type: none"><li>• Laird PLC</li></ul>
Metal Matrix Composites and reaction bonded ceramics products	<ul style="list-style-type: none"><li>• Ferrotec Corporation</li><li>• Berliner Glas KGaA Herbert Kubatz GmbH &amp; Co.</li></ul>
Single crystal SiC substrates	<ul style="list-style-type: none"><li>• CoorsTek, Inc.</li><li>• Japan Fine Ceramics Co. Ltd.</li><li>• Cree, Inc.</li><li>• Dow Corning Corporation</li><li>• SICC Co., Ltd</li><li>• TankeBlue CO., LTD.</li></ul>
Refining and materials recovery services for high purity rare metals	<ul style="list-style-type: none"><li>• SiCrystal AG</li><li>• Vital Materials Co., Limited</li><li>• 5N Plus Inc.</li><li>• RETORTE GmbH Selenium Chemicals &amp; Metals</li></ul>

In addition to competitors who manufacture products similar to those we produce, there are other technologies and products available that may compete with our technologies and products.



## Our Strategy

Our strategy is to grow businesses with world-class engineered material capabilities to advance our current customers' strategies, penetrate new markets through innovative technologies and platforms, and enable new applications in large and growing markets. A key strategy of ours is to develop and manufacture high-performance materials and in certain cases components from those materials that are differentiated from those produced by our competitors. We focus on providing components that are critical to the heart of our customers' assembly lines, for products serving the applications mentioned above.

We have grown substantially the number and size of our key accounts. Now, a substantial portion of our business is based on sales orders with market leaders, which enable our forward planning and production efficiencies. We intend to continue capitalizing and executing on this proven model, participating effectively in the growth of the markets discussed above, and continuing our focus on operational excellence as we execute our primary business strategies:

Key Business Strategies: Identify New Products and Markets	Our Plan to Execute: Identify new technologies, products and markets to meet evolving customer requirements for high-performance engineered materials through our dedicated RD&E programs to increase new product revenue and maximize return on investment.
Balanced Approach to Research and Development	Internally and externally funded RD&E expenditures, targeting an overall investment of between 10% - 15% of revenues, depending on the nature of the investment in terms of technology platforms or products.
Leverage Vertical Integration	Combine RD&E and manufacturing expertise, operating with a bias to components and production machines, reducing cost and lead time to enhance competitiveness, time to market, profitability and quality and enabling our customers to offer competitive products.
Investment in Scalable Manufacturing	Strategically invest in, evaluate and identify opportunities to consolidate manufacturing operations worldwide to increase production capacity, capabilities and cost effectiveness.
Enhance Our Performance and Reputation as a Quality and Customer Service Leader	Continue to improve upon our established reputation as a consistent, high-quality supplier of engineered materials and optoelectrical components that are built into our customers' products. Execute our global quality transformation process, eliminating costs of non-conforming materials and processes.
Identify and Complete Strategic Acquisitions and Alliances	Identify acquisition opportunities that accelerate our access to emerging, high-growth segments of the markets we serve and further leverage our competencies and economies of scale.
Research, Development and Engineering	

During the fiscal year ended June 30, 2018, the Company continued to identify, invest in and focus our research and development on, new products in an effort to accelerate our organic growth. This approach is managed under a disciplined innovation program that we refer to as the "II-VI Phase Gate Process."

From time to time, the ratio of externally funded contract activity to internally funded contract activity varies due to the unevenness of government funded research programs and changes in the focus of our internally funded research programs. We are committed to having the right mix of internally and externally funded research that ties closely to our long-term strategic objectives.

We devote significant resources to RD&E programs directed at the continuous improvement of our existing products and processes and to the timely development of new technologies, materials and products. We believe that our RD&E activities are essential to establish and maintain a leadership position in each of the markets we serve. As of June 30, 2018, we employed 1,513 people in RD&E functions, 1,439 of whom are engineers or scientists. In addition, certain manufacturing personnel support or participate in our research and development efforts on an ongoing basis. We believe this interaction between the development and manufacturing functions enhances the direction of our projects, reducing costs and accelerating technology transfers.

During the fiscal year ended June 30, 2018, we focused our RD&E investments in the following areas:

Segment:	Area of Development:	Our Research and Development Investments:
II-VI Laser Solutions	High Power Laser Diodes and High Volume Manufacturing	Focusing on increasing fiber coupled optical output power of multi-emitter modules. Developing high power VCSELs for consumer devices and next generation high speed VCSELs for 3D sensing and datacom applications.
	CVD Diamond Technology	Developing CVD diamond for EUV applications. Broadening our portfolio beyond infrared windows applications.
II-VI Photonics	Photonics Design	Continuing to improve photonic crystal materials, precision optical parts, and laser device components.
	Pump Lasers	Continuing to invest in next generation GaAs pump portfolio to address evolving terrestrial and undersea markets. Developing InP growth and processing capability.
	Optical Amplifiers and Subsystems	Investing and broadening the range of amplifiers and integrated subsystems including ROADMs.
	Optical Monitoring	Continuing optical channel monitor investment. Developing compact OTDRs embedded in optical system equipment to monitor the health of the fiber plant.
II-VI Performance Products	Micro-Optics Manufacturing	Shifting toward smaller, more compact platforms and packages. Investing in manufacturing equipment for computerized processes.
	SiC Technology	Developing advanced SiC substrate growth technologies to support emerging markets in GaN RF and SiC power electronics. Continuous improvements to maintain world-class, high quality, large diameter substrates and epitaxial wafers.
	Thermoelectric Materials and Devices	Continuing to develop leading Bi <sub>2</sub> Te <sub>3</sub> for thermoelectric cooling/heating. Focusing on thermoelectric power generation capability in order to introduce new products to the market.
	Metal Matrix Composites and Reaction Bonded Ceramics	Support Industrial customers in developing application-specific wear and thermal management solutions.

The development of our products and manufacturing processes is largely based on proprietary technical know-how and expertise. We rely on a combination of contract provisions, trade secret laws, invention disclosures and patents to protect our proprietary rights. We have entered into selective intellectual property licensing agreements. We have asserted in the past, and expect that we will continue to assert and vigorously protect our intellectual property rights. We have a total of approximately 800 patents globally.

Internally funded research and development expenditures were \$117.2 million, \$96.8 million and \$60.4 million for the fiscal years ended June 30, 2018, 2017 and 2016, respectively. For these same periods, externally funded research and development expenditures were \$12.7 million, \$8.7 million and \$9.5 million, respectively and were included in Cost of goods sold in the Consolidated Statements of Earnings.



## Export and Import Compliance

We are required to comply with various export/import control and economic sanction laws, including:

- The International Traffic in Arms Regulations administered by the U.S. Department of State, Directorate of Defense Trade Controls, which, among other things, impose licensing requirements on the export from the United States of certain defense articles and defense services, which generally include items that are specially designed or adapted for a military application and/or listed on the U.S. Munitions List;
- The Export Administration Regulations administered by the U.S. Department of Commerce, Bureau of Industry and Security, which, among other things, impose licensing requirements on certain dual-use goods, technology and software, which are items that potentially have both commercial and military applications;
- The regulations administered by the U.S. Department of Treasury, Office of Foreign Assets Control, which implement economic sanctions imposed against designated countries, governments and persons based on U.S. foreign policy and national security considerations; and
- The import regulations administered by the U.S. Customs and Border Protection.

Foreign governments have also implemented similar export and import control regulations, which may affect our operations or transactions subject to their jurisdiction. For additional discussions regarding our import and export compliance, see the discussion set forth in Item 1A – Risk Factors of this Annual Report Form on Form 10-K.

## Trade Secrets, Patents and Trademarks

Our use of trade secrets, proprietary know-how, trademarks, copyrights, patents and contractual confidentiality and IP ownership provisions help us develop and maintain our competitive position with respect to our products and manufacturing processes. We aggressively pursue process and product patents in certain areas of our businesses. We have entered into selective intellectual property licensing agreements. We have confidentiality and non-competition agreements with certain personnel. We require that our U.S. employees sign a confidentiality and non-competition agreement upon their commencement of employment with us.

The design, processes and specialized equipment utilized in our engineered materials, advanced components and subsystems are innovative, complex and difficult to duplicate. However, there can be no assurance that others will not develop or patent similar technology, or that all aspects of our proprietary technology will be protected. Others have obtained patents covering a variety of materials, devices, equipment, configurations and processes, and others could obtain patents covering technology similar to ours. We may be required to obtain licenses under such patents, and there can be no assurance that we would be able to obtain such licenses, if required, on commercially reasonable terms, or that claims regarding rights to technology will not be asserted that may adversely affect our results of operations. In addition, our research and development contracts with agencies of the U.S. Government present a risk that project-specific technology could be disclosed to competitors as contract reporting requirements are fulfilled.

## Executive Officers of the Registrant

The executive officers of the Company and their respective ages and positions as of June 30, 2018 are set forth below. Each executive officer listed has been appointed by the Board of Directors to serve until removed or until such person's successor is appointed and qualified.

Name	Age	Position
Vincent D. Mattera, Jr.	62	President and Chief Executive Officer; Director
Mary Jane Raymond	57	Chief Financial Officer and Treasurer and Assistant Secretary

Edgar Filing: II-VI INC - Form 10-K

Giovanni Barbarossa	56	Chief Technology Officer and President II-VI Laser Solutions
Gary A. Kapusta	58	Chief Operating Officer
Jo Anne Schwendinger	62	Chief Legal and Compliance Officer and Secretary
David G. Wagner	55	Vice President, Human Resources

Vincent D. Mattera, Jr. Dr. Mattera initially served as a member of the II-VI Board of Directors from 2000-2002. Dr. Mattera joined the company as a Vice President in 2004 and served as Executive Vice President from January of 2010 to November of 2013, when he became the Chief Operating Officer. In November of 2014, Dr. Mattera became the President and Chief Operating Officer, and was reappointed to the Board of Directors. In November of 2015, he became the President of II-VI. In September of 2016, Dr. Mattera became the Company's third President and Chief Executive Officer in 45 years. During his career at II-VI he has assumed

successively broader management roles, including as a lead architect of the Company's diversification strategy. He has provided vision, energy and dispatch to the Company's growth initiatives including overseeing the acquisition-related integration activities in the US, Europe, and Asia-especially in China-thereby establishing additional platforms. These have contributed to a new positioning of the Company into large and transformative global growth markets while increasing considerably the global reach of the Company, deepening the technology and IP portfolio, broadening the product roadmap and customer base, and increasing potential of II-VI.

Prior to joining II-VI as an executive, Dr. Mattera had a continuous 20 year career in the Optoelectronic Device Division of AT&T Bell Laboratories, Lucent Technologies and Agere Systems during which he led the development and manufacturing of semiconductor laser based materials and devices for optical and data communications networks. Dr. Mattera has 34 years of leadership experience in the compound semiconductor materials and device technology, operations and markets that are core to II-VI's business and strategy. Dr. Mattera holds a B.S. in chemistry from the University of Rhode Island (1979), and a Ph.D. degree in chemistry from Brown University (1984). He completed the Stanford University Executive Program (1996).

Mary Jane Raymond has been Chief Financial Officer and Treasurer of the Company since March 2014. Previously, Ms. Raymond was Executive Vice President and Chief Financial Officer of Hudson Global, Inc. (NASDAQ: HSON) from 2005 to 2013. Ms. Raymond was the Chief Risk Officer and Vice President and Corporate Controller at Dun and Bradstreet, Inc., from 2002 to 2005. Additionally, she was the Vice President, Merger Integration, at Lucent Technologies, Inc., from 1997 to 2002 and held several management positions at Cummins Engine Company from 1988 to 1997. Ms. Raymond holds a B.A. degree in Public Management from St. Joseph's University, and an MBA from Stanford University.

Giovanni Barbarossa joined II-VI in 2012 and has been the President, Laser Solutions Segment, since 2014, and the Chief Technology Officer since 2012. Dr. Barbarossa was employed at Avanex Corporation from 2000 through 2009, serving in various executive positions in product development and general management, ultimately serving as President and Chief Executive Officer. When Avanex merged with Bookham Technology, forming Oclaro, Dr. Barbarossa became a member of the Board of Directors of Oclaro and served as such from 2009 to 2011. Previously, he had management responsibilities at British Telecom, AT&T Bell Labs, Lucent Technologies, and Hewlett-Packard. Dr. Barbarossa graduated from the University of Bari, Italy, with a B.S. degree in Electrical Engineering, and holds a Ph.D. in Photonics from the University of Glasgow, U.K.

Gary A. Kapusta joined II-VI in February 2016 and has served since then as the Company's Chief Operating Officer. Prior to his employment with the Company, Mr. Kapusta served in various roles at Coca-Cola, including as President & Chief Executive Officer, Coca-Cola Bottlers' Sales & Services L.L.C.; President, Customer Business Solutions; and Vice President, Procurement Transformation, Coca-Cola Refreshments. He joined Coca-Cola following a 19 year career at Agere Systems, Lucent Technologies, and AT&T. Mr. Kapusta graduated from The University of Pittsburgh with B.S. and M.S. degrees in Industrial Engineering, and holds an MBA from Lehigh University. Jo Anne Schwendinger has served as the Company's Chief Legal and Compliance Officer and Secretary since March 2017. Ms. Schwendinger also served as the Company's General Counsel and Secretary from when she joined the Company in March 2017 until November 2017. Prior to her employment with the Company, Ms. Schwendinger practiced law with the law firm Blank Rome, LLP from August 2016 until February 2017. Previously, Ms. Schwendinger served in various legal roles at Deere & Company from February 2000 until August 2016, including Regional General Counsel-Asia-Pacific and Sub-Saharan Africa and Assistant General Counsel. Ms. Schwendinger holds a Bachelor's degree from the Université d'Avignon et des Pays de Vaucluse, a Master's degree from the Université de Strasbourg, and a Juris Doctor degree from the University of Pittsburgh Law School.

David G. Wagner has been employed by the Company since 2008, and has been the Vice President, Human Resources since 2011. Prior to his employment with the Company, Mr. Wagner was employed with Owens Corning

(NYSE:OC) from 1985 through 2008, serving in various human resource management positions, ultimately becoming the Vice President, Human Resources, for Owen Corning's global sales force. Mr. Wagner graduated with a B.S. degree in Human Resources Management from Juniata College in 1985. Mr. Wagner has announced his intention to retire from the Company, effective in 2019, as of a date to be determined.

#### Availability of Information

Our Internet address is [www.ii-vi.com](http://www.ii-vi.com). Information contained on our website is not part of, and should not be construed as being incorporated by reference into, this Annual Report on Form 10-K. We post the following reports on our website as soon as reasonably practical after they are electronically filed with or furnished to the Securities and Exchange Commission (the "SEC"): our Annual Reports on Form 10-K, our Quarterly Reports on Form 10-Q, our Current Reports on Form 8-K, and any amendments to those reports or statements filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act. In addition, we post our proxy statements on Schedule 14A related to our annual shareholders' meetings as well as reports filed by our directors, officers and 10% beneficial owners pursuant to Section 16 of the Exchange Act. In addition, all filings are available via the SEC's website ([www.sec.gov](http://www.sec.gov)). We also make our corporate governance documents available on our website, including the Company's Code of Business Conduct and Ethics, governance guidelines and the charters for our board committees. All such documents are located on the Investors page of our website and are available free of charge.



## Item 1A. RISK FACTORS

We caution our investors that our performance is subject to risks and uncertainties. The following material risk factors may cause our future results to differ materially from those projected in any forward-looking statement. You should carefully consider these factors, as well as the other information contained in this Annual Report on Form 10-K when evaluating an investment in our securities.

### Investments in Future Markets of Potential Significant Growth May Not Result in Expected Returns

We have initiated investment programs with the goal of gaining a greater share of end markets using semiconductor lasers and other components including those used for 3D sensing. We cannot guarantee that our investments in capital and capabilities will be sufficient. The potential end markets, as well as our ability to gain market share in such markets, may not materialize on the timeline anticipated or at all. We cannot be sure of the end market price, specification or yield for products incorporating our technologies. Our technologies could fail to fulfill, partially or completely our target customers' finalized specifications. We cannot guarantee the end market customers' acceptance of our technologies. Further, we may be unable to fulfill the terms of our contracts with our target customers, which could result in penalties of a material nature, including consequential damages, loss of market share and loss of reputation.

### Our Competitive Position Depends on Our Ability to Develop New Products and Processes

To meet our strategic objectives, we must develop, manufacture and market new products and continue to update our existing products and processes to keep pace with market developments to address increasingly sophisticated customer requirements. Our success in developing and selling new and enhanced products and processes depends upon a variety of factors including strategic product selection, efficient completion of product design and development, timely implementation of manufacturing and assembly processes, effective sales and marketing, high-quality and successful product performance in the market.

The introduction by our competitors of products or processes using new developments better or faster than ours could render our products or processes obsolete or unmarketable. We intend to continue to make significant investments in RD&E to achieve our goals. There can be no assurance that we will be able to develop and introduce new products or enhancements to our existing products and processes in a manner which satisfies customer needs or achieves market acceptance. The failure to do so could have a material adverse effect on our ability to grow our business and maintain our competitive position and on our results of operations and/or financial condition.

### Our Competitive Position May Still Require Significant Investments

We continuously monitor the marketplace for strategic opportunities, and our business strategy includes expanding our product lines and markets through both internal product development and acquisitions. Consequently, we expect to continue to consider strategic acquisition of businesses, products or technologies complementary to our business. This may require significant investments of management time and financial resources. If market demand is outside our organic capabilities, if a strategic acquisition is required and we cannot identify one or execute on it, and/or if financial investments that we undertake distract management, do not result in the expected return on investment, expose us to unforeseen liabilities or jeopardize our ability to comply with our credit facility covenants due to any inability to integrate the business, adjust to operating a larger and more complex organization, adapt to additional political and other requirements associated with the acquired business, retain staff, or work with the customers or otherwise we could suffer a material adverse effect on our business, results of operations or financial condition.

**Our Future Success Depends on Continued International Sales, and Our Global Operations are Complex, and Present Multiple Challenges to Manage**

Sales to customers in countries other than the United States accounted for approximately 68%, 69% and 63% of revenues during the years ended June 30, 2018, 2017 and 2016, respectively. We anticipate that international sales will continue to account for a significant portion of our revenues for the foreseeable future. If we do not maintain our current volume of international sales, we could suffer a material adverse effect on our business, results of operations and/or financial condition.

We manufacture products in the United States, China, Singapore, Vietnam, the Philippines, Germany, Switzerland, and the United Kingdom and through a contract manufacturer in Thailand. We also maintain direct sales offices in Hong Kong, Japan, Germany, China, Switzerland, Belgium, the United Kingdom, China, Italy, South Korea, and Taiwan. Our operations vary by location and are influenced on a location-by-location basis by local customs, languages and work practices, as well as different local weather conditions, management styles and education systems. In addition, multiple complex issues may arise concurrently in different countries, potentially hampering our management's ability to respond in an effective and timely manner. Any inability to respond in an effective and timely manner to issues in our global operations could have a material adverse effect on our business, results of operations or financial condition.

## Foreign Currency Risk May Negatively Affect our Revenues, Cost of Sales and Operating Margins and Could Result in Foreign Exchange Losses

We conduct our business and incur costs in the local currency of most countries in which we operate. Our net sales outside the United States represented a majority of our total sales in each of the last three fiscal years. We incur currency transaction risk whenever one of our operating subsidiaries enters into either a purchase or a sales transaction using a different currency from the currency in which it operates or holds assets or liabilities in a currency different than its functional currency. Changes in exchange rates can also affect our results of operations when the value of sales and expenses of foreign subsidiaries are translated to U.S. dollars. We cannot accurately predict the impact of future exchange rate fluctuations on our results of operations. Further, given the volatility of exchange rates, we may not be able to effectively manage our currency risks, and any volatility in currency exchange rates may increase the price of our products in local currency to our foreign customers or increase the manufacturing cost of our products, either of which may have an adverse effect on our financial condition, cash flows and profitability.

Any Inability to Access Financial Markets from Time to Time to Raise Required Capital, Finance Our Working Capital Requirements or Our Acquisition Strategies, or Otherwise to Support our Liquidity Needs Could Negatively Impact our Ability to Finance our Operations, Meet Certain Obligations or Implement our Growth Strategy

We occasionally borrow under our existing credit facilities to fund operations, including working capital investments, and to finance our acquisition strategies. In the past, market disruptions experienced in the United States and abroad have materially impacted liquidity in the credit and debt markets, making financing terms for borrowers less attractive, and, in certain cases, have resulted in the unavailability of certain types of financing. Uncertainty in the financial markets may negatively impact our ability to access additional financing or to refinance our existing credit facilities or existing debt arrangements on favorable terms or at all, which could negatively affect our ability to fund current and future expansion as well as future acquisitions and development. These disruptions may include turmoil in the financial services industry, volatility in the markets where our outstanding securities trade, and general economic downturns in the areas where we do business. If we are unable to access funds at competitive rates, or if our short-term or long-term borrowing costs increase, our ability to finance our operations, meet our short-term obligations and implement our operating strategies could be adversely affected.

In the future we may be required to raise additional capital through public or private financing or other arrangements. Such financing may not be available on acceptable terms, or at all, and our failure to raise capital when needed could harm our business and prospects. Additional equity financing may be dilutive to the holders of our common stock, and debt financing, if available, may involve restrictive covenants that may limit our ability to undertake certain operational activities that we otherwise would find to be desirable. Further, debt service obligations associated with any such debt financing could reduce our profitability. If we cannot raise funds on acceptable terms, we may not be able to grow our business or respond to competitive pressures.

We May Incur Substantially More Indebtedness

We and our subsidiaries may be able to incur substantial additional indebtedness in the future, including secured indebtedness, subject to the restrictions contained in our debt instruments. We are not restricted under the terms of the indenture governing our outstanding convertible senior notes from incurring additional indebtedness, securing existing or future indebtedness, recapitalizing our debt obligations or taking a number of other actions that are not limited by the terms of the indenture. Our credit facility currently restricts our ability to incur additional indebtedness, including secured indebtedness, but if our credit facility matures or is repaid, we may not be subject to such restrictions under the terms of any subsequent indebtedness.

#### We May Not Be Able to Settle Conversions of Our Convertible Senior Notes in Cash or to Repurchase the Notes in Accordance with Their Terms

Holders of our outstanding convertible senior notes have the right to require us to repurchase all or a portion of their notes upon the occurrence of a fundamental change (as defined in the indenture governing the notes) at a repurchase price equal to 100% of the principal amount of the notes to be repurchased, plus accrued and unpaid interest, if any. In addition, upon conversion of the notes, unless we elect to deliver solely shares of our common stock to settle such conversions (other than paying cash in lieu of delivering any fractional share), we will be required to make cash payments in respect of the notes being converted. However, we may not have enough available cash or be able to obtain financing at the time we are required to make repurchases of notes surrendered therefor or pay cash with respect to notes being converted.

In addition, our ability to repurchase or to pay cash upon conversion of the notes may be limited by law, regulatory authority or agreements governing our future indebtedness. Our failure to repurchase notes at a time when the repurchase is required by the governing indenture or to pay any cash upon conversion of the notes as required would constitute a default under the indenture. A default under the indenture or the fundamental change itself also could lead to a default under agreements governing our credit facility and any of our future indebtedness. If the payment of the related indebtedness were to be accelerated after any applicable notice or grace periods, we may not have sufficient funds to repay the indebtedness and repurchase the notes or to pay cash upon conversion of the notes.

### The Conditional Conversion Feature of Our Outstanding Convertible Senior Notes, if Triggered, May Adversely Affect Our Financial Condition and Operating Results

In the event the conditional conversion feature of the notes is triggered, holders of notes will be entitled to convert the notes at any time during specified periods at their option. If one or more holders elect to convert their notes, unless we elect to satisfy our conversion obligation by delivering solely shares of our common stock (other than paying cash in lieu of delivering any fractional share), we would be required to settle a portion or all of our conversion obligation through the payment of cash, which could adversely affect our liquidity.

### We May Fail to Accurately Estimate the Size and Growth of Our Markets and Our Customers' Demands

We make significant decisions based on our estimates of customer requirements. We use our estimates to determine the levels of business we seek and accept, production schedules, personnel needs and other resource requirements.

Customers may require rapid increases in production on short notice. We may not be able to purchase sufficient supplies or allocate sufficient manufacturing capacity to meet such increases in demand. Rapid customer ramp-up and significant increases in demand may strain our resources or negatively affect our margins. Inability to satisfy customer demand in a timely manner may harm our reputation, reduce our other opportunities, damage our relationships with customers, reduce revenue growth, and/or incur contractual penalties.

Alternatively, downturns in the industries in which we compete may cause our customers to significantly reduce their demand. With respect to orders we initiate with our suppliers to address anticipated demand from our customers, certain suppliers may have required non-cancelable purchase commitments or advance payments from us, and those obligations and commitments could reduce our ability to adjust our inventory or expense levels to declining market demands. Unexpected decline in customer demands can result in excess or obsolete inventory and result in additional charges. Because certain of our sales, research and development and internal manufacturing overhead expenses are relatively fixed, a reduction in customer demand likely would decrease our gross margins and operating income.

### We May Encounter Increased Competition

We may encounter substantial competition from other companies in the same market, including established companies with significant resources. Some of our competitors may have financial, technical, marketing or other capabilities that are more extensive than ours. They may be able to respond more quickly than we can to new or emerging technologies and other competitive pressures. We may not be able to compete successfully against our present or future competitors. Our failure to effectively compete could have a material adverse effect on our business, results of operations or financial condition.

### There Are Limitations on the Protection of Our Intellectual Property and We May From Time to Time be Involved in Costly Intellectual Property Litigation or Indemnification

We rely on a combination of trade secret, patent, copyright and trademark laws combined with employee confidentiality, noncompetition and nondisclosure agreements to protect our intellectual property rights. There can be no assurance that the steps taken by us will be adequate to prevent misappropriation of our technology or intellectual property. Furthermore, there can be no assurance that third-parties will not assert infringement claims against us in the future.

Asserting our intellectual property rights or defending against third-party claims could involve substantial expense. In the event a third-party were successful in a claim that one of our processes infringed its proprietary rights, we could be required to pay substantial damages or royalties, or spend substantial amounts in order to obtain a license or modify processes so that they no longer infringe such proprietary rights. Any such events could have a material adverse effect on our business, results of operations or financial condition.

#### A Significant Portion of Our Business is Dependent on Cyclical Industries

Our business is dependent on the demand for products produced by end-users of industrial lasers, optical communication products and components for 3D sensing. Many of these end-users are in industries that have historically experienced a highly cyclical demand for their products. As a result, demand for our products is subject to these cyclical fluctuations. Fluctuations in demand could have a material adverse effect on our business, results of operations or financial condition.

### Changes in Laws and Regulations Governing Data Privacy and Data Protection Could Have a Material Adverse Impact on our Business

We are subject to many data privacy, data protection, and data breach notification laws, including the European Union General Data Protection Regulation (“GDPR”), which became effective in May of 2018. While we have taken measures to assess the requirements of, and to comply with, the GDPR, as well as new and existing data-related laws and regulations of other jurisdictions, these measures may be challenged, including by authorities that regulate data-related compliance. We could incur significant expense in facilitating and responding to investigations, and if the measures we have taken prove to be inadequate, we could face fines, penalties or damages, and incur reputational harm, which could have a material adverse impact on our business.

### Data Breach Incidents and Breakdown of Information and Communication Technologies Could Disrupt our Operations and Impact Our Financial Results

In the course of our business, we collect and store sensitive data, including intellectual property (both our own and that of our customers), as well as proprietary business information. We could be subject to service outages or breaches of security systems which may result in disruption, unauthorized access, misappropriation, or corruption of this information. Security breaches of our network or data, including physical or electronic break-ins, vendor service outages, computer viruses, attacks by hackers or similar breaches can create system disruptions, shutdowns, or unauthorized disclosure of confidential information. Although we have not experienced an incident, if we are unable to prevent such security or privacy breaches, our operations would be disrupted or we could suffer legal claims, loss of reputation, financial loss, property damage, or regulatory penalties because of lost or misappropriated information.

### Global Economic Downturns May Adversely Affect Our Business, Operating Results and Financial Condition

Current and future conditions in the global economy have an inherent degree of uncertainty. As a result, it is difficult to estimate the level of growth or contraction for the global economy as a whole. It is even more difficult to estimate growth or contraction in various parts, sectors and regions of the economy, including industrial, military, optical communications, telecommunications, semiconductor, and medical and life science markets in which we participate. All aspects of our company forecast depend on estimates of growth or contraction in the markets we serve. Thus, prevailing global economic uncertainties render estimates of future income and expenditures very difficult to make.

Global economic downturns may affect industries in which our customers operate. These changes could include decreases in the rate of consumption or use of our customers’ products. Such conditions could have a material adverse effect on demand for our customers’ products, and in turn, on demand for our products.

Adverse changes may occur in the future as a result of declining or flat global or regional economic conditions, fluctuations in currency and commodity prices, wavering confidence, capital expenditure reductions, unemployment, decline in stock markets, contraction of credit availability or other factors affecting economic conditions. For example, factors that may affect our operating results include disruption in the credit and financial markets in the United States, Europe and elsewhere, adverse effects of slowdowns in the European and Chinese economies, slowdown in the Chinese economy, reductions or limited growth in consumer spending or consumer credit, global trade tariffs and other adverse economic conditions that may be specific to the Internet, e-commerce and payments industries.

These changes may negatively affect sales of products and increase exposure to losses from bad debt and commodity prices, the cost and availability of financing, and costs associated with manufacturing and distributing products. Any economic downturn could have a material adverse effect on our business, results of operations or financial condition.

### We Are Subject to Complex and Rapidly Changing Governmental Import and Export Regulations

We are subject to the passage of and changes in the interpretation of regulation by U.S. government entities at the federal, state and local levels and non-U.S. agencies, including, but not limited to, the following:

• We are required to comply with import laws and export control and economic sanctions laws, which may affect our transactions with certain customers, business partners and other persons, including dealings with or between our employees and subsidiaries. In certain circumstances, export control and economic sanctions regulations may prohibit the export of certain products, services and technologies. We may be required to obtain an export license before exporting a controlled item. Compliance with the import laws that apply to our businesses may restrict our access to, and may increase the cost of obtaining, certain products and could interrupt our supply of imported inventory.

• Exported technologies necessary to develop and manufacture certain products are subject to U.S. export control laws and similar laws of other jurisdictions. We may be subject to adverse regulatory consequences, including government oversight of facilities and export transactions, monetary penalties and other sanctions for violations of these laws. In certain instances, these regulations may prohibit the Company from developing or manufacturing certain of its products for specific end applications outside the United States.

21

---



Failure to comply with any of these laws and regulations could result in civil and criminal, monetary and non-monetary penalties, disruptions to our business, limitations on our ability to import and export products and services and damage to our reputation.

#### Changes in U.S. Trade Policies Could Impact the Company's International Operations and the Cost of Imported Goods into the U.S., Which May Narrow the Size of Our Markets, Materially Impact Our Revenues or Increase Our Operating Costs and Expose Us to Contract Litigation

On March 23, 2018, President Trump announced new steel and aluminum tariffs, and on April 15, 2018, the U.S. Department of Commerce issued a denial order against two companies in the telecommunications market. Other international trade actions and initiatives also have been announced, notably the imposition by the U.S. of additional tariffs on products of Chinese origin, and China's imposition of additional tariffs on U.S.-origin goods. If we cannot obtain relief from, or if we cannot take other action to mitigate the impact of, these additional duties, our business and profits may be materially and adversely affected. Further changes in U.S. trade policy, or additional sanctions, could result in retaliatory actions by other countries that could materially and negatively impact the volume of economic activity in the U.S., which, in turn, may decrease our access to customers and markets, reduce our revenues, and increase our operating costs.

#### We Have Entered into Supply Agreements which Commit Us to Supply Products on Specified Terms

We have supply agreements with some customers which require us to supply products and to allocate sufficient capacity to make these products. We have also agreed to pricing schedules and methodologies which could result in penalties if we fail to meet development, supply, capacity and quality commitments. Failure to do so may cause us to be unable to generate the amount of revenue or the level of profitability we expect from these arrangements. Our ability to realize a profit under some of these agreements will be subject to the level of customer demand, the cost of maintaining facilities and manufacturing capacity, and supply chain capability.

If we fail to fulfill our commitments under these supply agreements, our business, after using all remedies available, financial conditions and results of operations may suffer a material adverse effect.

#### We Depend on Highly Complex Manufacturing Processes That Require Feeder Materials, Components and Products from Limited Sources of Supply

Our operations are dependent upon a supply chain of difficult-to-make or difficult-to-refine products and materials. Some of our product inflow is subject to yield reductions from growth or fabrication losses, and thus the quantities we may receive are not consistently predictable. Customers may also change the specification for a product that our suppliers cannot meet.

We also make products for which the Company is one of the world's largest suppliers. We use high-quality, optical grade ZnSe in the production of many of our IR optical products. We are a leading producer of ZnSe for our internal use and for external sale. The production of ZnSe is a complex process requiring a highly controlled environment. A number of factors, including defective or contaminated materials, could adversely affect our ability to achieve acceptable manufacturing yields of high quality ZnSe. Lack of adequate availability of high quality ZnSe could have a material adverse effect upon our business. There can be no assurance that we will not experience manufacturing yield inefficiencies which could have a material adverse effect on our business, results of operations or financial condition.

We produce hydrogen selenide gas which is used in our production of ZnSe. There are risks inherent in the production and handling of such material. Our lack of proper handling of hydrogen selenide could require us to curtail our production of hydrogen selenide. Our potential inability to internally produce hydrogen selenide could have a material

adverse effect on our business, results of operations or financial condition.

In addition, we produce and use other high purity and relatively uncommon materials and compounds to manufacture our products including, but not limited to, ZnS, GaAs, Yttrium Aluminum Garnet, Yttrium Lithium Fluoride, Calcium Fluoride, Germanium, Selenium, Telluride, Bismuth Telluride and SiC. A significant failure of our internal production processes or our suppliers to deliver sufficient quantities of these necessary materials on a timely basis could have a material adverse effect on our business, results of operations or financial condition.

#### Our Global Operations Are Subject to Complex Legal and Regulatory Requirements

We manufacture products in the United States, China, Singapore, Vietnam, the Philippines, Germany, Switzerland, and the United Kingdom and through a contract manufacturer in Thailand. We also maintain direct sales offices in Hong Kong, Japan, Germany, China, Switzerland, Belgium, the United Kingdom, Italy, South Korea and Taiwan. Operations outside of the United States are subject to many legal and regulatory requirements, some of which are not aligned with others. These include tariffs, quotas, taxes and other market barriers, restrictions on the export or import of technology, potentially limited intellectual property protection, customs

import and export requirements, anti-corruption and anti-bribery laws, foreign exchange controls and cash repatriation restrictions, foreign investment rules and regulations, data privacy requirements, anti-competition laws, employment and labor laws, pensions and social insurance, and environmental health, and safety laws and regulations.

Compliance with these laws and regulations can be onerous and expensive, and requirements differ among jurisdictions. New laws, changes in existing laws and abrogation of local regulations by national laws result in significant uncertainties in how they will be interpreted and enforced. Failure to comply with any of these foreign laws and regulations could have a material adverse effect on our business, results of operations or financial condition.

#### We Use and Generate Potentially Hazardous Substances that Are Subject to Stringent Environmental Regulations

Hazardous substances used or generated in some of our research and manufacturing facilities are subject to stringent environmental regulation. We believe that our handling of such substances is in material compliance with applicable local, state and federal environmental, safety and health regulations at each operating location. We invest substantially in proper personal protective equipment, process controls including monitoring and specialized training to minimize risks to employees, surrounding communities and the environment that could result from the presence and handling of such hazardous substances. When exposure problems or potential exposure problems have been uncovered, corrective actions have been implemented and re-occurrence has been minimal or non-existent.

We have in place an emergency response plan with respect to our generation and use of the hazardous substances Hydrogen Selenide, Hydrogen Sulfide, Arsine and Phosphine. Special attention has been given to all procedures pertaining to this gaseous material to minimize the chances of its accidental release into the atmosphere.

With respect to the manufacturing, use, storage and disposal of the low-level radioactive material Thorium Fluoride, our facilities and procedures have been inspected and licensed by the Nuclear Regulatory Commission. Thorium-bearing by-products are collected and shipped as solid waste to a government-approved low-level radioactive waste disposal site in Clive, Utah.

The generation, use, collection, storage and disposal of all other hazardous by-products, such as suspended solids containing heavy metals or airborne particulates, are believed by us to be in material compliance with regulations. We believe that we have obtained all of the permits and licenses required for operation of our business.

We do not carry environmental impairment insurance. Although we do not know of any material environmental, safety or health problems in our properties or processes or products, there can be no assurance that problems will not develop in the future which could have a material adverse effect on our business, results of operations or financial condition.

#### We May Be Adversely Affected by Climate Change Regulations

In many of the countries in which we operate, government bodies are increasingly enacting legislation and regulations in response to potential impacts of climate change. These laws and regulations may be mandatory. They have the potential to impact our operations directly or indirectly as a result of required compliance by our customers or our supply chain. Inconsistency of regulations may also affect the costs of compliance with such laws and regulations. Assessments of the potential impact of future climate change legislation, regulation and international treaties and accords are uncertain, given the wide scope of potential regulatory change in countries in which we operate.

We may incur increased capital expenditures resulting from required compliance with revised or new legislation or regulations, added costs to purchase or lower profits from sales of our products, allowances or credits under a “cap and trade” system, increased insurance premiums and deductibles as new actuarial tables are developed to reshape

coverage, a change in competitive position relative to industry peers, and changes to profit or loss arising from increased or decreased demand for goods produced by us and indirectly, from changes in costs of goods sold.

**Some Systems That Use our Products Are Complex in Design, and Our Products May Contain Defects that Are Not Detected Until Deployed Which Could Increase Our Costs, Reduce Our Revenues, Cause Us to Lose Key Customers and May Expose Us to Litigation Arising From Derivative Lawsuits Related to Consumer Products**

Some systems that use our products are inherently complex in design and require ongoing maintenance. Our customers may discover defects in our products after the products have been fully deployed and operated under peak stress conditions. In addition, some of our products are combined with products from other vendors which may contain defects. Should problems occur, it may be difficult to identify the source of the problem. If we are unable to correct defects or other problems, we could experience, among other things loss of customers, increased costs of product returns and warranty expenses, damage to our brand reputation, failure to attract new customers or achieve market acceptance, diversion of development and engineering resources, or legal action by our customers.

The occurrence of any one or more of the foregoing factors could have a material adverse effect on our business, results of operations or financial condition.

#### Unfavorable Changes in Tax Rates, Tax Liabilities or Tax Accounting Rules Could Negatively Affect Future Results

As a global company, we are subject to taxation in the United States and various other countries and jurisdictions. As such, we must exercise a level of judgment in determining our worldwide tax liabilities. Our future tax rates could be affected by changes in the composition of earnings in countries with differing tax rates or changes in tax laws. Changes in tax laws or tax rulings may have a significantly adverse impact on our effective tax rate. For example, proposals for fundamental U.S. international tax reform, if enacted, could have a significant adverse impact on our effective tax rate.

The enactment of the Tax Cuts and Jobs Act (the “Act”) in December 2017 significantly affected U.S. tax law by changing how the U.S. imposes tax on multinational corporations. The U.S. Department of Treasury has broad authority under the Act to issue regulations and interpretive guidance. We have applied available guidance to estimate our tax obligations, but new guidance issued by the U.S. Treasury Department may cause us to make adjustments to our tax estimates in future periods. The Securities and Exchange Commission has issued Staff Accounting Bulletin No. 118 (“SAB 118”) acknowledging that companies will potentially encounter situations for which the analysis of certain income tax effects of the Act will be incomplete by the time financial statements are required to be issued for reporting periods that include the enactment date. In these situations, SAB 118 provides that reasonable estimates may be made for certain effects of the Act. We have recorded provisional amounts using reasonable estimates based on the guidance in SAB 118 and we anticipate adjustments to such estimates as additional analysis is completed and new regulations and guidance are issued.

In addition, we are subject to regular examination of our income tax returns by the Internal Revenue Service and other tax authorities. We regularly assess the likelihood of favorable or unfavorable outcomes resulting from these examinations to determine the adequacy of our provision for income taxes. Although we believe our tax estimates are reasonable, there can be no assurance that any final determination will not be materially different than the treatment reflected in our historical income tax provision and accruals, which could materially and adversely affect our business, results of operation or financial condition.

#### Increases in Commodity Prices May Adversely Affect Our Results of Operations and Financial Condition

We are exposed to a variety of market risks, including the effects of increases in commodity prices. Our businesses purchase, produce and sell high-purity selenium and other raw materials based upon quoted market prices from minor metal exchanges. The negative impact from increases in commodity prices may not be recovered through our product sales which could have a material adverse effect on our net earnings and financial condition.

#### Natural Disasters or Other Global or Regional Catastrophic Events Could Disrupt Our Operations, Give Rise to Substantial Environmental Hazards and Adversely Affect Our Results

We may be exposed to business interruptions due to catastrophe, natural disaster, pandemic, terrorism or acts of war that are beyond our control. Disruptions to our facilities or systems, or to those of our key suppliers, could also interrupt operational processes and adversely impact our ability to manufacture our products and provide services and support to our customers. As a result, our business, results of operations or financial condition could be materially adversely affected.

#### Our Success Depends on Our Ability to Attract, Retain and Develop Key Personnel and Requires Continued Good Relations With Our Employees

We are highly dependent upon the experience and continuing services of certain scientists, engineers, production and management personnel. Competition for the services of these personnel is intense. There can be no assurance that we will be able to retain or attract the personnel necessary for our success. The loss of the services of our key personnel could have a material adverse effect on our business, results of operations or financial condition.

#### Our Stock Price Has Been Volatile in the Past and May Be Volatile in the Future

The market price for our common stock on The Nasdaq Global Select Market varied between a high of \$53.08 and a low of \$34.00 in the fiscal year ended June 30, 2018. We expect that this volatility will continue. Factors that could cause fluctuation in our stock price include, among other things, general economic and market conditions, actual or anticipated variations in operating results, changes in financial estimates by securities analysts, our inability to meet or exceed securities analysts' estimates or expectations, conditions or trends in the industries in which our products are purchased, announcements by us or our competitors of significant acquisitions, strategic partnerships, divestitures, joint ventures or other strategic initiatives, capital commitments, additions or departures of key personnel, sales of our common stock or equity-linked securities and issuance of shares of our common stock in connection with conversions of our outstanding convertible senior notes.

Many of these factors are beyond our control. However, these factors could cause the market price of our common stock to decline, regardless of our actual operating performance. In addition, in recent years, the stock market in general, and The Nasdaq Stock Market and the securities of technology companies in particular, have experienced extreme price and volume fluctuations. These fluctuations have often been unrelated or disproportionate to the operating performance of individual companies. These broad market fluctuations have in the past, and may in the future, materially and adversely affect our stock price, regardless of our operating results. This volatility may affect the price at which our shareholders can sell our common stock.

#### Some Anti-takeover Provisions Contained in Our Articles of Incorporation and By-laws, as Well as Provisions of Pennsylvania Law, Could Impair a Takeover Attempt, Which Could Also Reduce the Market Price of Our Common Stock

Our articles of incorporation and by-laws contain provisions that could make us a less attractive target for a hostile takeover and could make more difficult or discourage a merger proposal, a tender offer or a proxy contest. Such provisions include:

- A requirement that shareholder-nominated director nominees be nominated in advance of the meeting at which directors are elected and that specific information be provided in connection with such nomination;
- The ability of our board of directors to issue additional shares of common stock or preferred stock without shareholder approval; and
- Certain provisions requiring supermajority approval (at least two-thirds of the votes cast by all shareholders entitled to vote thereon, voting together as a single class).

In addition, the Pennsylvania Business Corporation Law (the “BCL”) contains provisions that may have the effect of delaying or preventing a change in control of us or changes in our management. Many of these provisions are triggered if any person or group acquires, or discloses intent to acquire, 20% or more of a corporation’s voting power, subject to certain exceptions. These provisions:

- provide the other shareholders of the corporation with certain rights against the acquiring group or person;
- prohibit the corporation from engaging in a broad range of business combinations with the acquiring group or person;
- restrict the voting and other rights of the acquiring group or person; and
- provide that certain profits realized by the acquiring group or person from the sale of our equity securities belong to and are recoverable by us.

Regardless of the amount of a person’s holdings, if a shareholder or shareholder group (including affiliated persons) would be a party to certain proposed transactions with us or would be treated differently from other shareholders of ours in certain proposed transactions, the BCL requires approval by a majority of votes entitled to be cast by all shareholders other than the interested shareholder or affiliate group, unless the transaction is approved by independent directors or other criteria are satisfied. Furthermore, under the BCL, a “short-form” merger of II-VI cannot be implemented without the consent of our board of directors.

In addition, as permitted by Pennsylvania law, an amendment to our articles of incorporation or other corporate action that is approved by shareholders may provide mandatory special treatment for specified groups of non-consenting shareholders of the same class. For example, an amendment to our articles of incorporation or other corporate action may provide that shares of common stock held by designated shareholders of record must be cashed out at a price determined by the corporation, subject to applicable dissenters’ rights.

Furthermore, the BCL provides that directors may, in discharging their duties, consider, to the extent they deem appropriate, the effects of any action upon shareholders, employees, suppliers, customers and the communities in which its offices are located. Directors are not required to consider the interests of shareholders to a greater degree than other constituencies’ interests. The BCL expressly provides that directors do not violate their fiduciary duties

solely by relying on “poison pills” or the anti-takeover provisions of the BCL. We do not currently have a “poison pill.”

All of these provisions may limit the price that investors may be willing to pay for shares of our common stock.

**Because We Do Not Currently Intend to Pay Dividends, Holders of Our Common Stock Will Benefit from an Investment in Our Common Stock Only If It Appreciates in Value, and by the Intended Anti-Dilution Actions of Our Share-Buyback Program**

We have never declared or paid any dividends on our common stock, and do not expect to pay cash dividends in the foreseeable future. We currently anticipate that we will retain any future earnings to support operations and to finance the development of our business. As a result, the success of an investment in our common stock will depend entirely upon future appreciation in its value. There is no guarantee that our common stock will maintain its value or appreciate in value.

25

---



## Item 1B. UNRESOLVED STAFF COMMENTS

None.

## Item 2. PROPERTIES

Information regarding our principal U.S. properties at June 30, 2018 is set forth below:

Location	Primary Use(s)	Primary Business Segment(s)	Approximate Square Footage	Ownership
Saxonburg, PA	Manufacturing and Research and Development	II-VI Laser Solutions and II-VI Performance Products	230,000	Owned and Leased
Warren, NJ	Manufacturing and Research and Development	II-VI Laser Solutions	159,000	Leased
Murrieta, CA	Manufacturing and Research and Development	II-VI Performance Products	111,000	Leased
Newark, DE	Manufacturing and Research and Development	II-VI Performance Products	163,000	Leased
Champaign, IL	Manufacturing and Research and Development	II-VI Laser Solutions	69,000	Leased
Dallas, TX	Manufacturing and Research and Development	II-VI Performance Products	68,000	Owned and Leased
Warrendale, PA	Corporate Administrative Offices	N/A	63,000	Leased
Pine Brook, NJ	Manufacturing and Research and Development	II-VI Performance Products	54,000	Leased
Monroe, CT	Manufacturing and Research and Development	II-VI Performance Products	48,000	Leased
Easton, PA	Manufacturing and Research and Development	II-VI Laser Solutions and II-VI Performance Products	48,000	Leased
Santa Rosa, CA	Manufacturing and Research and Development	II-VI Photonics	39,000	Leased
Starkville, MS	Manufacturing	II-VI Performance Products	32,000	Leased
Tustin, CA	Manufacturing and Research and Development	II-VI Performance Products	31,000	Leased
Philadelphia, PA	Manufacturing and Research and Development	II-VI Performance Products	30,000	Leased
Hillsborough, NJ	Manufacturing and Research and Development	II-VI Photonics	23,000	Leased

We also maintain some additional small research and development, distribution, and administrative facilities in leased space in the United States.

Information regarding our principal foreign properties at June 30, 2018 is set forth below:

Location	Primary Use(s)	Primary Business Segment(s)	Approximate Square Footage	Ownership
China	Manufacturing, Research and Development, and Distribution	II-VI Laser Solutions, II-VI Photonics and II-VI Performance Products	1,556,000	Leased
United Kingdom	Manufacturing, Research and Development	II-VI Laser Solutions and II-VI Photonics	319,000	Owned and Leased
Philippines	Manufacturing	II-VI Laser Solutions and II-VI Performance Products	314,000	Leased
Vietnam	Manufacturing	II-VI Photonics and II-VI Performance Products	176,000	Owned and Leased
Switzerland	Manufacturing, Research and Development, and Distribution	II-VI Laser Solutions	117,000	Leased
Germany	Manufacturing and Distribution	II-VI Laser Solutions, II-VI Photonics and II-VI Performance Products	81,000	Owned and Leased
Singapore	Manufacturing	II-VI Laser Solutions and II-VI Performance Products	38,000	Leased

We also maintain some additional small distribution facilities in leased space in Belgium, Italy, Japan, South Korea, Taiwan, and the United Kingdom.

The square footage listed for each of the above properties represents facility square footage, except in the case of the Philippines location, which includes land.

### Item 3. LEGAL PROCEEDINGS

The Company and its subsidiaries are involved in various claims and lawsuits incidental to its business. The resolution of each of these matters is subject to various uncertainties, and it is possible that these matters may be resolved unfavorably to the Company. Management believes, after consulting with legal counsel, that the ultimate liabilities, if any, resulting from such legal proceedings will not materially affect the Company's financial condition, liquidity or results of operations.

### Item 4. MINE SAFETY DISCLOSURES

Not applicable.

## PART II

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

The Company's common stock is traded on the Nasdaq Global Select Market ("Nasdaq") under the symbol "IIVI." The following table sets forth the range of high and low trading prices per share of the Company's common stock for the fiscal periods indicated, as reported by Nasdaq.

	High	Low
Fiscal 2018		
First Quarter	\$41.43	\$34.00
Second Quarter	\$52.55	\$39.60
Third Quarter	\$53.08	\$36.60
Fourth Quarter	\$49.30	\$38.05

	High	Low
Fiscal 2017		
First Quarter	\$24.46	\$17.76
Second Quarter	\$32.45	\$23.80
Third Quarter	\$41.10	\$29.10
Fourth Quarter	\$36.35	\$27.25

On August 22, 2018, the last reported sale price for the Company's common stock was \$47.15 per share. As of such date, there were approximately 806 holders of record of our common stock. The Company historically has not paid cash dividends and does not presently anticipate paying cash dividends in the future.

## ISSUER PURCHASES OF EQUITY SECURITIES

In August 2017, in conjunction with the Company's offering and sale of our outstanding convertible notes, the Company's Board of Directors authorized the Company to purchase up to \$50 million of its common stock with a portion of the net proceeds received from the offering and sale of the Notes. The shares that were purchased by the Company pursuant to this authorization were retained as treasury stock and are available for general corporate purposes. The Company purchased 1,414,900 shares of its common stock for approximately \$49.9 million pursuant to this authorization.

In August 2014, the Company's Board of Directors authorized the Company to purchase up to \$50 million of its common stock through a share repurchase program (the "Program") that calls for shares to be purchased in the open market or in private transactions from time to time. The Program has no expiration and may be suspended or discontinued at any time. Shares purchased by the Company are retained as treasury stock and are available for general corporate purposes. As of June 30, 2018, the Company has cumulatively purchased 1,316,587 shares of its common stock pursuant to the Program for approximately \$19.0 million. The dollar value of shares as of June 30, 2018 that may yet be purchased under the Program is approximately \$31.0 million.

The following table provides information with respect to purchases of the Company's equity securities during the quarter ended June 30, 2018.

Period	Total Number of Shares Purchased	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Programs (a)	Dollar Value of Shares That May Yet be Purchased Under the Program
April 1, 2018 to April 30, 2018	516	(1) \$ 40.40	-	\$ 30,906,904
May 1, 2018 to May 31, 2018	860	(2) \$ 44.61	-	\$ 30,906,904
June 1, 2018 to June 30, 2018	52,947	(3) \$ 46.55	-	\$ 30,906,904

(1) Includes 516 shares of our common stock transferred to the Company from employees in satisfaction of minimum tax withholding obligations associated with the vesting of restricted share awards.

(2) Includes 860 shares of our common stock transferred to the Company from employees in satisfaction of minimum tax withholding obligations associated with the vesting of restricted share awards.

(3) Includes 52,947 shares of our common stock transferred to the Company from employees in satisfaction of minimum tax withholding obligations associated with the vesting of restricted share awards.

The information incorporated by reference in Item 12 of this Annual Report on Form 10-K, from our 2018 Proxy Statement under the heading “Equity Compensation Plan Information,” is hereby also incorporated by reference into this Item 5.

#### PERFORMANCE GRAPH

The following graph compares cumulative total shareholder return on the Company’s common stock with the cumulative total shareholder return of the Nasdaq Composite Index and with a peer group of companies constructed by the Company for the period from June 30, 2013, through June 30, 2018. The Company’s current fiscal year peer group includes Cabot Microelectronics Corporation, Franklin Electric Co., Inc., MKS Instruments, Inc., Silicon Laboratories, Lumentum Holdings Inc., Finisar Corp, Coherent, Inc. and Corning Inc.

## Item 6. SELECTED FINANCIAL DATA

## Five-Year Financial Summary

The following selected financial data for the five fiscal years presented are derived from the Company's audited Consolidated Financial Statements. The data should be read in conjunction with the Consolidated Financial Statements and the related notes thereto included elsewhere in this Annual Report on Form 10-K.

Year Ended June 30, (\$000 except per share data)	2018	2017	2016	2015	2014
<b>Statement of Earnings</b>					
Net revenues from continuing operations	\$ 1,158,794	\$ 972,046	\$ 827,216	\$ 741,961	\$ 683,261
Earnings from continuing operations	88,002	95,274	65,486	65,975	38,316
Earnings from discontinued operation	-	-	-	-	133
Net earnings	88,002	95,274	65,486	65,975	38,449
<b>Basic earnings per shares:</b>					
Continuing operations	1.41	1.52	1.07	1.08	0.62
Discontinued operation	-	-	-	-	-
Consolidated	1.41	1.52	1.07	1.08	0.62
<b>Diluted earnings per shares:</b>					
Continuing operations	1.35	1.48	1.04	1.05	0.60
Discontinued operation	-	-	-	-	-
Consolidated	1.35	1.48	1.04	1.05	0.60
Diluted weighted average shares outstanding	65,133	64,507	62,909	62,586	63,686

June 30, (\$000)	2018	2017	2016	2015	2014
<b>Balance Sheet</b>					
Working capital	\$ 525,370	\$ 517,344	\$ 411,721	\$ 373,812	\$ 370,666
Total assets	1,761,661	1,477,297	1,211,981	1,057,273	1,070,753
Long-term debt	419,013	322,022	215,307	155,066	220,787
Total debt	439,013	342,022	235,307	175,066	240,787
Retained earnings	836,064	748,062	652,788	587,302	521,327
Shareholders' equity	1,024,311	900,563	782,338	729,081	675,043

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

### Forward-Looking Statements

Certain statements contained in this Management's Discussion and Analysis of Financial Condition and Results of Operations are forward-looking statements. Forward-looking statements are also identified by words such as "expects," "anticipates," "believes," "intends," "plans," "projects" or similar expressions. Actual results could differ materially from those anticipated in these forward-looking statements for many reasons, including those potential risks set forth in Item 1A, of this Annual Report on Form 10-K, which are incorporated herein by reference.

### Overview

II-VI Incorporated ("II-VI," the "Company," "we," "us" or "our"), a worldwide leader in engineered materials and optoelectronic components, is a vertically integrated manufacturing company that develops innovative products for diversified applications in the industrial materials processing, optical communications, military, consumer electronics, semiconductor equipment, life science and automotive applications. The Company produces a wide variety of application-specific photonic and electronic materials and components, and deploys them in various forms, including integration with advanced software.

The Company generates revenues, earnings and cash flows from developing, manufacturing and marketing engineered materials and optoelectronic components and devices for precision use in industrial materials processing, optical communications, consumer electronics, semiconductor equipment, life sciences and automotive applications. We also generate revenue, earnings and cash flows from government funded research and development contracts relating to the development and manufacture of new technologies, materials and products.

Our customer base includes OEMs, laser end-users, system integrators of high-power lasers, manufacturers of equipment and devices for the industrial, optical communications, military, semiconductor, medical and life science markets, consumer, U.S. government prime contractors, various U.S. Government agencies and thermoelectric integrators.

As we grow, we are focused on scaling our Company and deriving the benefits of vertical integration as we strive to be a best in class competitor in all of our highly competitive markets. The Company may elect to change the way in which the Company operates or is organized in the future to enable the most efficient implementation of its strategy.

### Critical Accounting Estimates

The preparation of financial statements and related disclosures in conformity with accounting principles generally accepted in the United States ("U.S. GAAP") and the Company's discussion and analysis of its financial condition and results of operations requires the Company's management to make judgments, assumptions and estimates that affect the amounts reported in its Consolidated Financial Statements and accompanying notes. Note 1 of the Notes to our Consolidated Financial Statements contained in Item 8 of this Annual Report on Form 10-K describes the significant accounting policies and accounting methods used in the preparation of the Company's Consolidated Financial Statements. Management bases its estimates on historical experience and on various other assumptions that it believes to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities. Actual results may differ from these estimates.

Management believes the Company's critical accounting estimates are those related to revenue recognition, inventory valuation, business combinations, impairment of goodwill and indefinite-lived intangible assets, accrual of income taxes and accounting for share-based compensation. Management believes these estimates to be critical because they

are both important to the portrayal of the Company's financial condition and results of operations, and they require management to make judgments and estimates about matters that are inherently uncertain.

Management has discussed the development and selection of these critical accounting estimates with the Audit Committee of the Board of Directors and the Audit Committee has reviewed the related disclosure. In addition, there are other items within our consolidated financial statements that require estimation, but are not deemed critical as described above. Changes in estimates used in these and other items could have a material impact on the consolidated financial statements.

#### Revenue Recognition

Revenues for product shipments are realizable when we have persuasive evidence of a sales arrangement, the product has been shipped or delivered, the sales price is fixed or determinable and collectability is reasonably assured. Title and risk of loss passes from the Company to its customer at the time of shipment in most cases, with the exception of certain customers for whom customer's title does not pass and revenue is not recognized until the customer has received the product at its physical location.



The Company's revenue recognition policy is consistently applied across the Company's segments, product lines and geographical locations. Further, for the periods covered herein, we did not have post shipment obligations such as training or installation, customer acceptance provisions, credits and discounts, rebates and price protection or other similar privileges. Our distributors and agents are not granted price protection. Our distributors and agents, who generate less than 10% of consolidated revenue, have no additional product return rights beyond the right to return defective products covered by our warranty policy. We believe that our revenue recognition practices are consistent with Staff Accounting Bulletin 104 and that we have adequately considered the requirements of Accounting Standards Codification 605 Revenue Recognition. Revenues generated from transactions other than product shipments are contract-related and have historically accounted for approximately 1% of the Company's consolidated revenues.

#### Inventory

The Company generally records an inventory adjustment as a charge against earnings for all products on hand for more than 12 to 24 months, depending on the products that have not been sold to customers or cannot be further manufactured for sale to alternative customers. An additional charge may be recorded for products on hand that are in excess of product sold to customers over the same periods noted above. If actual market conditions are less favorable than projected, additional inventory adjustments may be required. The Company's inventory adjustments have historically been proven to be materially correct based upon actual write-offs incurred.

#### Business Acquisitions

The Company accounts for business acquisitions by establishing the acquisition-date fair value as the measurement for all assets acquired and liabilities assumed. Certain provisions of U.S. GAAP prescribe, among other things, the determination of acquisition-date fair value of consideration paid in a business combination (including contingent consideration) and the exclusion of transaction and acquisition-related restructuring costs from acquisition accounting.

#### Goodwill and Indefinite-Lived Intangibles

The Company tests goodwill and indefinite-lived intangible assets for impairment annually, and when events or changes in circumstances indicate that goodwill or indefinite-lived intangible assets might be impaired. Other intangible assets are amortized over their estimated useful lives. The determination of the estimated useful lives of other intangible assets and whether goodwill or indefinite-lived intangibles are impaired requires us to make judgments based on long-term projections of future performance. Estimates of fair value are based on our projection of revenues, operating costs and cash flows of each reporting unit, considering historical and anticipated results and general economic and market conditions and their projections. The fair values of the reporting units are determined using a discounted cash flow analysis based on historical and projected financial information as well as market analysis. The annual goodwill impairment analysis considers the financial projections of the reporting unit based on our most recently completed long-term strategic planning processes and also considers the current financial performance compared to our prior projections of the reporting unit. Changes in our internal structuring, financial performance, judgments and projections could result in an impairment of goodwill or indefinite-lived intangible assets. As of June 30, 2018, no reporting units are at risk for impairment, as the fair value of the reporting units substantially exceeds the carrying values.

The Company has the option to perform a qualitative assessment of goodwill prior to completing the quantitative assessment described above, to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount, including goodwill and other intangible assets. If the Company concludes that this is the case, it must perform the quantitative assessment. Otherwise, the Company will forego the quantitative assessment process and does not need to perform any further testing. The Company did not use the optional qualitative assessment during the years ended June 30, 2018 and 2017.

As a result of the purchase price allocations from our acquisitions, and due to our decentralized structure, our goodwill is included in multiple reporting units which are the same as the Company's operating segments. Due to the cyclical nature of our business, and the other factors described in the section on Risk Factors set forth in Item 1A of this Annual Report on Form 10-K, the profitability of our individual reporting units may periodically be affected by downturns in customer demand, operational challenges and other factors. These factors may have a relatively more pronounced impact on the individual reporting units as compared to the Company as a whole, and might adversely affect the fair value of the individual reporting units. If material adverse conditions occur that impact one or more of our reporting units, our determination of future fair value might not support the carrying amount of one or more of our reporting units, and the related goodwill would need to be impaired. Based upon our annual quantitative goodwill and indefinite-lived intangible assets impairment tests, the Company did not record any impairments of goodwill or indefinite-lived intangible assets for the fiscal year ended June 30, 2018.

### 0.25% Convertible Senior Notes

Our 0.25% convertible senior notes are accounted for in accordance with ASC 470, Accounting for Convertible Debt Instruments That May be Settled in Cash upon Conversion (Including Partial Cash Settlement). ASC Subtopic 470-20 requires the issuer of convertible debt that may be settled in shares or cash upon conversion at the issuer's option, such as these notes, to account for the liability (debt) and equity (conversion option) components separately. The value assigned to the debt component is the estimated fair value as of the issuance date of a similar debt instrument without the conversion option. The amount of the equity component is calculated by deducting the fair value of the liability component from the principal amount of the convertible debt instrument. The resulting debt discount is amortized as additional non-cash interest expense over the expected life of the notes utilizing the effective interest method. Although ASC 470 has no impact on our actual past or future cash flows, it requires us to record non-cash interest expense as the debt discount is amortized.

### Income Taxes

The Company prepares and files tax returns based on its interpretation of tax laws and regulations and records estimates based on these judgments and interpretations. In the normal course of business, the Company's tax returns are subject to examination by various taxing authorities, which may result in future tax, interest and penalty assessments by these authorities. Inherent uncertainties exist in estimates of many tax positions due to changes in tax law resulting from legislation, regulation and/or as concluded through the various jurisdictions' tax court systems. The Company recognizes the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The tax benefits recognized in the financial statements from such a position are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate resolution. The amount of unrecognized tax benefits is adjusted for changes in facts and circumstances. For example, adjustments could result from significant amendments to existing tax law and the issuance of regulations or interpretations by the taxing authorities, new information obtained during a tax examination, or resolution of an examination. The Company believes that its estimates for uncertain tax positions are appropriate and sufficient to pay assessments that may result from examinations of its tax returns. The Company recognizes both accrued interest and penalties related to unrecognized tax benefits in income tax expense.

Management evaluates the realizability of deferred tax assets for each jurisdiction in which it operates. If the Company experiences cumulative pretax income in a particular jurisdiction in a three-year period including the current and prior two years, management normally concludes that the income tax assets will more likely than not be realizable and no valuation allowance is recognized, unless known or planned operating developments, or changes in tax laws, would lead management to conclude otherwise. However, if the Company experiences cumulative pretax losses in a particular jurisdiction in a three year period, management then considers a series of factors in the determination of whether the deferred tax assets can be realized. The Company has recorded valuation allowances against certain of its deferred tax assets, primarily those that have been generated from net operating losses in certain foreign taxing jurisdictions and acquired U.S. carryforwards. In evaluating whether the Company would more likely than not recover these deferred tax assets, it has not assumed any future taxable income or tax planning strategies in the jurisdictions associated with these carry-forwards where history does not support such an assumption. Implementation of tax planning strategies to recover these deferred tax assets or future income generation in these jurisdictions could lead to the reversal of these valuation allowances and a reduction of income tax expense.

### Share-Based Compensation

The Company recognizes share-based compensation expense over the requisite service period of the individual grantees, which generally equals the vesting period. The Company utilizes the Black-Scholes valuation model for

estimating the fair value of share-based equity expense, using assumptions such as the risk-free interest rate, expected stock price volatility, expected stock option life and expected dividend yield. The risk-free interest rate is derived from the average U.S. Treasury Note rate during the period, which approximates the rate in effect at the time of grant related to the expected life of the options. Expected volatility is based on the historical volatility of the Company's common stock over the period commensurate with the expected life of the options. The expected life calculation is based on the observed time to post-vesting exercise and/or forfeitures of options by our employees. The dividend yield is zero, based on the fact the Company has never paid cash dividends and has no current intention to pay cash dividends in the future.

#### Fiscal Year 2018 Compared to Fiscal Year 2017

The Company aligns its organizational structure into the following three reporting segments for the purpose of making operational decisions and assessing financial performance: (i) II-VI Laser Solutions, (ii) II-VI Photonics, and (iii) II-VI Performance Products. The Company is reporting financial information (revenue through operating income) for these reporting segments in this Annual Report on Form 10-K.

The following table sets forth select items from our Consolidated Statements of Earnings for the years ended June 30, 2018 and June 30, 2017 (\$ in millions except per share information):

	Year Ended June 30, 2018		Year Ended June 30, 2017	
		% of Revenues		% of Revenues
Total revenues	\$1,158.8	100.0 %	\$972.0	100.0 %
Cost of goods sold	697.5	60.2	583.7	60.1
Gross margin	461.3	39.8	388.3	39.9
Operating expenses:				
Internal research and development	117.2	10.1	96.8	10.0
Selling, general and administrative	208.8	18.0	176.0	18.1
Interest and other, net	13.1	1.1	(3.3 )	(0.3 )
Earnings before income tax	122.2	10.5	118.8	12.2
Income taxes	34.2	3.0	23.5	2.4
Net earnings	\$88.0	7.6 %	\$95.3	9.8 %
Diluted earnings per share	\$1.35		\$1.48	

## Executive Summary

Net earnings for fiscal year 2018 were \$88.0 million (\$1.35 per-share diluted), compared to \$95.3 million (\$1.48 per-share diluted) for the same period last fiscal year. The decrease in net earnings during current fiscal year from fiscal year 2017 was primarily driven by provisions under the Act and the Company's related actions. Under the Act, the Company's effective tax rate for fiscal year 2018 was 28.0% compared to 19.8% in fiscal year 2017; the Company recorded an additional \$8.0 million of income tax expense, primarily relating to withholding taxes on future repatriation of foreign earnings. The Company also increased its investment in internal research and development relating to its new optoelectronic laser platform with the acquisition of Kaiam Laser Limited, and it ramped up its investment in other operations to address market shifts to new technologies driven by advanced engineered materials. Fiscal year 2017 was favorably impacted by other income relating to earn-out and technology transfer income the Company received as part of the sale of the RF business of ANADIGICS. The Company recognized \$7.0 million or \$0.09 per share diluted of other income related to these transactions in fiscal year 2017.

## Consolidated

Revenues. Revenues for the year ended June 30, 2018 increased 19% to \$1,158.8 million, compared to \$972.0 million for the prior fiscal year. The increase in revenues during the current fiscal year was driven by strong demand from customers across all of the Company's business segments. In particular, II-VI Laser Solution realized a 26% revenue growth from the prior year, driven by increased demand from industrial based customers for CO<sub>2</sub>, fiber and direct diode optics and components. This segment also recorded increased shipments of its VCSELs products addressing the growing consumer electronics, datacom and other developing end markets. II-VI Performance Products recorded a 24% revenue increase during the current fiscal year, driven by strengthening demand for SiC substrate products addressing RF electronics and high-power switching and power conversion systems for automotive, communication and military markets.

Gross margin. Gross margin for the year ended June 30, 2018 was \$461.3 million, or 39.8%, of total revenues, compared to \$388.3 million, or 39.9%, of total revenues for the same period last fiscal year. Gross margin as a percentage of revenues was consistent with the prior fiscal year due to a balance of operating efficiencies and investments to expand capacity. The Company's II-VI Photonic's gross margin was negatively impacted by both product mix and the effects of foreign currency.

Internal research and development. Company-funded internal research and development ("IR&D") expenses for the fiscal year ended June 30, 2018 were \$117.2 million, or 10.1% of revenues, compared to \$96.8 million, or 10.0% of revenues, last fiscal year. The increase in IR&D expenses is primarily the result of the current year acquisition of Kaiam Laser Limited, acquired in August 2017, which contributed \$14.6 million of expense. The Company continues to ramp its investment in new material-based technologies addressing growing market trends in consumer electronics, communications and automotive markets.

Selling, general and administrative. Selling, general and administrative ("SG&A") expenses for the year ended June 30, 2018 were \$208.8 million, or 18.0% of revenues, compared to \$176.0 million, or 18.1% of revenues, last fiscal year. SG&A expenses includes \$3.7 million and \$2.5 million, respectively, for the combined acquisitions of II-VI Integrated Photonics Inc. ("IPI"), acquired in June 2017, and Kaiam Laser Limited, acquired in August 2017. Exclusive of these acquisitions, the increase in SG&A is primarily due to increased operating costs to support the Company's growing revenue and infrastructure base, as well as its ongoing merger and acquisition strategy. The Company is working to identify and capitalize on synergies created from the Company's recent acquisitions and is working to improve the SG&A leverage in the upcoming fiscal 2019 and beyond.

Interest and other, net. Interest and other, net for the year ended June 30, 2018 was expense of \$13.1 million compared to income of \$3.3 million last fiscal year. Included in interest and other, net were interest expense on long-term borrowings, earnings from equity investments, interest income on excess cash reserves, unrealized gains and losses on the Company's deferred compensation plan, and foreign currency gains and losses. Interest expense increased \$11.5 million due to the higher levels of the Company's outstanding debt. The majority of the interest expense increase was related to the Company's \$345.0 million convertible debt issued in August 2017. The Company recognized \$10.8 million of interest and amortization of debt discounts and issuance costs. Other income last fiscal year included approximately \$7.0 million of income from earn-out and technology transfer agreements from the Company's sale of its ANADIGICS' RF business.

Income taxes. The Company's year-to-date effective income tax rate at June 30, 2018 was 28.0%, compared to an effective tax rate of 19.8% last fiscal year. The variation between the Company's effective tax rate and the U.S. statutory rate was primarily due to the Company's foreign operations, which are subject to income taxes at lower statutory rates. The increase in the current fiscal year's effective tax rate is the result of approximately \$8.0 million of increased income tax expense relating to repatriation on foreign source earnings.

### Segment Reporting

Revenues and operating income for each of the Company's reportable segments are discussed below. Operating income differs from income from operations in that operating income excludes certain operational expenses included in other expense (income) – net, as reported. Management believes operating income to be a useful measure for investors, as it reflects the results of segment performance over which management has direct control and is used by management in its evaluation of segment performance. See "Note 12. Segment and Geographic Reporting," to the Consolidated Financial Statements included in this Annual Report on Form 10-K for further information on the Company's reportable segments and for the reconciliation of operating income to net earnings, which is incorporated herein by reference.

#### II-VI Laser Solutions (\$ in millions)

	Year Ended		%	
	June 30, 2018	2017	26	%
Revenues	\$428.0	\$339.3	26	%
Operating income	\$36.8	\$30.9	19	%

The Company's II-VI Laser Solutions segment includes the combined operations of II-VI Infrared Optics, II-VI HIGHYAG, II-VI Laser Enterprise, II-VI Laser Systems Group, II-VI OED, II-VI EpiWorks, and Kaiam Laser Limited (now operating under II-VI Compound Semiconductors, Ltd.). The Company acquired II-VI Compound Semiconductors, Ltd. in August 2017.

Revenues for the fiscal year ended June 30, 2018 for II-VI Laser Solutions increased 26% to \$428.0 million, compared to revenues of \$339.3 million last fiscal year. The increase in revenues during the current fiscal year was the result of increased demand from industrial based customers for the Company's CO<sub>2</sub> fiber and direct diode laser optics and components. In addition, the segment has also seen increased demand for its CVD diamond optics used in the EUV lithography markets, as well as VCSELs used in consumer electronics, datacom and other end markets.

## Edgar Filing: II-VI INC - Form 10-K

Operating income for the fiscal year ended June 30, 2018 for II-VI Laser Solutions increased 19% to \$36.8 million, compared to \$30.9 million last fiscal year. The increase in operating income during the current fiscal year was the result of incremental margins realized from increased capacity utilization, increase in mix of higher margin products, offset somewhat by greater investment in growth markets.

II-VI Photonics (\$ in millions)

	Year Ended		% Increase	
	June 30, 2018	2017		
Revenues	\$464.4	\$418.5	11	%
Operating income	\$67.7	\$63.0	7	%



The Company's II-VI Photonics segment includes the combined operations of II-VI Photop and II-VI Optical Communications. The above operating results for the year ended June 30, 2018 include the Company's recent acquisition of IPI which was acquired in June 2017.

Revenues for the year ended June 30, 2018 for II-VI Photonics increased 11% to \$464.4 million, compared to \$418.5 million for last fiscal year. Included in the current year's revenues were \$19.3 million of revenues from the above acquisition. Exclusive of IPI, the increase in revenues was primarily attributed to increased demand of optics and optic assemblies for applications for industrial laser products. In addition, the segments realized increase demand for transport and amplification component products, including its 980 nm pumps.

Operating income for the year ended June 30, 2018 for II-VI Photonics increased 7% to \$67.7 million, compared to an operating income of \$63.0 million last fiscal year. The increase in operating income was primarily due to incremental margin realized on increased revenues but significantly offset by mix shifts and negative foreign exchange effects.

#### II-VI Performance Products (\$ in millions)

	Year Ended		%	
	June 30,	2017	Increase	
	2018			
Revenues	\$266.4	\$214.2	24	%
Operating income	\$30.8	\$21.6	43	%

The Company's II-VI Performance Products segment includes the business units of II-VI Marlow, II-VI M Cubed, II-VI Advanced Materials, II-VI Optical Systems and II-VI Performance Metals.

Revenues for the year ended June 30, 2018 for II-VI Performance Products increased 24% to \$266.4 million, compared to \$214.2 million for last fiscal year. The increase in revenues during the current fiscal year was primarily driven by increased demand for SiC products addressing RF electronics and high-power switching and power conversion systems for automotive and communication markets. In addition, the segment has seen increased demand for products and components for the semiconductor capital equipment and military markets.

Operating income for the year ended June 30, 2018 for II-VI Performance Products increased 43% to \$30.8 million, compared to \$21.6 million for last fiscal year. The increase in operating income during the current fiscal year was primarily driven by incremental margin realized by increased sales volume, as well as favorable product mix toward higher margin products.

#### Fiscal Year 2017 Compared to Fiscal Year 2016

The following table sets forth select items from our Consolidated Statements of Earnings for the years ended June 30, 2017 and 2016. (\$ millions, except per share information):

	Year Ended	Year Ended
	June 30, 2017	June 30, 2016
	% of	% of

Edgar Filing: II-VI INC - Form 10-K

	Revenues			Revenues		
Total revenues	\$972.0	100.0	%	\$827.2	100.0	%
Cost of goods sold	583.7	60.1		514.4	62.2	
Gross margin	388.3	39.9		312.8	37.8	
Operating expenses:						
Internal research and development	96.8	10.0		60.4	7.3	
Selling, general and administrative	176.0	18.1		160.6	19.4	
Interest and other, net	(3.3 )	(0.3 )		1.9	0.2	
Earnings before income tax	118.8	12.2		90.0	10.9	
Income taxes	23.5	2.4		24.5	3.0	
Net earnings	\$95.3	9.8	%	\$65.5	7.9	%
Diluted earnings per shares	\$1.48			\$1.04		

## Consolidated

**Revenues.** Revenues for the year ended June 30, 2017 increased 18% to \$972.0 million, compared to \$827.2 million for the fiscal year ended June 30, 2016. The Company had seen continued increased demand from the optical communications customer base as a result of the continuation of the China broadband initiative, datacenter and U.S. metro upgrade cycles (including cable television). In addition, the Company's II-VI Laser Solutions segment saw increased demand for its products addressing CO<sub>2</sub>, laser optics, one-micron laser and diamond optic products.

**Gross margin.** Gross margin as a percentage of revenues for the year ended June 30, 2017 was 39.9%, compared to 37.8% for the fiscal year ended June 30, 2016. The improvement in gross margin was primarily driven by incremental margins realized on the Company's higher revenue levels, which increased approximately \$145.0 million from the prior year, as well as favorable product mix primarily in the II-VI Photonics segment.

**Internal research and development.** Company-funded internal research and development expenses for the year ended June 30, 2017 were \$96.8 million, or 10.0% of revenues, compared to \$60.4 million, or 7.3% of revenues, for the fiscal year ended June 30, 2016. The increase in internal research and development expense for fiscal year 2017 was the result of the Company's continued investments in the development of the technology required to produce new optoelectronic devices in large volume for future applications, as well as new product introductions across the Company's segments.

**Selling, general and administrative.** SG&A expenses for the fiscal year ended June 30, 2017 were \$176.0 million, or 18.1% of revenues, compared to \$160.6 million, or 19.4% of revenues, for the fiscal year ended June 30, 2016. The increase in SG&A in absolute dollars was the result of a higher revenue base requiring more SG&A support. The Company experienced favorable leverage as a result of capitalizing on synergies created from the Company's acquisitions over the past several years.

**Interest and other, net.** Interest and other, net for the year ended June 30, 2017 was income of \$3.3 million compared to expense of \$1.9 million for the year ended June 30, 2016. Included in interest and other, net were interest expense on borrowings, interest income on excess cash reserves, foreign currency gains and losses and contingent earnout and technology transfer income from the sale of the ANADIGICS RF business that occurred in June 2016. In particular, for the fiscal year ended June 30, 2017, other income consisted primarily of foreign currency gains of \$1.3 million, income from the residual agreements on the sale of the RF business noted above of \$7.0 million, and interest income of \$0.9 million on the Company's excess cash reserves, offset by interest expense of \$6.8 million on outstanding borrowings. The fiscal year ended June 30, 2016 expense of \$1.9 million included \$3.1 million of interest expense on the Company's outstanding borrowings, offset by \$1.2 million of interest income on the Company's excess cash reserves. The increase in interest expense in fiscal year 2017 was the result of higher levels of outstanding borrowings.

**Income taxes.** The Company's year-to-date effective income tax rate at June 30, 2017 was 19.8%, compared to an effective tax rate of 27.3% for the fiscal year ended June 30, 2016. The variation between the Company's effective tax rate and the U.S. statutory rate of 35% was primarily due to the Company's foreign operations, which are subject to income taxes at lower statutory rates. The lower year-to-date effective tax rate was primarily driven by the reversal of certain valuation allowances triggered by the acquisition of IPI, which generated deferred tax liabilities that offset the previously reserved deferred tax asset.

II-VI Laser Solutions (\$ in millions)

Edgar Filing: II-VI INC - Form 10-K

	Year Ended		%	
	June 30,		Increase	
	2017	2016	(Decrease)	
Revenues	\$339.3	\$303.0	12	%
Operating income	\$30.9	\$36.2	(15	%)

Revenues for the year ended June 30, 2017 for II-VI Laser Solutions increased 12% to \$339.3 million, compared to \$303.0 million for fiscal year ended June 30, 2016. Revenues included \$24.0 million for fiscal 2017 and \$13.9 million for fiscal year 2016, respectively, attributed to the acquisitions. Exclusive of acquisitions, the increase in revenues for the fiscal year ended June 30, 2017 was the result of higher demand for high- and low-power laser optics, one-micron laser applications, and semiconductor photolithography tools and precision optics in laser applications up to 1 kilowatt for marking and engraving.

Operating income for the year ended June 30, 2017 for II-VI Laser Solutions decreased 15% to \$30.9 million, compared to \$36.2 million for fiscal year June 30, 2016. Operating income was impacted by the segment's ongoing internal research and development investments for its new optoelectronic laser platform. During fiscal year 2017, this expense increased approximately \$30.2 million over fiscal year 2016.

## II-VI Photonics (\$ in millions)

	Year Ended		% Increase	
	June 30, 2017	June 30, 2016		
Revenues	\$418.5	\$325.9	28	%
Operating income	\$63.0	\$37.8	67	%

Revenues for the year ended June 30, 2017 for II-VI Photonics increased 28% to \$418.5 million, compared to \$325.9 million for the fiscal year ended June 30, 2016. The Company realized increased revenues from the broadband China initiative as China continued expansion of its geographical broadband networks. In addition, increased market share gains in the datacenter communications market and undersea fiber optic networks and new product introductions fueled the higher revenues during the fiscal year ended June 30, 2017.

Operating income for the year ended June 30, 2017 for II-VI Photonics increased 67% to \$63.0 million, compared to an operating income of \$37.8 million for the fiscal year ended June 30, 2016. The increase in operating income was primarily due to incremental margin realized on the higher revenue volume as well as higher margin product mix, including terrestrial and submarine 980nm pumps and amplifiers, and new product introductions which have higher margin profiles.

## II-VI Performance Products (\$ in millions)

	Year Ended		% Increase	
	June 30, 2017	June 30, 2016		
Revenues	\$214.2	\$198.3	8	%
Operating income	\$21.6	\$17.8	21	%

Revenues for the year ended June 30, 2017 for II-VI Performance Products increased 8% to \$214.2 million, compared to \$198.3 million for fiscal year June 30, 2016. The increase in revenues for the year ended June 30, 2017 was driven by continued growth in the 4G base station market which was expanding geographically. Revenue growth was also driven by increasing demand for 150mm power device products as the market entered the manufacturing phase in the transition from 100mm to 150mm SiC substrates. In addition, the segment's semiconductor product offerings experienced increased demands as EUV lithography ramped as part of its anticipated adoption.

Operating income for the year ended June 30, 2017 for II-VI Performance Products increased 21% to \$21.6 million, compared to \$17.8 million for fiscal year June 30, 2016. Incremental margins on higher segment revenues led by SiC substrate revenues contributed to the increased operating income.

## LIQUIDITY AND CAPITAL RESOURCES

Historically, our primary sources of cash have been provided through operations and long-term borrowings. Other sources of cash include proceeds received from the exercise of stock options and sales of equity investments and businesses. Our historical uses of cash have been for capital expenditures, investments in research and development, business acquisitions, payments of principal and interest on outstanding debt obligations, payments in satisfaction of employees' minimum tax obligations and purchases of treasury stock. Supplemental information pertaining to our sources and uses of cash is presented as follows:

Sources (uses) of Cash (millions):

Year Ended June 30,	2018	2017	2016
Net cash provided by operating activities	\$ 161.0	\$ 118.6	\$ 123.0
Net proceeds on long-term borrowings	153.0	104.0	59.5
Proceeds from exercises of stock options	10.5	15.1	9.7
Additions to property, plant & equipment	(153.4)	(138.5)	(58.2 )
Purchases of businesses, net of cash acquired	(80.5 )	(40.0 )	(122.2)
Purchases of equity investments	(52.1 )	-	-
Purchases of treasury stock	(49.9 )	-	(6.3 )
Debt issuance costs	(10.1 )	-	-
Payments in satisfaction of employees' minimum tax obligations	(6.6 )	(4.1 )	(2.0 )
Payment on earnout consideration	-	(2.0 )	-
Proceeds from the sale of business	-	-	45.0
Other financing activities	-	-	0.6
Effect of exchange rate changes on cash and cash equivalents and other	3.2	0.3	(4.3 )

Net cash provided by operating activities:

Net cash provided by operating activities was \$161.0 million and \$118.6 million for the fiscal years ended June 30, 2018 and 2017, respectively. The increase in cash provided by operations during the current fiscal year was due to a combination of higher non-cash items such as depreciation, amortization, and share-based compensation expense and better working capital management of accounts payable, income tax payable and other operating net assets.

Net cash provided by operating activities was \$118.6 million and \$123.0 million for the fiscal years ended June 30, 2017 and 2016, respectively. The decrease in cash provided by operating activities during the fiscal year 2017 was due to increased working capital requirements to support higher revenue growth mainly relating to increased inventory build to address product demand as well as higher levels of accounts receivable from the revenue growth.

Net cash used in investing activities:

Net cash used in investing activities was \$285.0 million and \$177.2 million for the fiscal years ended June 30, 2018 and 2017, respectively. The increase in cash used in investing activities was the result of a higher level of investments in property, plant & equipment to continue to build capacity to meet the growing demand for the Company's product portfolio. In addition, the Company completed several strategic investments in both wholly- and majority-owned investments during the current fiscal year, totaling approximately \$132.6 million.

Net cash used in investing activities was \$177.2 million and \$135.2 million for the fiscal years ended June 30, 2017 and 2016, respectively. The increase in cash used in investing activities was the result of increased levels of capital expenditures of \$138.5 million in fiscal year 2017 compared to \$58.2 million in fiscal year 2016 was primarily driven by additional capital expenditures to increase the Company's capability to produce new optoelectronic devices as it accelerates its new technology investment platform. Additionally, during fiscal year 2017, the Company purchased IPI, located in Hillsborough, New Jersey, for \$39.4 million, net of cash acquired and certain assets of DirectPhotonics Industries GmbH, located in Berlin, Germany, for \$0.6 million.

Net cash provided by financing activities:

Net cash provided by financing activities was \$97.0 million for the year ended June 30, 2018 compared to net cash provided by financing activities of \$111.6 million for the year ended June 30, 2017. During the current fiscal year, the Company completed its offering and sale of \$345 million aggregate principal amount of convertible notes. In addition, the Company borrowed \$100 million on its revolving credit facility to fund its investments in capital expenditures and research and development to address new and growing technology platforms. The net proceeds from the convertible debt offering as well as cash generated from operations was used to repay \$272 million on the revolver, \$20 million on the term loan and \$10.1 million of convertible debt issuance costs. The Company also utilized \$49.9 million of convertible debt proceeds to repurchase 1,414,900 of its common stock. The Company realized \$10.5 million of proceeds received from the exercise of stock options offset, by \$6.6 million of cash payments in satisfaction of employees' minimum tax obligations on the vesting of the Company's restricted and performance shares during the current fiscal year.

Net cash provided by financing activities was \$111.6 million for the year ended June 30, 2017 compared to net cash provided by financing activities of \$61.5 million for the year ended June 30, 2016. During fiscal year 2017, the Company borrowed \$129.0 million to finance its current year acquisitions and investments in capital expenditures for its new VCSEL investment platform and other growth platforms. The Company also received \$15.1 million of proceeds from stock option exercises. Offsetting the increase in cash were payments made on outstanding borrowings of \$25.0 million, \$4.1 million of minimum tax withholding obligations on the vesting of employees' restricted and performance shares, \$2.0 million of payments on contingent earnout arrangements and \$1.4 million of debt issuance costs associated with the Amended Credit Facility (as defined below) entered into on July 28, 2016.

#### 0.25% Convertible Senior Notes

On August 24, 2017, the Company entered into a purchase agreement with Merrill Lynch, Pierce, Fenner & Smith Incorporated, as representative of the several initial purchasers named therein (collectively, the "Initial Purchasers"), to issue and sell \$300 million aggregate principal amount of our 0.25% convertible senior notes due 2022 (the "Notes") in a private placement to qualified institutional buyers within the meaning of Rule 144A under the Securities Act of 1933, as amended. In addition, we granted the Initial Purchasers a 30-day option to purchase up to an additional \$45 million aggregate principal amount of the Notes (the "Over-Allotment Option").

On August 29, 2017, the Initial Purchasers exercised their Over-Allotment Option to purchase the entire \$45 million in aggregate principal amount of additional Notes. The Notes mature on September 1, 2022, unless earlier repurchased by the Company or converted by holders in accordance with the terms of the Notes. Interest is payable semi-annually in arrears on March 1 and September 1 of each year, beginning on March 1, 2018.

The sale of the Notes to the Initial Purchasers settled on August 29, 2017, and resulted in approximately \$336 million in net proceeds to the Company after deducting the initial purchasers' discount and the offering expenses. The net proceeds from the offering and sale of the Notes were used, in part, to repurchase approximately \$49.9 million of our common stock. The Company used the remaining net proceeds to repay \$252 million on its revolving credit facility and to pay debt issuance costs of \$10.1 million.

The Notes are governed by an Indenture between the Company, as issuer, and U.S. Bank, National Association, as trustee. The Notes are our senior unsecured obligations and rank senior in right of payment to any of our indebtedness that is expressly subordinated in right of payment to the Notes; equal in right of payment to any of our indebtedness that is not so subordinated; effectively junior in right of payment to any of our secured indebtedness to the extent of the value of the assets securing such indebtedness; and structurally junior to all indebtedness and other liabilities (including trade payables) of our subsidiaries. In the event of our bankruptcy, liquidation, reorganization or other



winding up, our assets that secure secured debt will be available to pay obligations on the Notes only after all indebtedness under such secured debt has been repaid in full from such assets. Upon conversion, the Company will pay or deliver, as the case may be, cash, shares of our common stock or a combination of cash and shares of our common stock, at the Company's election.

As a result of our cash conversion option, the Company separately accounted for the value of the embedded conversion option as a debt discount. The value of the embedded conversion option was determined based on the estimated fair value of the debt without the conversion feature, which was determined using an expected present value technique (income approach) to estimate the fair value of similar nonconvertible debt; the debt discount is being amortized as additional non-cash interest expense over the term of the Notes using the effective interest method with an effective interest rate of 4.5% per annum.

The equity component is not remeasured as long as it continues to meet the conditions for equity classification. The initial conversion rate is 21.25 shares of common stock per \$1,000 principal amount of Notes, which is equivalent to an initial conversion price of \$47.06 per share of common stock. Throughout the term of the Notes, the conversion rate may be adjusted upon the occurrence of

certain events. The if-converted value of the Notes amounted to \$318.5 million as of June 30, 2018 (based on the Company's closing stock price on the last trading day of the year ended June 30, 2018).

Holders of the Notes will not receive any cash payment representing accrued and unpaid interest upon conversion of a note. Accrued but unpaid interest will be deemed to be paid in full upon conversion rather than cancelled, extinguished or forfeited.

Prior to the close of business on the business day immediately preceding June 1, 2022, the Notes will be convertible only upon satisfaction of at least one of the conditions as follows:

- a) During any fiscal quarter (and only during such fiscal quarter), if the last reported sale price of our common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on the last trading day of the immediately preceding quarter is greater than or equal to 130% of the conversion price on each applicable trading day;
- b) During the five business day period after any five consecutive trading day period (the "measurement period") in which the trading price per \$1,000 principal amount of Notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of our common stock and the conversion rate on each such trading day; or
- c) Upon the occurrence of specified corporate events.

On or after June 1, 2022 until the close of business on the business day immediately preceding the maturity date, holders may convert all or any portion of their Notes, in multiples of \$1,000 principal amount, at the option of the holder regardless of the foregoing circumstances.

As of June 30, 2018, the Notes are not convertible. The Notes will become convertible upon the satisfaction of at least one of the above conditions. In accounting for the transaction costs related to the Note issuance, the Company allocated the total amount of offering costs incurred to the debt and equity components based on their relative values. Offering costs attributable to the debt component, totaling \$8.4 million, are being amortized as non-cash interest expense over the term of the Notes, and offering costs attributable to the equity component, totaling \$1.7 million, were recorded within Shareholders' equity.

The Company was in compliance with all the covenants set forth under the indenture.

The following table sets forth total interest expense recognized related to the Notes for the fiscal year ended June 30, 2018 (representing an effective interest rate of 4.5%):

Year ended June 30,	2018
0.25% contractual coupon	\$ 731
Amortization of debt discount and debt issuance costs including initial purchaser discount	10,058
Interest expense	\$10,789

The unamortized discount amounted to \$49.3 million as of June 30, 2018 and is being amortized over 4 years.

#### Amended Credit Facility

On July 28, 2016, the Company amended and restated its existing credit agreement. The Third Amended and Restated Credit Agreement (the "Amended Credit Facility") provides for a revolving credit facility of \$325 million, as well as a \$100 million term loan. The term loan is being repaid in consecutive quarterly principal payments on the first business day of each January, April, July and October, with the first payment having commenced on October 1, 2016, as

follows: (i) twenty consecutive quarterly installments of \$5 million and (ii) a final installment of all remaining principal due and payable on the maturity date of July 27, 2021. Amounts borrowed under the revolving credit facility are due and payable on the maturity date. The Amended Credit Facility is unsecured, but is guaranteed by each existing and subsequently acquired or organized wholly-owned domestic subsidiary of the Company. The Company has the option to request an increase to the size of the revolving credit facility in an aggregate additional amount not to exceed \$100 million. The Amended Credit Facility has a five-year term through July 27, 2021 and has an interest rate of either a Base Rate Option or a Euro-Rate Option, plus an Applicable Margin, as defined in the agreement governing the Amended Credit Facility. If the Base Rate option is selected for a borrowing, the Applicable Margin is 0.00% to 1.25% and if the Euro-Rate Option is selected for a borrowing, the Applicable Margin is 1.00% to 2.25%. The Applicable Margin is based on the ratio of the Company's consolidated indebtedness to consolidated EBITDA. Additionally, the Credit Facility is subject to certain covenants, including those relating to minimum interest coverage and maximum leverage ratios. As of June 30, 2018, the Company was in compliance with all financial covenants under its Amended Credit Facility.

## Yen Loan

The Company's yen denominated line of credit is a 500 million Yen (\$4.5 million) facility. The Yen line of credit matures in August 2020. The interest rate equal to LIBOR, as defined in the loan agreement, plus 0.625% to 1.75%. At June 30, 2018 and 2017, the Company had 300 million yen outstanding under the line of credit. Additionally, the facility is subject to certain covenants, including those relating to minimum interest coverage and maximum leverage ratios. As of June 30, 2018, the Company had \$2.7 million outstanding and was in compliance with all covenants under its Yen facility.

## Aggregate Availability

The Company had aggregate availability of \$246.4 million and \$73.5 million under its lines of credit as of June 30, 2018 and 2017, respectively. The amounts available under the Company's lines of credit are reduced by outstanding letters of credit. As of June 30, 2018 and 2017, total outstanding letters of credit supported by the credit facilities were \$0.4 million and \$1.3 million, respectively.

## Weighted Average Interest Rate

The weighted average interest rate of total borrowings was 1.3% and 2.2% for the years ended June 30, 2018 and 2017, respectively. The weighted average of total borrowings for the fiscal years ended June 30, 2018 and 2017 was \$476.6 million and \$272.1 million, respectively.

## Share Repurchase Programs

In August 2017, in conjunction with the Company's offering and sale of the Convertible Notes, the Company's Board of Directors authorized the Company to purchase up to \$50 million of its common stock with a portion of the net proceeds received from the offering and sale of the Notes. The shares that were purchased by the Company pursuant to this authorization were retained as treasury stock and are available for general corporate purposes. The Company purchased 1,414,900 shares of its common stock for approximately \$49.9 million pursuant to this authorization.

In August 2014, the Company's Board of Directors authorized the Company to purchase up to \$50 million of its common Stock through a share repurchase program (the "Program") that calls for shares to be purchased in the open market or in private transactions from time to time. The Program has no expiration and may be suspended or discontinued at any time. Shares purchased by the Company are retained as treasury stock and available for general corporate purposes. As of June 30, 2018, the Company has cumulatively purchased 1,316,587 shares of its common stock pursuant to the Program for approximately \$19.0 million

Our cash position, borrowing capacity and debt obligations are as follows (in millions):

	June 30, 2018	June 30, 2017
Cash and cash equivalents	\$247.0	\$271.9
Available borrowing capacity	246.4	73.5
Total debt obligations	439.0	342.0

The Company believes cash flow from operations, existing cash reserves and available borrowing capacity from its credit facilities will be sufficient to fund its needs for working capital, capital expenditures, repayment of scheduled long-term borrowings and capital lease obligations, investments in internal research and development, share repurchases, internal and external growth objectives at least through fiscal year 2019. The Company expects to complete its acquisition of CoAdna, Inc., a publically traded company on the Taiwan Stock Exchange, on or about September 1, 2018. The purchase price will be approximately \$85.0 million, net of any cash acquired and will be financed by a combination of cash on hand and borrowings on the Company's Amended Credit Facility.

The Company's cash and cash equivalent balances are generated and held in numerous locations throughout the world, including amounts held outside the United States. As of June 30, 2018, the Company held approximately \$218 million of cash and cash equivalents outside of the United States. Cash balances held outside the United States could be repatriated to the United States. The recently enacted Act created significant changes to the taxation of undistributed foreign earnings and has changed our future intentions regarding repatriation of earnings. The Company is currently evaluating the full impact of the Act and may update future cash repatriation intentions.

## Off-Balance Sheet Arrangements

The Company's off-balance sheet arrangements include the operating lease obligations and the purchase obligations disclosed in the contractual obligations table below, as well as letters of credit as discussed in Note 7 to the Company's Consolidated Financial Statements included in Item 8 of this Annual Report on Form 10-K. The Company enters into these off-balance sheet arrangements to acquire goods and services used in its business.

## Tabular Disclosure of Contractual Obligations

Contractual Obligations (\$000)	Payments Due By Period				
	Total	Less Than 1 Year	1-3 Years	3-5 Years	More Than 5 Years
Long-term debt obligations	\$496,548	\$20,000	\$46,548	\$430,000	\$-
Interest payments <sup>(1)</sup>	28,181	7,368	12,244	3,591	4,978
Capital lease obligation	24,940	579	2,168	2,703	19,490
Operating lease obligations <sup>(2)</sup>	127,900	20,100	33,600	21,500	52,700
Purchase obligations <sup>(3)(4)(5)</sup>	118,351	114,307	4,044	-	-
<b>Total</b>	<b>\$795,920</b>	<b>\$162,354</b>	<b>\$98,604</b>	<b>\$457,794</b>	<b>\$77,168</b>

(1) Interest payments represent both variable and fixed rate interest obligations based on the interest rate in place at June 30, 2018, relating to the Amended Credit Facility, the Notes and interest relating to the Company's capital lease obligation.

(2) Includes an obligation for the use of two parcels of land related to II-VI Performance Metals. The lease obligations extend through years 2039 and 2061, respectively.

(3) A purchase obligation is defined as an agreement to purchase goods or services that is enforceable and legally binding on the Company and that specifies all significant terms, including fixed or minimum quantities to be purchased; minimum or variable price provisions, and the approximate timing of the transaction. These amounts are primarily comprised of open purchase order commitments to vendors for the purchase of supplies and materials.

(4) Includes cash earnout opportunities based on II-VI EpiWorks and IPI for the achievement of certain agreed-upon financial and operational targets.

(5) Includes the Company's intention to acquire CoAdna Inc., during the first quarter of fiscal year 2019, in a cash transaction valued at approximately \$85.0 million, net of any cash acquired.

Pension obligations are not included in the table above. The Company expects defined benefit plan employer contributions to be \$2.7 million in 2019. Estimated funding obligations are determined by asset performance, workforce and retiree demographics, tax and employment laws and other actuarial assumptions which may change the annual funding obligations. The funded status of our defined benefit plans is disclosed in Note 15 to the Company's Consolidated Financial Statements.

The gross unrecognized income tax benefits at June 30, 2018, which are excluded from the above table, were \$10.3 million. The Company is not able to reasonably estimate the amount by which the liability will increase or decrease over time; however, at this time, the Company does not expect a significant payment related to these obligations within the next fiscal year.

Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK  
MARKET RISKS

The Company is exposed to market risks arising from adverse changes in foreign currency exchange rates and interest rates. In the normal course of business, the Company uses certain techniques and derivative financial instruments as part of its overall risk management strategy, primarily focused on its exposure to the Japanese Yen, Chinese Renminbi and the Euro. The Company also has transactions denominated in Euros, British Pounds Sterling, Chinese Renminbi and Swiss Francs. No significant changes have occurred in the techniques and instruments used other than those described below.

Foreign Exchange Risks

In the normal course of business, the Company enters into foreign currency forward exchange contracts with its financial institutions. The purpose of these contracts is to hedge ordinary business risks regarding foreign currencies on product sales and other transactions denominated in currencies other than the U.S. dollar. Foreign currency exchange contracts are used to limit transactional exposure to changes in currency rates.

### Japanese Yen

The Company enters into foreign currency forward contracts that permit it to sell specified amounts of Japanese Yen expected to be received from its export sales for pre-established U.S. dollar amounts at specified dates. The forward contracts are denominated in the same foreign currencies in which export sales are denominated. These contracts provide the Company with an economic hedge in which settlement will occur in future periods, thereby limiting the Company's exposure. These contracts had a total notional amount of \$12.0 million and \$12.7 million at June 30, 2018 and 2017, respectively.

A 10% change in the yen to U.S. dollar exchange rate would have changed revenues in the range from a decrease of approximately \$8.1 million to an increase of approximately \$9.9 million for the year ended June 30, 2018.

During June 2018, the Company entered into a \$7.0 million month-to-month forward contract that matured on June 29, 2018, to limit exposure to the Yen. Upon expiration of this contract, the Company recorded a loss of \$0.2 million in the Consolidated Statement of Earnings.

### Chinese Renminbi

During June 2018, the Company entered into a \$43.5 million month-to-month forward contract that matured on June 29, 2018, to limit exposure to the Chinese Renminbi. Upon expiration of this contract, the Company recorded a loss of \$1.2 million in the Consolidated Statement of Earnings.

### Euro

The Company has short-term intercompany notes that are denominated in U.S. dollars with certain European subsidiaries. A 10% change in the Euro to dollar exchange rate would have changed net earnings in the range from a decrease of \$0.5 million to an increase of \$0.6 million for the year ended June 30, 2018.

The Company monitors its positions and the credit ratings of the parties to these contracts. While the Company may be exposed to potential losses due to risk in the event of non-performance by the counterparties to these financial instruments, it does not currently anticipate such losses.

Assets and liabilities of foreign operations are translated into U.S. dollars using the period-end exchange rates, while income and expenses are translated using the average exchange rates for the reporting period. Translation adjustments are recorded as accumulated other comprehensive income within shareholders' equity.

### Interest Rate Risks

As of June 30, 2018, the Company's total borrowings of \$496.5 million consisted of \$147.7 million variable rate debt borrowings from a line of credit of \$80.0 million denominated in U.S. dollars, a term loan denominated in U.S. dollars of \$65.0 million, a line of credit borrowing of \$2.7 million denominated in Japanese yen. As such, the Company is exposed to changes in interest rates. A change in the interest rate of 100 basis points on these variable rate borrowings would have resulted in additional interest expense of \$1.5 million for the fiscal year ended June 30, 2018.

### Discount Rate Risks

As of June 30, 2018, a 10% change in the Company's discount rate used to determine the pension benefit obligation of the Switzerland Defined Benefit Plan would have had an immaterial impact on the Consolidated Financial Statements.





Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA  
MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Management's Responsibility for Preparation of the Financial Statements

Management is responsible for the preparation of the consolidated financial statements included in this Annual Report on Form 10-K. The consolidated financial statements were prepared in accordance with the accounting principles generally accepted in the United States of America and include amounts that are based on the best estimates and judgments of management. The other financial information contained in this Annual Report on Form 10-K is consistent with the consolidated financial statements.

Management's Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting. The Company's internal control system is designed to provide reasonable assurance concerning the reliability of the financial data used in the preparation of the Company's consolidated financial statements, as well as reasonable assurance with respect to safeguarding the Company's assets from unauthorized use or disposition.

All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement presentation and other results of such systems.

Management conducted an evaluation of the effectiveness of the Company's internal control over financial reporting as of June 30, 2018. In making this evaluation, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control – Integrated Framework (2013). Management's evaluation included reviewing the documentation of its controls, evaluating the design effectiveness of controls and testing their operating effectiveness. Management excluded from the scope of its assessment of internal control over financial reporting the operations and related assets of Kaiam Laser Limited, Inc., which was acquired in August 2017. The recent acquisition excluded from management's assessment of internal controls over financial reporting represented approximately \$107.2 million and \$98.1 million of total assets and net assets, respectively, as of June 30, 2018 and approximately \$3.4 million and \$12.5 million of total revenues and net loss, respectively, for the fiscal year then ended. Based on the evaluation, management concluded that as of June 30, 2018, the Company's internal controls over financial reporting were effective.

Ernst & Young LLP, an independent registered public accounting firm, has issued its report on the effectiveness of our internal control over financial reporting as of June 30, 2018. Its report is included herein.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of II-VI Incorporated and Subsidiaries

Opinion on Internal Control over Financial Reporting

We have audited II-VI Incorporated and Subsidiaries' internal control over financial reporting as of June 30, 2018, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, II-VI Incorporated and Subsidiaries (the Company) maintained, in all material respects, effective internal control over financial reporting as of June 30, 2018, based on the COSO criteria.

As indicated in the accompanying Management's Report on Internal Control Over Financial Reporting, management's assessment of and conclusion on the effectiveness of internal control over financial reporting did not include the internal controls of Kaiam Laser Limited, Inc., which is included in the June 30, 2018 consolidated financial statements of the Company and constituted \$107.2 million and \$98.1 million of total and net assets, respectively, as of June 30, 2018 and \$3.4 million and \$12.5 million of revenues and net loss, respectively, for the fiscal year then ended. Our audit of internal control over financial reporting of the Company also did not include an evaluation of the internal control over financial reporting of Kaiam Laser Limited, Inc.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of June 30, 2018 and 2017, the related consolidated statements of earnings, comprehensive income, shareholders' equity and cash flows for each of the three years in the period ended June 30, 2018, and the related notes and the financial statement schedule listed in the Index at Item 15(a)(2) and our report dated August 28, 2018 expressed an unqualified opinion thereon.

Basis for Opinion

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

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was

maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

#### Definition and Limitations of Internal Control Over Financial Reporting

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

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

/s/ Ernst & Young LLP

Pittsburgh, Pennsylvania

August 28, 2018

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of II-VI Incorporated and Subsidiaries

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of II-VI Incorporated and Subsidiaries (the Company) as of June 30, 2018 and 2017, the related consolidated statements of earnings, comprehensive income, shareholders' equity and cash flows for each of the three years in the period ended June 30, 2018, and the related notes and the financial statement schedule listed in the Index at Item 15(a)(2) (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at June 30, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended June 30, 2018, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of June 30, 2018, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated August 28, 2018 expressed an unqualified opinion thereon.

Basis for Opinion

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

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

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2008.

Pittsburgh, Pennsylvania

August 28, 2018

## II-VI Incorporated and Subsidiaries

## Consolidated Balance Sheets

(\$000)

June 30,	2018	2017
<b>Assets</b>		
<b>Current Assets</b>		
Cash and cash equivalents	\$247,038	\$271,888
Accounts receivable - less allowance for doubtful accounts of \$837 at June 30, 2018 and \$1,314 at June 30, 2017	215,032	193,379
Inventories	248,268	203,695
Prepaid and refundable income taxes	7,845	6,732
Prepaid and other current assets	43,654	26,602
<b>Total Current Assets</b>	<b>761,837</b>	<b>702,296</b>
Property, plant & equipment, net	524,890	367,728
Goodwill	270,678	250,342
Other intangible assets, net	125,069	133,957
Investments	69,215	11,727
Deferred income taxes	2,046	3,023
Other assets	7,926	8,224
<b>Total Assets</b>	<b>\$1,761,661</b>	<b>\$1,477,297</b>
<b>Liabilities and Shareholders' Equity</b>		
<b>Current Liabilities</b>		
Current portion of long-term debt	\$20,000	\$20,000
Accounts payable	89,774	65,540
Accrued compensation and benefits	66,322	58,178
Accrued income taxes payable	17,392	12,178
Other accrued liabilities	42,979	29,056
<b>Total Current Liabilities</b>	<b>236,467</b>	<b>184,952</b>
Long-term debt	419,013	322,022
Deferred income taxes	27,241	15,345
Other liabilities	54,629	54,415
<b>Total Liabilities</b>	<b>737,350</b>	<b>576,734</b>
<b>Shareholders' Equity</b>		
Preferred stock, no par value; authorized - 5,000,000 shares; none issued	-	-
Common stock, no par value; authorized - 300,000,000 shares; issued - 75,692,683 shares at June 30, 2018; 74,081,451 shares at June 30, 2017	351,761	269,638
Accumulated other comprehensive income (loss)	(3,780 )	(13,778 )
Retained earnings	836,064	748,062
	1,184,045	1,003,922
Treasury stock, at cost - 12,395,791 shares at June 30, 2018 and 10,940,062 shares at June 30, 2017	(159,734 )	(103,359 )
<b>Total Shareholders' Equity</b>	<b>1,024,311</b>	<b>900,563</b>
<b>Total Liabilities and Shareholders' Equity</b>	<b>\$1,761,661</b>	<b>\$1,477,297</b>

See Notes to Consolidated Financial Statements.



## II-VI Incorporated and Subsidiaries

## Consolidated Statements of Earnings

Year Ended June 30, (\$000, except per share data)	2018	2017	2016
Revenues	\$ 1,158,794	\$ 972,046	\$ 827,216
Costs, Expenses and Other Expense (Income)			
Cost of goods sold	697,506	583,693	514,403
Internal research and development	117,244	96,810	60,354
Selling, general and administrative	208,757	176,002	160,646
Interest expense	18,352	6,809	3,081
Other expense (income), net	(5,259 )	(10,056 )	(1,223 )
Total Costs, Expenses and Other Expense (Income)	1,036,600	853,258	737,261
Earnings Before Income Taxes	122,194	118,788	89,955
Income Taxes	34,192	23,514	24,469
Net Earnings	\$ 88,002	\$ 95,274	\$ 65,486
Basic Earnings Per Share	\$ 1.41	\$ 1.52	\$ 1.07
Diluted Earnings Per Share	\$ 1.35	\$ 1.48	\$ 1.04

See Notes to Consolidated Financial Statements.

## II-VI Incorporated and Subsidiaries

## Consolidated Statements of Comprehensive Income

Year Ended June 30, (\$000)	2018	2017	2016
Net earnings	\$88,002	\$95,274	\$65,486
Other comprehensive income (loss):			
Foreign currency translation adjustments	7,152	(2,275 )	(15,651)
Pension adjustment, net of taxes of \$763, \$674, and (\$1,886) for the years ended June 30, 2018, 2017, and 2016, respectively	2,846	2,514	(7,031 )
Other comprehensive income (loss)	9,998	239	(22,682)
Comprehensive income	\$98,000	\$95,513	\$42,804

See Notes to Consolidated Financial Statements.

## II-VI Incorporated and Subsidiaries

## Consolidated Statements of Shareholders' Equity

	Common Stock		Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Treasury Stock		Total
	Shares	Amount			Shares	Amount	
(000)							
Balance - June 30, 2015	71,780	\$ 226,609	\$ 8,665	\$ 587,302	(10,565)	\$ (93,495)	\$ 729,081
Share-based and deferred compensation activities	1,060	17,790	-	-	(20)	(466)	17,324
Net earnings	-	-	-	65,486	-	-	65,486
Purchases of treasury stock	-	-	-	-	(381)	(6,284)	(6,284)
Foreign currency translation adjustments	-	-	(15,651)	-	-	-	(15,651)
Pension adjustment, net of taxes of (\$1,886)	-	-	(7,031)	-	-	-	(7,031)
Tax deficiency from share-based compensation expense	-	(587)	-	-	-	-	(587)
Balance - June 30, 2016	72,840	\$ 243,812	\$ (14,017)	\$ 652,788	(10,966)	\$ (100,245)	\$ 782,338
Share-based and deferred compensation activities	1,241	25,826	-	-	26	(3,114)	22,712
Net earnings	-	-	-	95,274	-	-	95,274
Foreign currency translation adjustments	-	-	(2,275)	-	-	-	(2,275)
Pension adjustment, net of taxes of \$674	-	-	2,514	-	-	-	2,514
Balance - June 30, 2017	74,081	\$ 269,638	\$ (13,778)	\$ 748,062	(10,940)	\$ (103,359)	\$ 900,563
Share-based and deferred compensation activities	1,612	25,717	-	-	(41)	(6,500)	19,217
Net earnings	-	-	-	88,002	-	-	88,002
Purchases of treasury stock	-	-	-	-	(1,415)	(49,875)	(49,875)
Foreign currency translation adjustments	-	-	7,152	-	-	-	7,152
Equity portion of convertible debt, net of issuance costs of \$1,694	-	56,406	-	-	-	-	56,406
Pension adjustment, net of taxes of \$763	-	-	2,846	-	-	-	2,846
Balance - June 30, 2018	75,693	\$ 351,761	\$ (3,780)	\$ 836,064	(12,396)	\$ (159,734)	\$ 1,024,311

See Notes to Consolidated Financial Statements.



## II-VI Incorporated and Subsidiaries

## Consolidated Statements of Cash Flows

Year Ended June 30, (\$000)	2018	2017	2016
<b>Cash Flows from Operating Activities</b>			
Net earnings	\$88,002	\$95,274	\$65,486
Adjustments to reconcile net earnings to net cash provided by operating activities:			
Depreciation	66,202	50,894	44,324
Amortization	14,568	12,743	12,339
Share-based compensation expense	15,312	11,756	9,675
Losses (gains) on foreign currency remeasurements and transactions	850	(1,275 )	(51 )
Earnings from equity investments	(3,594 )	(744 )	(29 )
Deferred income taxes	945	(1,184 )	977
Increase (decrease) in cash from changes in (net of effects of acquisitions and dispositions):			
Accounts receivable	(21,044 )	(26,247 )	(20,770 )
Inventories	(38,732 )	(24,992 )	(8,650 )
Accounts payable	17,436	6,704	5,715
Income taxes	7,380	735	13,416
Other operating net assets	13,689	(5,048 )	538
Net cash provided by operating activities	161,014	118,616	122,970
<b>Cash Flows from Investing Activities</b>			
Additions to property, plant & equipment	(153,438)	(138,517)	(58,170 )
Purchases of equity investments	(52,056 )	-	-
Proceeds from the sale of business	-	-	45,000
Purchases of businesses, net of cash acquired	(80,503 )	(40,015 )	(122,157)
Other investing activities	1,047	1,291	161
Net cash used in investing activities	(284,950)	(177,241)	(135,166)
<b>Cash Flows from Financing Activities</b>			
Proceeds from issuance of 0.25% convertible senior notes due 2022	345,000	-	-
Proceeds from borrowings under Credit Facility	100,000	129,000	125,200
Payments on borrowings under Credit Facility	(292,000)	(25,000 )	(65,700 )
Payment on earnout consideration	-	(2,000 )	-
Proceeds from exercises of stock options	10,469	15,092	9,653
Payments in satisfaction of employees' minimum tax obligations	(6,564 )	(4,136 )	(2,004 )
Debt issuance costs	(10,061 )	(1,384 )	-
Purchases of treasury stock	(49,875 )	-	(6,284 )
Other financing activities	-	-	587
Net cash provided by financing activities	96,969	111,572	61,452
Effect of exchange rate changes on cash and cash equivalents	2,117	496	(4,445 )
Net (decrease) increase in cash and cash equivalents	(24,850 )	53,443	44,811
Cash and Cash Equivalents at Beginning of Period	271,888	218,445	173,634
Cash and Cash Equivalents at End of Period	\$247,038	\$271,888	\$218,445
Non cash transactions:			

Edgar Filing: II-VI INC - Form 10-K

Purchases of business - earnout consideration recorded in Other liabilities	\$-	\$-	\$2,417
Purchases of business - earnout consideration recorded in Other accrued liabilities	\$-	\$2,250	\$1,935
Capital lease obligation incurred on facility lease	\$-	\$25,000	\$-
Additions to property, plant & equipment included in accounts payable	\$12,313	\$4,428	\$-

See Notes to Consolidated Financial Statements.

## II-VI Incorporated and Subsidiaries

### Notes to the Consolidated Financial Statements

#### Note 1. Nature of Business and Summary of Significant Accounting Policies

**Nature of Business.** II-VI Incorporated and its subsidiaries (the “Company,” “we,” “us,” or “our”), a global leader in engineered materials and optoelectronic components and devices, is a vertically-integrated manufacturing company that develops, manufactures and markets engineered materials and optoelectronic components and devices for precision use in industrial materials processing, optical communications, military, consumer electronics, semiconductor equipment, life sciences and automotive applications. The Company markets its products through its direct sales force and through distributors and agents.

The Company uses certain uncommon materials and compounds to manufacture its products. Some of these materials are available from only one proven outside source. The continued high quality of these materials is critical to the stability of the Company’s manufacturing yields. The Company has not experienced significant production delays due to a shortage of materials. However, the Company does occasionally experience problems associated with vendor-supplied materials not meeting specifications for quality or purity. A significant failure of the Company’s suppliers to deliver sufficient quantities of necessary high-quality materials on a timely basis could have a material adverse effect on the Company’s results of operations.

**Principles of Consolidation.** The Consolidated Financial Statements include the accounts of the Company. All intercompany transactions and balances have been eliminated.

**Estimates.** The preparation of financial statements in conformity with accounting principles generally accepted in the United States (“U.S. GAAP”) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

**Foreign Currency Translation.** For II-VI Singapore Pte., Ltd. and its subsidiaries, II-VI Laser Enterprise of the II-VI Laser Solutions segment, II-VI Network Solutions Division of the II-VI Photonics segment, and II-VI Performance Metals of the II-VI Performance Products segment, the functional currency is the United States (U.S.) dollar. The determination of the functional currency is made based on the appropriate economic and management indicators.

For all other foreign subsidiaries, the functional currency is the local currency. Assets and liabilities of those operations are translated into U.S. dollars using period-end exchange rates while income and expenses are translated using the average exchange rates for the reporting period. Translation adjustments are recorded as accumulated other comprehensive income within shareholders’ equity in the accompanying Consolidated Balance Sheets.

**Cash and Cash Equivalents.** The Company considers highly liquid investment instruments with an original maturity of three months or less to be cash equivalents. We place our cash and cash equivalents with high credit quality financial institutions and to date have not experienced credit losses in these instruments. Cash of foreign subsidiaries is on deposit at banks in China, Vietnam, Singapore, Japan, Switzerland, the Netherlands, Germany, the Philippines, Belgium, Italy, Hong Kong, the United Kingdom, South Korea and Taiwan.

Accounts Receivable. The Company establishes an allowance for doubtful accounts based on historical experience and believes the collection of revenues, net of this allowance, is reasonably assured.

Inventories. Inventories are valued at the lower of cost or net realizable value, with cost determined on the first-in, first-out basis. Inventory costs include material, labor and manufacturing overhead. In evaluating the net realizable value of inventory, management also considers, if applicable, other factors, including known trends, market conditions, currency exchange rates and other such issues. The Company generally records an inventory adjustment as a charge against earnings for all products on hand more than 12 to 24 months, depending on the products that have not been sold to customers or cannot be further manufactured for sale to alternative customers. An additional charge may be recorded for product on hand that is in excess of product sold to customers over the same periods noted above. The cumulative adjustments to the carrying value of inventory totaled \$22.5 million and \$18.5 million at June 30, 2018 and 2017, respectively.

Property, Plant and Equipment. Property, plant and equipment are carried at cost or fair value upon acquisition. Major improvements are capitalized, while maintenance and repairs are generally expensed as incurred. The Company reviews its property, plant and equipment and other long-lived assets for impairment whenever events or circumstances indicate that the carrying amounts may not be recoverable. Depreciation for financial reporting purposes is computed primarily by the straight-line method over the estimated useful lives for building, building improvements and land improvements of 10 to 20 years and three to 20 years for machinery and equipment.



**Business Combinations.** The Company accounts for business acquisitions by establishing the acquisition-date fair value as the measurement for all assets acquired and liabilities assumed. Certain provisions of U.S. GAAP prescribe, among other things, the determination of acquisition-date fair value of consideration paid in a business combination (including contingent consideration) and the exclusion of transaction and acquisition-related restructuring costs from acquisition accounting. The Company accounts for contingent consideration received in accordance with the “Loss Recovery Approach” under U.S. GAAP. Contingent consideration is accounted for as a gain contingency and not recognized in other expense (income), net until all contingencies have been satisfied.

**Goodwill.** The excess purchase price over the fair value allocated to identifiable tangible and intangible net assets of businesses acquired is reported as goodwill in the accompanying Consolidated Balance Sheets. The Company tests goodwill for impairment at least annually as of April 1, or when events or changes in circumstances indicate that goodwill might be impaired. The evaluation of impairment involves comparing the current fair value of the Company’s reporting units to the recorded value (including goodwill). The Company uses a discounted cash flow (“DCF”) model and/or a market analysis to determine the current fair value of its reporting units. A number of significant assumptions and estimates are involved in estimating the forecasted cash flows used in the DCF model, including markets and market shares, sales volume and pricing, costs to produce, working capital changes and income tax rates. Management considers historical experience and all available information at the time the fair values of the reporting units are estimated. Goodwill impairment is now measured as the amount by which a reporting unit’s carrying value exceeds its fair value, not to exceed the carrying amount of goodwill.

The Company has the option to perform a qualitative assessment of goodwill prior to completing the quantitative assessment described above to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount, including goodwill and other intangible assets. If the Company concludes that this is the case, it must perform the quantitative assessment. Otherwise, the Company will forego the quantitative assessment and does not need to perform any further testing. As of April 1 of fiscal years 2018 and 2017, the Company completed its annual impairment tests of its reporting units using the quantitative assessment. Based on the results of these analyses the Company’s goodwill was not impaired.

**Intangibles.** Intangible assets are initially recorded at their cost or fair value upon acquisition. Finite-lived intangible assets are amortized for financial reporting purposes using the straight-line method over the estimated useful lives of the assets ranging from five to 20 years. Indefinite-lived intangible assets are not amortized but tested annually for impairment at April 1, or when events or changes in circumstances indicate that indefinite-lived intangible assets might be impaired.

**Investments in Other Entities.** In the normal course of business, the Company enters into various types of investment arrangements, each having unique terms and conditions. These investments may include equity interests held by the Company in business entities, including general or limited partnerships, contractual ventures, or other forms of equity participation. The Company determines whether such investments involve a variable interest entity (“VIE”) based on the characteristics of the subject entity. If the entity is determined to be a VIE, then management determines if the Company is the primary beneficiary of the entity and whether or not consolidation of the VIE is required. The primary beneficiary consolidating the VIE must normally have both (i) the power to direct the activities of a VIE that most significantly affect the VIE’s economic performance and (ii) the obligation to absorb losses of the VIE or the right to receive benefits from the VIE, in either case that could potentially be significant to the VIE. When the Company is deemed to be the primary beneficiary, the VIE is consolidated and the other party’s equity interest in the VIE is accounted for as a noncontrolling interest.

The Company generally accounts for investments it makes in VIEs in which it has determined that it does not have a controlling financial interest but has significant influence over and holds at least a 20% ownership interest using the equity method. Any such investment not meeting the parameters to be accounted under the equity method would be

accounted for using the cost method unless the investment had a readily determinable fair value, at which it would then be reported.

If an entity fails to meet the characteristics of a VIE, management then evaluates such entity under the voting model. Under the voting model, management consolidates the entity if they determine that the Company, directly or indirectly, has greater than 50% of the voting shares and determines that other equity holders do not have substantive participating rights.

Commitments and Contingencies. Liabilities for loss contingencies arising from claims, assessments, litigation, fines, and penalties and other sources are recorded when it is probable that a liability has been incurred and the amount of the assessment and/or remediation can be reasonably estimated. Legal costs incurred in connection with loss contingencies are expensed as incurred. Such accruals are adjusted as further information develops or circumstances change. The Company had no material loss contingency liabilities at June 30, 2018 related to commitments and contingencies.

**Income Taxes.** Deferred income tax assets and liabilities are determined based on the differences between the consolidated financial statement and tax basis of assets and liabilities using enacted tax rates in effect in the years in which the differences are expected to reverse. Valuation allowances are established when necessary to reduce deferred income tax assets to the amount more likely than not to be realized.

The Company recognizes the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The tax benefits recognized in the financial statements from such a position are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate resolution. The amount of unrecognized tax benefits is adjusted for changes in facts and circumstances. For example, adjustments could result from significant amendments to existing tax law and the issuance of regulations or interpretations by the taxing authorities, new information obtained during a tax examination, or resolution of an examination. The Company believes that its estimates for uncertain tax positions are appropriate and sufficient to pay assessments that may result from examinations of its tax returns. The Company recognizes both accrued interest and penalties related to unrecognized tax benefits in income tax expense.

**Revenue Recognition.** The Company recognizes revenues for product shipments when persuasive evidence of a sales arrangement exists, the product has been shipped or delivered, the sale price is fixed or determinable and collectability is reasonably assured. Title and risk of loss passes from the Company to its customer at the time of shipment in most cases with the exception of certain customers. For these customers, title does not pass and revenue is not recognized until the customer has received the product at its physical location.

The Company's revenue recognition policy is consistently applied across the Company's segments, product lines and geographical locations. Further for the periods covered herein, we did not have post shipment obligations such as training or installation, customer acceptance provisions, credits and discounts, rebates and price protection, or other similar privileges. Our distributors and agents are not granted price protection. Our distributors and agents, which comprise less than 10% of consolidated revenues, have no additional product return rights beyond the right to return defective products covered by our warranty policy. Revenues generated from transactions other than product shipments are contract related and have historically accounted for approximately 1% of consolidated revenues. We believe our revenue recognition practices have adequately considered the requirements under U.S. GAAP.

**Shipping and Handling Costs.** Shipping and handling costs billed to customers are included in revenues. Shipping and handling costs incurred by the Company are included in selling, general and administrative expenses in the accompanying Consolidated Statements of Earnings. Total shipping and handling revenue and costs included in revenues and in selling, general and administrative expenses were not significant for the fiscal years ended June 30, 2018, 2017 and 2016.

**Research and Development.** Internal research and development costs and costs not related to customer and government funded research and development contracts are expensed as incurred.

**Share-Based Compensation.** Share-based compensation arrangements require the recognition of the grant-date fair value of stock compensation in net earnings. The Company recognizes the share-based compensation expense over the requisite service period of the individual grantees, which generally equals the vesting period.

**Accumulated Other Comprehensive Income.** Accumulated other comprehensive income is a measure of all changes in shareholders' equity that result from transactions and other economic events in the period other than transactions with owners. Accumulated other comprehensive (loss) income is a component of shareholders' equity and consists of accumulated foreign currency translations adjustments and pension adjustments.

**Fair Value Measurements.** The Company applies fair value accounting for all financial assets and liabilities that are required to be recognized or disclosed at fair value in the financial statements. Fair value is defined as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When determining the fair value measurements for assets and liabilities, the Company considers the principal or most advantageous market in which the Company would transact, and the market-based risk measurements or assumptions that market participants would use in pricing the asset or liability, such as inherent risk, transfer restrictions and credit risk.

**Operating Leases.** The Company classifies operating leases in accordance with the provisions of lease accounting. Rent expense under noncancelable operating leases with scheduled rent increases or rent holidays is accounted for on a straight-line basis over the lease term, beginning on the date of initial possession or the effective date of the lease agreement. The amount of the excess straight-line rent expense over scheduled payments is recorded as a deferred liability. The current portion of unamortized deferred lease costs is included in other accrued liabilities and the long-term portion is included in other liabilities in the Consolidated Balance Sheets.

Capital Leases. The Company accounts for capital leases at the lesser of the estimated fair market value of the leased property or the net present value of the aggregate future minimum lease payments. The current and long-term portion of the capital lease obligation is recorded in Other accrued liabilities and other liabilities, respectively, in the Consolidated Balance Sheet. Capital lease assets are included in property, plant & equipment and are generally depreciated over the term of the lease. Interest expense on capital leases are included in interest expense in the Consolidated Statements of Earnings.

#### Recently Issued Financial Accounting Standards

##### Adopted Pronouncements

In January 2017, the FASB issued ASU 2017-04, Intangibles – Goodwill and Other (Topic 350): Simplifying the Accounting for Goodwill Impairment. This standard removes the second step of the goodwill impairment test, where a determination of the fair value of individual assets and liabilities of a reporting unit were needed to measure the goodwill impairment. Under this updated standard, goodwill impairment will now be the amount by which a reporting unit's carrying value exceeds its fair value, not to exceed the carrying amount of goodwill. The Company has adopted this standard for any impairment test that is performed after July 1, 2017 as permitted under the standard.

In March 2016, the FASB issued ASU 2016-09, Compensation – Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting. This update simplifies several aspects of the accounting for employee share-based payment transactions, including the accounting for income taxes, forfeitures, and statutory tax withholding requirements, and classification in the statement of cash flows. Under this ASU, excess tax benefits or deficiencies are recognized in income tax expense in the Consolidated Statement of Earnings. Upon adoption of this ASU, the Company had a valuation allowance for its U.S. deferred tax assets and did not recognize any tax benefit. Had the Company not had a valuation allowance, the Company would have recognized a tax benefit of \$2.4 million. The impact to the Company's dilutive shares under this new standard was immaterial.

In July 2015, the FASB issued ASU 2015-11, Inventory (Topic 330): Simplifying the Measurement of Inventory. This update simplifies the measurement of inventory valuation at the lower of cost or net realizable value. Net realizable value is the estimated selling price in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation. The adoption of this standard did not have a material effect on the Company's Consolidated Financial Statements.

In March 2016, the FASB issued ASU 2016-07, Investments – Equity Method and Joint Ventures (Topic 323): Simplifying the Transition to the Equity Method of Accounting. This update eliminates the requirement to retrospectively apply the equity method in previous periods when an investor obtains significant influence over an investee. The adoption of this standard did not have a material effect on the Company's Consolidated Financial Statements.

##### Revenue Recognition Pronouncement

In May 2014, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2014-09: Revenue from Contracts with Customers (Topic 606), that outlines a five-step revenue recognition model based on the principle that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods and services. This new standard became effective for the Company on July 1, 2018, and will be adopted using the modified retrospective transition method.

Based on review and analysis of our contracts, the standard primarily impacts our II-VI Performance Product segment, which has long-term production contracts with customers that sell to the U.S. Government. Prior to adoption of the new standard, revenue was generally recognized for these contracts at a point-in-time as units were shipped, while under the new standard, revenue will be recognized over time, principally under the units-of-delivery method which faithfully depicts the transfer of control to the customers. This change will result in an immaterial change in revenue for these contracts and no transition adjustment is anticipated for July 1, 2018.

We have updated the accounting policies affected by this standard, redesigned our related internal controls over financial reporting and are expanding the disclosures to be included in our first quarter 2019 Condensed Consolidated Financial Statements to meet the new requirements.

#### Other Pronouncements Currently Under Evaluation

In June 2018, the FASB issued ASU 2018-07, “Improvements to Nonemployee Share-Based Payment Accounting”, which simplifies the accounting for share-based payments granted to nonemployees for goods and services. Under the ASU, most of the guidance on such payments to nonemployees would be aligned with the requirements for share-based payments granted to employees. The standard will be effective for the Company’s 2020 fiscal year. Early adoption is permitted, but no earlier than an entity’s adoption date of Topic 606. The Company is evaluating the impact of this guidance on the Company’s Consolidated Financial Statements.

In August 2017, the FASB issued ASU 2017-12, Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities. The guidance eliminates the requirement to separately measure and report hedge ineffectiveness and generally requires the entire change in the fair value of a hedging instrument to be presented in the same income statement line as the hedged item. The standard will be effective for the Company's 2019 fiscal year. The adoption of this ASU is not expected to have a material effect on the Company's Consolidated Financial Statements.

In March 2017, the FASB issued ASU 2017-07, Compensation (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost. This update affects employers' presentation of defined benefit retirement plan costs. Early adoption is permitted. The standard will be effective for the Company's 2019 fiscal year. The adoption of this ASU is not expected to have a material effect on the Company's Consolidated Financial Statements.

In January 2017, the FASB issued ASU 2017-01, Business Combinations (Topic 805): Clarifying the Definition of a Business. This update changes the definition of a business to assist entities with evaluating when a set of transferred assets and activities is a business. Early adoption is permitted. The standard will be effective for the Company's 2019 fiscal year. The adoption of this ASU is not expected to have a material effect on the Company's Consolidated Financial Statements.

In October 2016, the FASB issued ASU 2016-16, Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory. This update requires that when intra-entity asset transfers occur, the entity must recognize tax effects in the period in which the transfer occurs. The standard will be effective for the Company's 2019 fiscal year. Early adoption is permitted. The adoption of this ASU is not expected to have a material effect on the Company's Consolidated Financial Statements.

In August 2016, the FASB issued ASU 2016-15, Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments. The guidance clarifies how entities should classify certain cash receipts and cash payments on the statement of cash flows. The guidance also clarifies how the predominance principle should be applied when cash receipts and cash payments have aspects of more than one class of cash flow. The update will be effective for the Company's 2019 fiscal year. Early adoption is permitted. The adoption of the ASU is not expected to have a material effect on the Company's Consolidated Financial Statements.

In June 2016, the FASB issued ASU 2016-13, Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments. This update is intended to provide financial statement users with more decision-useful information about expected credit losses and other commitments to extend credit held by the reporting entity. The standard replaces the incurred loss impairment methodology in current GAAP with one that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. The update will be effective for the Company's 2021 fiscal year. Early adoption is permitted. The Company is evaluating the impact of this guidance on the Company's Consolidated Financial Statements.

In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842). This update modifies lease accounting for lessees to increase transparency and comparability by recording lease assets and liabilities for operating leases and disclosing key information about leasing arrangements. The new standard will become effective for the Company's fiscal year 2020, which begins on July 1, 2019. The Company will adopt the new guidance utilizing the modified retrospective transition method. We have reviewed the requirements of this standard and have formulated a plan for implementation. We are currently working on accumulating a complete population of leases from all of our locations and have selected a software repository to track all of our lease agreements and to assist in the reporting and disclosure requirements required by the standard. We will continue to assess and disclose the impact that this new guidance will have on our consolidated financial statements, disclosures and related controls, when known.

Note 2. Acquisitions  
CoAdna, Inc.

In March 2018, the Company announced its intention to acquire CoAdna, Inc. (“CoAdna”), a publically traded company on the Taiwan Stock Exchange and based in Sunnyvale, CA, in a cash transaction valued at approximately \$85.0 million, net of any cash acquired. The transaction is expected to close during the first quarter of fiscal year 2019 and will be subject to regulatory approvals and customary closing conditions.

Kaiam Laser Limited, Inc.

In August 2017, the Company acquired Kaiam Laser Limited, Inc. (“Kaiam”), a privately held company based in Newton Aycliffe, United Kingdom. Under the terms of the merger agreement, the consideration consisted of cash paid at the acquisition date of \$79.5 million, net of cash acquired and an adjustment for a purchase price reduction of \$0.5 million. The acquisition of Kaiam provides the Company with a 150mm wafer fabrication platform to significantly expand the Company’s capacity for the production of vertical cavity surface emitting lasers (“VCSELs”) for the 3D sensing market and broadens the capability to address new market opportunities in other compound semiconductor materials. Kaiam now operates under the name II-VI Compound Semiconductor Ltd., within the Company’s II-VI Laser Solutions operating segment.



The following table presents the final allocation of the purchase price of the assets acquired and liabilities assumed at the date of acquisition (\$000):

<b>Assets</b>	
Accounts receivable	\$ 79
Inventories	4,559
Prepaid and other assets	1,246
Property, plant & equipment	63,899
Intangible assets	4,046
Goodwill	18,956
Total assets acquired	\$ 92,785
<b>Liabilities</b>	
Accounts payable	\$ 751
Other accrued liabilities	2,486
Deferred tax liabilities	10,555
Total liabilities assumed	13,792
Net assets acquired	\$ 78,993

The goodwill of \$19.0 million is included in the II-VI Laser Solutions segment and is attributed to the expected synergies and the assembled workforce of II-VI Compound Semiconductor Ltd. None of the goodwill is deductible for income tax purposes. The Company expensed transaction costs of \$0.6 million for the year ended June 30, 2018.

The amount of revenues of II-VI Compound Semiconductor Ltd. included in the Company's Consolidated Statement of Earnings for the year ended June 30, 2018 was \$3.4 million. The amount of net losses of II-VI Compound Semiconductor Ltd. included in the Company's Consolidated Statements of Earnings for the year ended June 30, 2018 was \$12.5 million.

#### Integrated Photonics, Inc.

In June 2017, the Company acquired Integrated Photonics, Inc. ("IPI"), a privately held company based in New Jersey. IPI is a leader in engineered magneto-optic materials that enable high-performance directional components such as optical isolators for the optical communications market. Under the terms of the merger agreement, the consideration consisted of initial cash paid at the acquisition date of \$40.1 million, net of cash acquired and a final working capital adjustment of \$0.8 million. In addition, the agreement provides up to a maximum of \$2.5 million of additional cash earnout opportunities based upon IPI achieving certain agreed-upon financial and transitional objectives, which if earned would be payable in the amount of \$2.5 million for the achievement of the annual target.

The following table presents the final purchase price at the date of acquisition (\$000):

Net cash paid at acquisition	\$40,098
Working capital adjustment	848
Fair value of cash earnout arrangement	2,215
Purchase price	\$43,161



The following table presents the final allocation of the purchase price of the assets acquired and liabilities assumed at the date of acquisition (\$000):

Assets	
Accounts receivable	\$2,083
Inventories	3,968
Prepaid and other assets	322
Property, plant & equipment	11,235
Intangible assets	23,554
Goodwill	17,514
Total assets acquired	\$58,676
Liabilities	
Accounts payable	\$847
Other accrued liabilities	1,032
Long-term debt assumed	3,834
Deferred tax liabilities	9,802
Total liabilities assumed	15,515
Net assets acquired	\$43,161

The goodwill of \$17.5 million is included in the II-VI Photonics segment and is attributed to the expected synergies and the assembled workforce of IPI. None of the goodwill is deductible for income tax purposes. The fair value of accounts receivable acquired was \$2.1 million, with the gross contractual amount being \$2.1 million. At the time of acquisition, the Company expected to collect all of the accounts receivable. The Company expensed transaction costs of \$0.3 million during the year ended June 30, 2017.

The amount of revenues of IPI included in the Company's Consolidated Statements of Earnings for the years ended June 30, 2018 and 2017 was \$19.3 million and \$1.3 million, respectively. The amount of net earnings of IPI included in the Company's Consolidated Statements of Earnings for the years ended June 30, 2018 and 2017 was \$3.8 million and \$0.1 million, respectively.

### Note 3. Other Investments

#### Purchase of Equity Investment

In November 2017, the Company acquired a 93.8% equity investment in a privately-held company for \$51.5 million. In addition, the Company paid \$0.2 million for a working capital adjustment to that purchase price. The Company's pro-rata share of earnings from this investment since the acquisition date was \$2.4 million for the year ended June 30, 2018 and was recorded in other expense (income), net in the Consolidated Statement of Earnings.

This investment is accounted for under the equity method of accounting ("Equity Investment"). The following table summarizes the Company's equity in this nonconsolidated investment:

Interest	Ownership % as of	Equity as of
Location Type	June 30, 2018	June 30, 2018
		(\$000)
USA Equity Investment	93.8%	\$56,331

The Equity Investment has been determined to be a variable interest entity because the Company has an overall 93.8% economic position in the investee, comprising a significant portion of its capitalization, but has only a 25% voting interest. The Company's obligation to receive rewards and absorb expected losses is disproportionate to its voting interest. The Company is not the primary beneficiary because it does not have the power to direct the activities of the equity investment that most significantly impact its economic performance. Certain business decisions, including decisions with respect to operating budgets, material capital expenditures, indebtedness, significant acquisitions or dispositions, and strategic decisions, require the approval of owners holding a majority percentage in the Equity Investment. Beginning on the date it was acquired, the Company accounted for its interest as an equity method investment as the Company has the ability to exercise significant influence over operating and financial policies of the Equity Investment.

As of June 30, 2018, the Company's maximum financial statement exposure related to the Equity Investment was approximately \$56.3 million, which is included in Investments on the Consolidated Balance Sheet as of June 30, 2018.

The Company has the right to purchase all of the outstanding interest of each of the minority equity holders and the minority equity holders have the right to cause the Company to purchase all of their outstanding interests at any time on or after the third anniversary of the investment, or earlier upon certain events. The purchase price is equal to the greater of: (a) (i) the product of the aggregate trailing 12-month revenues of the equity investment preceding the date of purchase, multiplied by (ii) a factor of 2.9 multiplied by (iii) a factor of 0.723, multiplied by (iv) the percentage interest owned by each minority equity holder and (b) \$966,666. The Company performed a Monte Carlo simulation to estimate the fair value of the net put option at the investment date and recorded a liability of \$2.2 million in Other long-term liabilities in the Consolidated Balance Sheet in accordance with ASC 815-10, Derivatives and Hedging. The fair value of the net put option is adjusted as necessary on a quarterly basis, with any changes in the fair value recorded through earnings. The change in fair value of the net purchase option from the investment date to June 30, 2018 was not material.

#### Guangdong Fuxin Electronic Technology Equity Investment

The Company has an equity investment of 20.2% in Guangdong Fuxin Electronic Technology, based in Guangdong Province, China, which is accounted for under the equity method of accounting. The total carrying value of the investment recorded at June 30, 2018 and June 30, 2017 was \$12.9 million and \$11.7 million, respectively. During the years ended June 30, 2018, 2017 and 2016, the Company's pro-rata share of earnings from this investment was \$1.2 million, \$0.7 million and \$0.1 million, respectively, and was recorded in other expense (income), net in the Consolidated Statements of Earnings. During the years ended June 30, 2018, 2017 and 2016, the Company received dividends from this equity investment of \$0.4 million, \$0.4 million and \$0.6 million, respectively.

#### Note 4. Inventories

The components of inventories were as follows:

June 30, (\$000)	2018	2017
Raw materials	\$97,502	\$78,979
Work in progress	83,002	61,679
Finished goods	67,764	63,037
	\$248,268	\$203,695

#### Note 5. Property, Plant & Equipment

Property, plant & equipment consist of the following:

June 30, (\$000)	2018	2017
Land and land improvements	\$9,072	\$5,667
Buildings and improvements	216,507	144,293
Machinery and equipment	633,934	492,042
Construction in progress	88,350	88,458
	947,863	730,460

Edgar Filing: II-VI INC - Form 10-K

Less accumulated depreciation	(422,973)	(362,732)
	\$524,890	\$367,728

Depreciation expense was \$66.2 million, \$50.9 million and \$44.3 million for the fiscal years ended June 30, 2018, 2017 and 2016, respectively.

Note 6. Goodwill and Other Intangible Assets

Goodwill represents the excess of the cost over the net tangible and identifiable intangible assets of acquired businesses. Identifiable intangible assets acquired in business combinations are recorded based upon fair value at the date of acquisition.

60

---

Changes in the carrying amount of goodwill were as follows (\$000):

	Year Ended June 30, 2018			
	II- VI			Total
	Laser Solutions	II-VI Photonics	Performance Products	
Balance-beginning of period	\$84,180	\$ 113,272	\$ 52,890	\$250,342
Goodwill acquired	18,956	-	-	18,956
Goodwill adjustment for prior year acquisition - IPI	-	407	-	407
Foreign currency translation	254	719	-	973
Balance-end of period	\$103,390	\$ 114,398	\$ 52,890	\$270,678

	Year Ended June 30, 2017			
	II- VI			Total
	Laser Solutions	II-VI Photonics	Performance Products	
Balance-beginning of period	\$84,105	\$96,760	\$ 52,890	\$233,755
Goodwill acquired	-	17,107	-	17,107
Foreign currency translation	75	(595 )	-	(520 )
Balance-end of period	\$84,180	\$ 113,272	\$ 52,890	\$250,342

The gross carrying amount and accumulated amortization of the Company's intangible assets other than goodwill as of June 30, 2018 and 2017 were as follows (\$000):

	June 30, 2018			June 30, 2017		
	Gross Carrying Amount	Accumulated Amortization	Net Book Value	Gross Carrying Amount	Accumulated Amortization	Net Book Value
Technology and Patents	\$66,812	\$ (32,979 )	\$33,833	\$65,438	\$ (27,313 )	\$38,125
Trade Names	15,882	(1,471 )	14,411	15,806	(1,340 )	14,466
Customer Lists	127,603	(50,792 )	76,811	123,058	(41,740 )	81,318
Other	1,573	(1,559 )	14	1,571	(1,523 )	48
Total	\$211,870	\$ (86,801 )	\$125,069	\$205,873	\$ (71,916 )	\$133,957

Amortization expense recorded on the intangible assets for the fiscal years ended June 30, 2018, 2017 and 2016 was \$14.6 million, \$12.7 million, and \$12.3 million, respectively. The technology and patents are being amortized over a range of 60 to 240 months with a weighted-average remaining life of approximately 91 months. The customer lists are being amortized over 60 to 240 months with a weighted-average remaining life of approximately 140 months.

In conjunction with the acquisition of II-VI Compound Semiconductor Ltd., the Company recorded \$0.4 million attributed to the value of technology and patents and \$3.6 million of customer lists. The intangibles were recorded based on the Company's final purchase price allocation utilizing either a discounted cash flow or relief from royalty method to derive the fair value.

In connection with past acquisitions, the Company acquired trade names with indefinite lives. The carrying amount of these trade names of \$14.3 million as of June 30, 2018 is not amortized but tested annually for impairment. The Company completed its impairment test of these trade names with indefinite lives in the fourth quarter of fiscal years 2018 and 2017. Based on the results of these tests, the trade names were not impaired in fiscal years 2018 and 2017.

The estimated amortization expense for existing intangible assets for each of the five succeeding years is as follows (\$000):

Year Ending June 30,	
2019	\$ 12,400
2020	14,000
2021	12,600
2022	10,900
2023	10,700



## Note 7. Debt

The components of debt were as follows (\$000):

June 30,	2018	2017
0.25% Convertible senior notes	\$345,000	\$-
Convertible senior notes unamortized discount attributable to cash conversion option and debt issuance costs including initial purchaser discount	(56,409 )	-
Term loan, interest at LIBOR, as defined, plus 1.75% and 1.50%, respectively	65,000	85,000
Line of credit, interest at LIBOR, as defined, plus 1.75% and 1.50%, respectively	80,000	252,000
Credit facility unamortized debt issuance costs	(1,126 )	(1,491 )
Yen denominated line of credit, interest at LIBOR, as defined, plus 1.75% and 0.625%, respectively	2,714	2,679
Note payable assumed in IPI acquisition	3,834	3,834
Total debt	439,013	342,022
Current portion of long-term debt	(20,000 )	(20,000 )
Long-term debt, less current portion	\$419,013	\$322,022
0.25% Convertible Senior Notes		

On August 24, 2017, the Company entered into a purchase agreement with Merrill Lynch, Pierce, Fenner & Smith Incorporated, as representative of the several initial purchasers named therein (collectively, the "Initial Purchasers"), to issue and sell \$300 million aggregate principal amount of our 0.25% convertible senior notes due 2022 (the "Notes") in a private placement to qualified institutional buyers within the meaning of Rule 144A under the Securities Act of 1933, as amended. In addition, we granted the Initial Purchasers a 30-day option to purchase up to an additional \$45 million aggregate principal amount of the Notes (the "Over-Allotment Option").

On August 29, 2017, the Initial Purchasers exercised their Over-Allotment Option to purchase the entire \$45 million in aggregate principal amount of additional Notes. The Notes mature on September 1, 2022, unless earlier repurchased by the Company or converted by holders in accordance with the terms of the Notes. Interest is payable semi-annually in arrears on March 1 and September 1 of each year, beginning on March 1, 2018.

The sale of the Notes to the Initial Purchasers settled on August 29, 2017, and resulted in approximately \$336 million in net proceeds to the Company after deducting the initial purchasers' discount and the estimated offering expenses. The net proceeds from the offering and sale of the Notes were used, in part, to repurchase approximately \$49.9 million of our common stock. The Company used the remaining net proceeds to repay \$252 million on its revolving credit facility and to pay debt issuance costs of \$10.1 million.

The Notes are governed by an Indenture between the Company, as issuer, and U.S. Bank, National Association, as trustee. The Notes are our senior unsecured obligations and rank senior in right of payment to any of our indebtedness that is expressly subordinated in right of payment to the Notes; equal in right of payment to any of our indebtedness that is not so subordinated; effectively junior in right of payment to any of our secured indebtedness to the extent of the value of the assets securing such indebtedness; and structurally junior to all indebtedness and other liabilities (including trade payables) of our subsidiaries. In the event of our bankruptcy, liquidation, reorganization or other winding up, our assets that secure secured debt will be available to pay obligations on the Notes only after all indebtedness under such secured debt has been repaid in full from such assets. Upon conversion, the Company will pay or deliver, as the case may be, cash, shares of our common stock or a combination of cash and shares of our common stock, at the Company's election.

As a result of our cash conversion option, the Company separately accounted for the value of the embedded conversion option as a debt discount. The value of the embedded conversion option was determined based on the estimated fair value of the debt without the conversion feature, which was determined using an expected present value technique (income approach) to estimate the fair value of similar nonconvertible debt; the debt discount is being amortized as additional non-cash interest expense over the term of the Notes using the effective interest method with an effective interest rate of 4.5% per annum.

The equity component is not remeasured as long as it continues to meet the conditions for equity classification. The initial conversion rate is 21.25 shares of common stock per \$1,000 principal amount of Notes, which is equivalent to an initial conversion price of \$47.06 per share of common stock. Throughout the term of the Notes, the conversion rate may be adjusted upon the occurrence of certain events. The if-converted value of the Notes amounted to \$318.5 million as of June 30, 2018 (based on the Company's closing stock price on the last trading day of the year ended June 30, 2018).

Holders of the Notes will not receive any cash payment representing accrued and unpaid interest upon conversion of a note. Accrued but unpaid interest will be deemed to be paid in full upon conversion rather than cancelled, extinguished or forfeited.

Prior to the close of business on the business day immediately preceding June 1, 2022, the Notes will be convertible only upon satisfaction of at least one of the conditions as follows:

- a) During any fiscal quarter (and only during such fiscal quarter), if the last reported sale price of our common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on the last trading day of the immediately preceding quarter is greater than or equal to 130% of the conversion price on each applicable trading day;
- b) During the five business day period after any five consecutive trading day period (the “measurement period”) in which the trading price per \$1,000 principal amount of Notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of our common stock and the conversion rate on each such trading day; or
- c) Upon the occurrence of specified corporate events.

On or after June 1, 2022 until the close of business on the business day immediately preceding the maturity date, holders may convert all or any portion of their Notes, in multiples of \$1,000 principal amount, at the option of the holder regardless of the foregoing circumstances.

As of June 30, 2018, the Notes are not yet convertible. The Notes will become convertible upon the satisfaction of at least one of the above conditions. In accounting for the transaction costs related to the Note issuance, the Company allocated the total amount of offering costs incurred to the debt and equity components based on their relative values. Offering costs attributable to the debt component, totaling \$8.4 million, are being amortized as non-cash interest expense over the term of the Notes, and offering costs attributable to the equity component, totaling \$1.7 million, were recorded within Shareholders' Equity.

The Company was in compliance with all the covenants set forth under the indenture.

The following table sets forth total interest expense recognized related to the Notes for the fiscal year ended June 30, 2018 (representing an effective interest rate of 4.5%):

Year ended June 30,	2018
0.25% contractual coupon	\$ 731
Amortization of debt discount and debt issuance costs including initial purchaser discount	10,058
Interest expense	\$ 10,789

The unamortized discount amounted to \$49.3 million as of June 30, 2018 and is being amortized over 4 years.

#### Amended Credit Facility

On July 28, 2016, the Company amended and restated its existing credit agreement. The Third Amended and Restated Credit Agreement (the “Amended Credit Facility”) provides for a revolving credit facility of \$325 million, as well as a \$100 million term loan. The term loan is being repaid in consecutive quarterly principal payments on the first business day of each January, April, July and October, with the first payment having commenced on October 1, 2016, as follows: (i) twenty consecutive quarterly installments of \$5 million and (ii) a final installment of all remaining principal due and payable on the maturity date of July 27, 2021. Amounts borrowed under the revolving credit facility are due and payable on the maturity date. The Amended Credit Facility is unsecured, but is guaranteed by each

existing and subsequently acquired or organized wholly-owned domestic subsidiary of the Company. The Company has the option to request an increase to the size of the revolving credit facility in an aggregate additional amount not to exceed \$100 million. The Amended Credit Facility has a five-year term through July 27, 2021 and has an interest rate of either a Base Rate Option or a Euro-Rate Option, plus an Applicable Margin, as defined in the agreement governing the Amended Credit Facility. If the Base Rate option is selected for a borrowing, the Applicable Margin is 0.00% to 1.25% and if the Euro-Rate Option is selected for a borrowing, the Applicable Margin is 1.00% to 2.25%. The Applicable Margin is based on the ratio of the Company's consolidated indebtedness to consolidated EBITDA. Additionally, the Credit Facility is subject to certain covenants, including those relating to minimum interest coverage and maximum leverage ratios. As of June 30, 2018, the Company was in compliance with all financial covenants under its Amended Credit Facility.

#### Yen Loan

The Company's yen denominated line of credit is a 500 million Yen (\$4.5 million) facility. The Yen line of credit matures in August 2020. The interest rate equal to LIBOR, as defined in the loan agreement, plus 0.625% to 1.75%. At June 30, 2018 and 2017, the Company had 300 million yen outstanding under the line of credit. Additionally, the facility is subject to certain covenants, including

those relating to minimum interest coverage and maximum leverage ratios. As of June 30, 2018, the Company had \$2.7 million outstanding and was in compliance with all covenants under its Yen facility.

#### Note Payable

In conjunction with the acquisition of IPI, the Company assumed a non-interest bearing note payable owed to a major customer of IPI. The agreement, if not terminated early by either party, is payable in full in January 2020.

#### Singapore Line of Credit

The Company has a line of credit facility with a Singapore bank which permits maximum borrowings in the local currency of approximately \$0.6 million for the fiscal years ended June 30, 2018 and 2017, respectively. Borrowings are payable upon demand with interest charged at the rate of 1.00% above the bank's prevailing prime lending rate. The interest rate was 5.25% at June 30, 2018 and June 30, 2017. At June 30, 2018 and 2017, there were no outstanding borrowings under this facility. The Company had \$0.3 million and \$0.2 million of letters of credit supported by the Singapore line of credit facility as of June 30, 2018 and 2017, respectively.

#### Aggregate Availability

The Company had aggregate availability of \$246.4 million and \$73.5 million under its lines of credit as of June 30, 2018 and 2017, respectively. The amounts available under the Company's lines of credit are reduced by outstanding letters of credit. As of June 30, 2018 and 2017, total outstanding letters of credit supported by the credit facilities were \$0.4 million and \$1.3 million, respectively.

#### Weighted Average Interest Rate

The weighted average interest rate of total borrowings was 1.3% and 2.2% for the years ended June 30, 2018 and 2017, respectively. The weighted average of total borrowings for the fiscal years ended June 30, 2018 and 2017 was \$476.6 million and \$272.1 million, respectively. There are no interim maturities or minimum payment requirements related to the credit facilities before their respective expiration dates. Interest and commitment fees paid during the fiscal year ended June 30, 2018, 2017 and 2016 were \$6.6 million, \$6.1 million and \$3.1 million, respectively.

#### Remaining Annual Principal Payments

Remaining annual principal payments under the Company's existing credit facilities and notes payable as of June 30, 2018 were as follows (\$000):

Period	Term Loan	Yen Line of Credit	U.S. Dollar		Convertibles Notes	Total
			Line of Credit	Note Payable		
June 30, 2019	\$20,000	\$-	\$-	\$-	\$-	\$20,000
June 30, 2020	20,000	-	-	3,834	-	\$23,834
June 30, 2021	20,000	2,714	-	-	-	\$22,714
June 30, 2022	5,000	-	80,000	-	-	\$85,000

Edgar Filing: II-VI INC - Form 10-K

June 30, 2023	-	-	-	-	345,000	\$345,000
Total	\$65,000	\$2,714	\$80,000	\$3,834	\$345,000	\$496,548

Note 8. Income Taxes

The components of earnings (losses) before income taxes were as follows:

Year Ended June 30, (\$000)	2018	2017	2016
U.S. loss	\$(15,207 )	\$(6,944 )	\$(5,809 )
Non-U.S. income	137,401	125,732	95,764
Earnings before income taxes	\$122,194	\$118,788	\$89,955

The components of income tax expense were as follows:

Year Ended June 30, (\$000)	2018	2017	2016
<b>Current:</b>			
Federal	\$699	\$2,133	\$3,704
State	401	253	5
Foreign	32,147	22,312	19,783
<b>Total Current</b>	<b>\$33,247</b>	<b>\$24,698</b>	<b>\$23,492</b>
<b>Deferred:</b>			
Federal	\$(3,064)	\$(6,963)	\$2,759
State	1,615	(1,251)	1,302
Foreign	2,394	7,030	(3,084)
<b>Total Deferred</b>	<b>\$945</b>	<b>\$(1,184)</b>	<b>\$977</b>
<b>Total Income Tax Expense</b>	<b>\$34,192</b>	<b>\$23,514</b>	<b>\$24,469</b>

Principal items comprising deferred income taxes were as follows:

June 30, (\$000)	2018	2017
<b>Deferred income tax assets</b>		
Inventory capitalization	\$5,267	\$6,338
Non-deductible accruals	1,125	1,705
Accrued employee benefits	7,614	9,738
Net-operating loss and credit carryforwards	48,738	53,048
Share-based compensation expense	7,925	12,386
Other	3,242	1,761
Valuation allowances	(21,797)	(42,562)
<b>Total deferred income tax assets</b>	<b>\$52,114</b>	<b>\$42,414</b>
<b>Deferred income tax liabilities</b>		
Tax over book accumulated depreciation	\$(24,174)	\$(7,803)
Intangible assets	(24,649)	(38,108)
Tax on unremitted earnings	(13,090)	(6,210)
Convertible debt	(11,376)	-
Other	(4,020)	(2,615)
<b>Total deferred income tax liabilities</b>	<b>\$(77,309)</b>	<b>\$(54,736)</b>
<b>Net deferred income taxes</b>	<b>\$(25,195)</b>	<b>\$(12,322)</b>

The reconciliation of income tax expense at the statutory U.S. federal rate to the reported income tax expense is as follows:

Edgar Filing: II-VI INC - Form 10-K

Year Ended June 30, (\$000)	2018	%	2017	%	2016	%
Taxes at statutory rate	\$34,284	28	\$41,576	35	\$31,484	35
Increase (decrease) in taxes resulting from:						
State income taxes-net of federal benefit	1,426	1	(641 )	-	864	1
Taxes on non U.S. earnings	(16,058 )	(13 )	(12,907 )	(11 )	(13,860 )	(15 )
Valuation allowance	(6,008 )	(5 )	(806 )	(1 )	8,464	9
Research and manufacturing incentive deductions and credits	(7,024 )	(6 )	(5,681 )	(5 )	(4,374 )	(5 )
Stock compensation	(4,103 )	(3 )	1,770	2	702	1
Repatriation tax	36,777	30	-	-	-	-
Impact of U.S. tax rate change on deferred balances	(4,209 )	(3 )	-	-	-	-
Other	(893 )	(1 )	203	-	1,189	1
	\$34,192	28	\$23,514	20	\$24,469	27



## U.S. Tax Reform

On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the “Tax Act”). The Tax Act significantly revises the future ongoing U.S. corporate income tax by, among other things, lowering U.S. corporate income tax rates and implementing a territorial tax system. As the Company has a June 30 fiscal year end, the lower corporate income tax rate was phased in, resulting in a U.S. statutory federal rate of approximately 28% for the Company’s fiscal year ending June 30, 2018, and 21% for subsequent fiscal years. As part of the transition to the new territorial tax system, the Tax Act imposes a one-time repatriation tax on total post-1986 earnings and profits (“E&P”) of foreign subsidiaries that were previously deferred from U.S. income taxes.

At June 30, 2018, the Company has not finalized its accounting for the tax effects of the Tax Act; however, as described below, management has made a reasonable estimate of the effects on existing deferred tax balances and has recorded an estimated amount for its one-time repatriation tax, resulting in an increase in income tax expense. The Company has yet to complete its calculation of the total post-1986 foreign E&P and therefore may change.

The impact of the repatriation tax is expected to be offset by available net operating loss and credit carryforwards which currently have a valuation allowance. Thus the tax expense reported is reduced by the release of the valuation allowance on U.S. deferred tax assets. The reduction of the U.S. corporate tax rate caused the Company to adjust the U.S. deferred tax assets and liabilities to the lower U.S. statutory federal rate of 21%. However, the Company will continue to analyze certain aspects of the Tax Act which could affect the measurement of these balances or give rise to new deferred tax amounts. In addition, the Company has recorded withholding taxes on planned repatriation due to the change to a territorial tax system. The transitional impacts described above resulted in a cumulative provisional net charge to income tax expense of \$8.0 million for the year ended June 30, 2018.

The changes included in the Tax Act are broad and complex. The final transition impacts of the Tax Act may differ from the estimates recorded during the year ended June 30, 2018, possibly materially, due to, among other things, changes in interpretations of the Tax Act, any legislative action to address questions that arise because of the Tax Act, any changes in accounting standards for income taxes or related interpretations in response to the Tax Act, or any updates or changes to estimates the Company has utilized to calculate the transition impacts, including impacts from changes to current year earnings estimates and foreign exchange rates of foreign subsidiaries. The Securities and Exchange Commission has issued rules that allow for a measurement period of up to one year after the enactment date of the Tax Act to finalize the recording of the related tax impacts. The Company currently anticipates finalizing and recording any resulting adjustments by the end of the quarter ending December 31, 2018.

During the fiscal years ended June 30, 2018, 2017, and 2016, net cash paid by the Company for income taxes was \$21.3 million, \$23.6 million, and \$18.5 million, respectively.

Our foreign subsidiaries in the Philippines operate under various tax holiday arrangements. The benefits of such arrangements phase out through the fiscal year ended June 30, 2019. The impact of the tax holidays on our effective rate is a reduction in the rate of 0.17%, 0.31% and 0.37% for the fiscal years ended June 30, 2018, 2017 and 2016,

respectively, and the impact of the tax holidays on diluted earnings per share is immaterial.

The Company has the following gross operating loss carryforwards and tax credit carryforwards as of June 30, 2018:

Type (\$000)	Amount	Expiration Date
Tax credit carryforwards:		
Federal research and development credits	\$13,913	June 2019-June 2038
Foreign tax credits	251	June 2024-June 2028
State tax credits	5,594	June 2019-June 2038
Operating loss carryforwards:		
Loss carryforwards - federal	\$68,661	June 2020-June 2038
Loss carryforwards - state	47,756	June 2019-June 2038
Loss carryforwards - foreign	16,347	June 2019-June 2028

The Company has recorded a valuation allowance against the majority of the loss and credit carryforwards. The Company's U.S. federal loss carryforwards, federal research and development credit carryforwards, and certain state tax credits resulting from the Company's acquisitions are subject to various annual limitations under Section 382 of the U.S. Internal Revenue Code.

Changes in the liability for unrecognized tax benefits for the fiscal years ended June 30, 2018, 2017 and 2016 were as follows:

	2018	2017	2016
(\$000)			
Beginning balance	\$7,577	\$5,559	\$4,022
Increases in current year tax positions	2,536	895	2,146
Increases in prior year tax positions	224	2,605	190
Decreases in prior year tax positions	(9 )	-	(67 )
Settlements	-	(1,143)	-
Expiration of statute of limitations	(436 )	(339 )	(732 )
Ending balance	\$9,892	\$7,577	\$5,559

The Company classifies all estimated and actual interest and penalties as income tax expense. During fiscal year 2018 and 2017, there was \$0.3 million and \$0.5 million of interest and penalties within income tax expense, respectively. During the fiscal year 2016, there was no interest or penalties within income tax expense. The Company had \$0.6 million and \$0.3 million of interest and penalties accrued at June 30, 2018 and 2017, respectively. The Company has classified the uncertain tax positions as non-current income tax liabilities, as the amounts are not expected to be paid within one year. Including tax positions for which the Company determined that the tax position would not meet the more likely than not recognition threshold upon examination by the tax authorities based upon the technical merits of the position, the total estimated unrecognized tax benefit that, if recognized, would affect our effective tax rate, was approximately \$1.6 million and \$1.3 million at June 30, 2018 and 2017, respectively. The Company expects a decrease of \$3.4 million of unrecognized tax benefits during the next 12 months due to the expiration of statutes of limitation.

Fiscal years 2015 to 2018 remain open to examination by the Internal Revenue Service, fiscal years 2013 to 2018 remain open to examination by certain state jurisdictions, and fiscal years 2008 to 2018 remain open to examination by certain foreign taxing jurisdictions. The Company is currently under examination for the U.S. Federal income tax return for the year ended June 30, 2016; certain subsidiary companies in the Philippines for the year ended June 30, 2017; and Germany for the years ended June 2012 through June 2015. The Company believes its income tax reserves for these tax matters are adequate.

#### Note 9. Earnings Per Share

The following table sets forth the computation of earnings per share for the periods indicated. Basic net income per share has been computed using the weighted average number of shares of common stock outstanding during the period. Diluted net income per share has been computed using the weighted average number of common shares outstanding during the period plus dilutive potential shares of common stock from (1) stock options, performance and restricted shares (under the treasury stock method) and (2) convertible debt (under the If-Converted method) outstanding during the period. The Company's convertible debt calculated under the If-Converted method was antidilutive for the fiscal year 2018 and was excluded from the calculation of earnings per share.

Year Ended June 30,	2018	2017	2016
---------------------	------	------	------

Edgar Filing: II-VI INC - Form 10-K

(\$000 except per share)			
Net earnings	\$88,002	\$95,274	\$65,486
Divided by:			
Weighted average shares	62,499	62,576	61,366
Basic earnings per common share	\$1.41	\$1.52	\$1.07
Net earnings	\$88,002	\$95,274	\$65,486
Divided by:			
Weighted average shares	62,499	62,576	61,366
Dilutive effect of common stock equivalents	2,634	1,931	1,543
Diluted weighted average common shares	65,133	64,507	62,909
Diluted earnings per common share	\$1.35	\$1.48	\$1.04

The following table presents potential shares of common stock excluded from the calculation of diluted net income per share, as their effect would have been antidilutive (\$000):

Year Ended June 30,	2018	2017	2016
Stock options and restricted shares	135	140	153
0.25% Convertible Senior Notes due 2022	7,331	-	-
Total anti-dilutive shares	7,466	140	153

#### Note 10. Operating Leases

The Company leases certain property under operating leases that expire at various dates. Future rental commitments applicable to the operating leases at June 30, 2018 are as follows:

Year Ending June 30, (\$000)	
2019	\$20,100
2020	19,100
2021	14,500
2022	11,700
2023	9,800
Thereafter	52,700

Rent expense was approximately \$17.0 million, \$14.7 million, and \$14.2 million for the fiscal years ended June 30, 2018, 2017 and 2016, respectively.

#### Note 11. Share-Based Compensation Plans

The Company's Board of Directors adopted the II-VI Incorporated Amended and Restated 2012 Omnibus Incentive Plan (the "Plan") which was approved by the shareholders at the Annual Meeting in November 2014 as amended. The Plan provides for the grant of non-qualified stock options, stock appreciation rights, restricted shares, restricted share units, deferred shares, performance shares and performance share units to employees, officers and directors of the Company. The maximum number of shares of the Company's common stock authorized for issuance under the Plan is limited to 4,900,000 shares of common stock, not including any remaining shares forfeited under the predecessor plans that may be rolled into the Plan. The Plan has vesting provisions predicated upon the death, retirement or disability of the grantee. As of June 30, 2018, there were approximately 955,000 shares available to be issued under the Plan, including forfeited shares from predecessor plans.

The Company records share-based compensation expense for these awards which requires the recognition of the grant-date fair value of share-based compensation in net earnings. The Company recognizes the share-based compensation expense over the requisite service period of the individual grantees, which generally equals the vesting period. The Company accounts for cash-based stock appreciation rights, cash-based restricted share unit awards and

cash-based performance share unit awards as liability awards, in accordance with applicable accounting standards.

Share-based compensation expense for the fiscal years ended June 30, 2018, 2017 and 2016 is as follows (\$000):

Year Ended June 30,	2018	2017	2016
Stock Options and Cash-Based Stock Appreciation Rights	\$6,605	\$5,611	\$4,309
Restricted Share Awards and Cash-Based Restricted Share Unit Awards	7,850	6,799	4,401
Performance Share Awards and Cash-Based Performance Share Unit Awards	5,221	3,626	2,196
	\$19,676	\$16,036	\$10,906

The share-based compensation expense is allocated approximately 20% to cost of goods sold and 80% to selling, general and administrative expense in the Consolidated Statements of Earnings, based on the employee classification of the grantee. Share-based compensation expense associated with liability awards was \$4.4 million, \$4.3 million, and \$1.2 million, in the fiscal years ended June 30, 2018, 2017 and 2016, respectively.

## Stock Options and Cash-Based Stock Appreciation Rights:

The Company utilized the Black-Scholes valuation model for estimating the fair value of stock option expense. During the fiscal years ended June 30, 2018, 2017 and 2016, the weighted-average fair value of options granted under the stock option plan was \$14.23, \$8.88 and \$7.35, respectively, per option using the following assumptions:

Year Ended June 30,	2018	2017	2016
Risk-free interest rate	2.00 %	1.43 %	1.68 %
Expected volatility	37 %	37 %	38 %
Expected life of options	6.43 years	6.28 years	6.43 years
Dividend yield	None	None	None

The risk-free interest rate is derived from the average U.S. Treasury Note rate during the period, which approximates the rate in effect at the time of grant related to the expected life of the options. The risk-free interest rate shown above is the weighted average rate for all options granted during the fiscal year. Expected volatility is based on the historical volatility of the Company's common stock over the period commensurate with the expected life of the options. The expected life calculation is based on the observed time to post-vesting exercise and/or forfeitures of options by our employees. The dividend yield of zero is based on the fact that the Company has never paid cash dividends and has no current intention to pay cash dividends in the future. The estimated annualized forfeitures are based on the Company's historical experience of option pre-vesting cancellations and are estimated at a rate of 17.6%. The Company will record additional expense in future periods if the actual forfeiture rate is lower than estimated, and will adjust expense in future periods if the actual forfeitures are higher than estimated.

Stock option and cash-based stock appreciation rights activity during the fiscal year ended June 30, 2018 was as follows:

	Stock Options		Cash-Based Stock Appreciation Rights	
	Number of Shares	Weighted Average Exercise Price	Number of Rights	Weighted Average Exercise Price
Outstanding - July 1, 2017	4,080,915	\$ 18.15	214,467	\$ 19.17
Granted	474,270	\$ 35.54	47,800	\$ 35.46
Exercised	(573,004 )	\$ 18.27	(30,467 )	\$ 18.44
Forfeited and Expired	(53,473 )	\$ 27.67	(26,352 )	\$ 23.14
Outstanding - June 30, 2018	3,928,708	\$ 20.07	205,448	\$ 22.56
Exercisable - June 30, 2018	2,288,266	\$ 17.24	59,766	\$ 18.47

As of June 30, 2018, 2017 and 2016, the aggregate intrinsic value of stock options and cash-based stock appreciation rights outstanding and exercisable was \$96.1 million, \$69.3 million and \$10.1 million, respectively. Aggregate intrinsic value represents the total pretax intrinsic value (the difference between the Company's closing stock price on the last trading day of the year ended June 30, 2018, and the option's exercise price, multiplied by the number of

in-the-money options) that would have been received by the option holders had all option holders exercised their options on June 30, 2018. This amount varies based on the fair market value of the Company's stock. The total intrinsic value of stock options and cash-based stock appreciation rights exercised during the fiscal years ended June 30, 2018, 2017, and 2016 was \$14.7 million, \$12.3 million, and \$4.5 million, respectively. As of June 30, 2018, total unrecognized compensation cost related to non-vested stock options and cash-based stock appreciation rights was \$13.9 million. This cost is expected to be recognized over a weighted-average period of approximately three years. Outstanding and exercisable stock options at June 30, 2018 were as follows:

Range of Exercise Prices	Stock Options and Cash-Based Stock Appreciation Rights Outstanding			Stock Options and Cash-Based Stock Appreciation Rights Exercisable		
	Number of Shares or Rights	Weighted Average Remaining Contractual Term (Years)	Weighted Average Exercise Price	Number of Shares or Rights	Weighted Average Remaining Contractual Term (Years)	Weighted Average Exercise Price
\$10.04 - \$15.38	902,022	4.21	\$ 13.25	667,878	3.54	\$ 12.99
\$15.47 - \$23.50	2,647,015	5.58	\$ 19.29	1,657,129	4.40	\$ 18.80
\$25.91 - \$39.65	569,559	9.00	\$ 34.79	23,025	7.14	\$ 31.23
\$41.50 - \$45.24	15,560	9.55	\$ 42.87	-	-	\$ -
	4,134,156	5.77	\$ 20.20	2,348,032	\$ 4.18	\$ 17.27



## Restricted Share Awards and Cash-Based Restricted Share Unit Awards:

Restricted share awards and cash-based restricted share unit awards compensation expense was calculated based on the number of shares or units expected to be earned by the grantee multiplied by the stock price at the date of grant (for restricted share awards) or the stock price at the period end date (for cash-based restricted share unit awards), and is being recognized over the vesting period. Generally, the restricted share awards and restricted share unit awards have a three year tranche vesting provision and an estimated forfeiture rate of 10.2%.

Restricted share and cash-based restricted share unit activity during the fiscal year ended June 30, 2018, was as follows:

	Restricted Share Awards		Cash-Based Restricted Share Units	
	Number of Shares	Weighted Average Grant Date Fair Value	Number of Units	Weighted Average Grant Date Fair Value
Nonvested - June 30, 2017	811,833	\$ 19.45	140,927	\$ 19.12
Granted	166,348	\$ 35.58	46,012	\$ 35.43
Vested	(370,571)	\$ 18.15	(55,189)	\$ 17.45
Forfeited	(12,091)	\$ 28.71	(14,424)	\$ 24.97
Nonvested - June 30, 2018	595,519	\$ 24.58	117,326	\$ 25.57

As of June 30, 2018, total unrecognized compensation cost related to non-vested restricted share and cash-based restricted share unit awards was \$9.7 million. This cost is expected to be recognized over a weighted-average period of approximately two years. The restricted share compensation expense was calculated based on the number of shares expected to be earned, multiplied by the stock price at the date of grant, and is being recognized over the vesting period. The cash-based restricted share unit compensation expense was calculated based on the number of shares expected to be earned, multiplied by the stock price at the period-end date, and is being recognized over the vesting period. The total fair value of the restricted share and cash-based restricted share unit awards granted during the years ended June 30, 2018, 2017 and 2016, was \$7.5 million, \$7.8 million and \$6.3 million, respectively. The total fair value of restricted shares and cash-based restricted share unit awards vested was \$17.0 million, \$6.2 million and \$5.5 million during fiscal years 2018, 2017 and 2016, respectively.

## Performance Share Awards and Cash-Based Performance Share Unit Awards:

The Compensation Committee of the Board of Directors of the Company has granted certain executive officers and employees performance share awards and performance share unit awards under the Plan. As of June 30, 2018, the Company had outstanding grants covering performance periods ranging from 12 to 36 months. These awards are intended to provide continuing emphasis on specified financial performance goals that the Company considers important contributors to the creation of long-term shareholder value. These awards are payable only if the Company achieves specified levels of financial performance during the performance periods.

The performance share compensation expense was calculated based on the number of shares expected to be earned, multiplied by the stock price at the date of grant, and is being recognized over the vesting period. The cash-based performance share unit compensation expense was calculated based on the number of shares expected to be earned, multiplied by the stock price at the period-end date, and is being recognized over the vesting period. Performance

share and cash-based performance share unit award activity relating to the Plan during the year ended June 30, 2018, was as follows:

	Performance Share Awards		Cash-Based Performance Share Units	
	Number of Shares	Weighted Average Grant Date Fair Value	Number of Units	Weighted Average Grant Date Fair Value
Nonvested - June 30, 2017	377,710	\$ 19.52	17,152	\$ 19.37
Granted	99,168	\$ 35.25	9,120	\$ 35.25
Vested	(70,210 )	\$ 14.84	(2,221 )	\$ 15.42
Forfeited	(24,398 )	\$ 17.84	(6,772 )	\$ 25.88
Nonvested - June 30, 2018	382,270	\$ 24.57	17,279	\$ 25.71

As of June 30, 2018, total unrecognized compensation cost related to non-vested performance share and cash-based performance share unit awards was \$4.7 million. This cost is expected to be recognized over a weighted-average period of approximately one year. The total fair value of the performance share and cash-based performance share unit awards granted during the fiscal years ended June 30, 2018, 2017 and 2016 was \$3.8 million, \$5.3 million and \$2.4 million, respectively. The total fair value of performance shares vested during the fiscal years ended June 30, 2018, 2017 and 2016 was \$3.6 million, \$5.9 million and \$1.5 million, respectively.

For our relative Total Shareholder Return (“TSR”) performance-based awards, which are based on market performance of our stock as compared to the Russel 2000 Index, the compensation cost is recognized over the performance period on a straight-line basis net of forfeitures, because the awards vest only at the end of the measurement period and the probability of actual shares expected to be earned is considered in the grant date valuation. As a result, the expense is not adjusted to reflect the actual shares earned. We estimate the fair value of the TSR performance-based awards using the Monte-Carlo simulation model.

#### Note 12. Segment and Geographic Reporting

The Company reports its business segments using the “management approach” model for segment reporting. This means that the Company determines its reportable business segments based on the way the chief operating decision maker organizes business segments within the Company for making operating decisions and assessing performance.

The Company reports its financial results in the following three segments: (i) II-VI Laser Solutions, (ii) II-VI Photonics, and (iii) II-VI Performance Products, and the Company’s chief operating decision maker receives and reviews financial information based on these segments. The Company evaluates business segment performance based upon segment operating income, which is defined as earnings before income taxes, interest and other income or expense.

The II-VI Laser Solutions segment is located in the United States, Singapore, China, Germany, Switzerland, Japan, Belgium, the United Kingdom, Italy, South Korea, the Philippines and Taiwan. II-VI Laser Solutions designs, manufactures and markets optical and electro-optical components and materials sold under the II-VI Infrared brand name and used primarily in high-power CO<sub>2</sub> lasers, fiber-delivered beam delivery systems and processing tools and direct diode lasers for industrial lasers sold under the II-VI HIGHYAG and II-VI Laser Enterprise brand names. II-VI Laser Solutions also manufactures compound semiconductor epitaxial wafers for applications in optical components, wireless devices, and high-speed communication systems and manufactures 6-inch GaAs wafers allowing for the production of high performance lasers and integrated circuits in high volume sold under the II-VI EpiWorks and II-VI OptoElectronic Devices Division brand names.

The II-VI Photonics segment is located in the United States, China, Vietnam, Germany, Japan, the United Kingdom, Italy and Hong Kong. II-VI Photonics manufactures crystal materials, optics, microchip lasers and optoelectronic modules for use in optical communication networks and other diverse consumer and commercial applications. In addition, the segment manufactures pump lasers, optical isolators, and optical amplifiers and micro-optics for optical amplifiers, for both terrestrial and submarine applications within the optical communications market.

The II-VI Performance Products segment is located in the United States, Vietnam, Japan, China, Germany and the Philippines. II-VI Performance Products is further divided into production and administrative units that are directed by managers. II-VI Performance Products designs, manufactures and markets infrared optical components and high-precision optical assemblies for military, medical and commercial laser imaging applications. In addition, the segment designs, manufactures and markets unique engineered materials for thermoelectric and silicon carbide applications servicing the semiconductor, military and medical markets.

On August 7, 2017, the Company completed its acquisition of II-VI Compound Semiconductor Ltd. See Note 2. Acquisitions. The operating results of this acquisition have been reflected in the selected financial information of the Company’s II-VI Laser Solutions segment.

On June 19, 2017, the Company completed its acquisition of IPI. See Note 2. Acquisitions. The operating results of this acquisition have been reflected in the selected financial information of the Company's II-VI Photonics segment.

The accounting policies of the segments are the same as those of the Company. The Company's corporate expenses are allocated to the segments. The Company evaluates segment performance based upon reported segment operating income, which is defined as earnings from continuing operations before income taxes, interest and other income or expense. Inter-segment sales and transfers have been eliminated.

Edgar Filing: II-VI INC - Form 10-K

The following tables summarize selected financial information of the Company's operations by segment:

	II-VI Laser Solutions	II-VI Photonics	II-VI Performance Products	Eliminations	Total
(\$000)					
2018					
Revenues	\$427,968	\$464,457	\$ 266,369	\$ -	\$1,158,794
Inter-segment revenues	34,661	14,542	5,609	(54,812 )	-
Operating income	36,797	67,732	30,758	-	135,287
Interest expense	-	-	-	-	(18,352 )
Other income, net	-	-	-	-	5,259
Income taxes	-	-	-	-	(34,192 )
Net earnings	-	-	-	-	88,002
Depreciation and amortization	38,552	24,984	17,234	-	80,770
Expenditures for property, plant & equipment	82,478	39,162	39,683	-	161,323
Segment assets	760,988	595,909	404,764	-	1,761,661
Equity investments	-	-	69,215	-	69,215
Goodwill	103,390	114,398	52,890	-	270,678

	II-VI Laser Solutions	II-VI Photonics	II-VI Performance Products	Eliminations	Total
(\$000)					
2017					
Revenues	\$339,341	\$418,515	\$ 214,190	\$ -	\$972,046
Inter-segment revenues	33,792	14,236	10,189	(58,217 )	-
Operating income	30,931	62,975	21,635	-	115,540
Interest expense	-	-	-	-	(6,809 )
Other income, net	-	-	-	-	10,056
Income taxes	-	-	-	-	(23,514 )
Net earnings	-	-	-	-	95,274
Depreciation and amortization	24,958	21,442	17,237	-	63,637
Expenditures for property, plant & equipment	82,760	27,397	32,788	-	142,945
Segment assets	589,239	578,315	309,743	-	1,477,297
Equity investment	-	-	11,727	-	11,727
Goodwill	84,180	113,272	52,890	-	250,342

	II-VI Laser Solutions	II-VI Photonics	II-VI Performance Products	Eliminations	Total
(\$000)					
2016					
Revenues	\$303,002	\$325,879	\$ 198,335	\$ -	\$827,216
Inter-segment revenues	24,290	12,081	7,274	(43,645 )	-

Edgar Filing: II-VI INC - Form 10-K

Operating income	36,184	37,849	17,780	-	91,813
Interest expense	-	-	-	-	(3,081 )
Other income, net	-	-	-	-	1,223
Income taxes	-	-	-	-	(24,469 )
Net earnings	-	-	-	-	65,486
Depreciation and amortization	17,222	19,855	19,586	-	56,663
Expenditures for property, plant & equipment	25,620	21,096	11,454	-	58,170

Geographic information for revenues from the country of origin (shipped from), and long-lived assets from the country of origin, which include property, plant and equipment, net of related depreciation, and certain other long-term assets, were as follows:

Year Ended June 30, (\$000)	Revenues		
	2018	2017	2016
United States	\$373,735	\$294,200	\$266,347
Non-United States			
China	253,672	208,595	172,292
Hong Kong	186,978	190,702	140,821
Germany	132,161	88,304	72,070
Japan	89,153	76,212	57,287
Switzerland	49,557	50,497	54,760
Vietnam	26,898	22,497	24,267
Italy	11,458	10,791	10,160
Korea	9,757	6,584	3,887
United Kingdom	9,359	8,473	8,154
Singapore	5,941	3,913	3,039
Belgium	4,511	7,503	6,026
Philippines	3,909	3,057	8,106
Taiwan	1,705	718	-
Total Non-United States	785,059	677,846	560,869
	\$1,158,794	\$972,046	\$827,216

June 30, (\$000)	Long-Lived Assets		
	2018	2017	2016
United States	\$309,062	\$240,029	\$137,521
Non-United States			
China	81,175	62,024	51,824
United Kingdom	65,357	396	203
Switzerland	37,155	36,795	38,202
Germany	14,876	15,323	15,162
Vietnam	10,042	8,272	8,895
Philippines	6,628	6,115	4,399
Hong Kong	2,818	1,914	1,765
Other	598	704	943
Total Non-United States	218,649	131,543	121,393
	\$527,711	\$371,572	\$258,914

#### Note 13. Fair Value of Financial Instruments

The FASB defines fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous markets for the asset and liability in an orderly transaction between market participants at the measurement date. The Company estimates fair value of its financial instruments utilizing

an established three-level hierarchy in accordance with U.S. GAAP. The hierarchy is based upon the transparency of inputs to the valuation of an asset or liability as of the measurement date as follows:

- Level 1 – Valuation is based upon unadjusted quoted prices for identical assets or liabilities in active markets.
  - Level 2 – Valuation is based upon quoted prices for similar assets and liabilities in active markets, or other inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the financial instruments.
  - Level 3 – Valuation is based upon other unobservable inputs that are significant to the fair value measurements.
- The classification of fair value measurements within the hierarchy is based upon the lowest level of input that is significant to the measurement.



At June 30, 2018, the Company had foreign currency forward contracts recorded at fair value. The fair values of these instruments were measured using valuations based upon quoted prices for similar assets and liabilities in active markets (Level 2) and are valued by reference to similar financial instruments, adjusted for credit risk and restrictions and other terms specific to the contracts.

In February 2016, the Company entered into a contingent earnout arrangement which provides up to a maximum of \$6.0 million of additional cash earnout opportunities based upon EpiWorks achieving certain agreed-upon financial and operational targets for capacity, wafer output and gross margin, which if earned would be payable for the achievement of each specific annual target over the next three years. The Company paid the first year earnout amount of \$2.0 million during the year ended June 30, 2017.

In June 2017, the Company entered into a contingent earnout arrangement which provides up to a maximum of \$2.5 million of additional cash earnout opportunities based upon IPI achieving certain agreed-upon financial and transitional objectives relating to finance, information technology and human resources, which if earned, would be payable for the achievement of each specific annual target over the next year.

In November 2017, the Company acquired a 93.8% equity investment in a privately held company. The Company has the right to purchase all of the outstanding interest of each of the minority equity holders and the minority equity holders have the right to cause the Company to purchase all of their outstanding interests at any time on or after the third anniversary of the investment, or earlier upon certain events. The Company performed a Monte Carlo simulation to estimate the fair value of the net put option at the investment date and recorded a liability of \$2.2 million in “Other Liabilities” in the Consolidated Balance Sheet as of the acquisition date in accordance with ASC 815-10, Derivatives and Hedging. The fair value of the net put option is adjusted as necessary on a quarterly basis with any changes in the fair value recorded through earnings. The change in fair value of the net purchase option from the investment date to June 30, 2018 was not material.

The fair values of these contingent earnout arrangements and the net put option were measured using valuations based on other unobservable inputs that are significant to the fair value measurement (Level 3).

The Company estimated the fair value of the 0.25% convertible notes based on quoted market prices as of the last trading day prior to June 30, 2018; however, the convertible notes have only a limited trading volume and, as such, this fair value estimate is not necessarily the value at which the convertible notes could be retired or transferred. The Company concluded that this fair value measurement should be categorized within Level 2. The carrying value of the convertible notes is net of unamortized discount and issuance costs. See Note 7. Debt for details on the Company’s debt facilities. The fair value and carrying value of the convertible notes were as follows at June 30, 2018 (\$000):

	Fair Value	Carrying Value
Convertible notes	\$388,125	\$288,591

The following tables provide a summary by level of the fair value of financial instruments that are measured on a recurring basis as of June 30, 2018 and 2017 (\$000):

Edgar Filing: II-VI INC - Form 10-K

Fair Value Measurements at June 30, 2018  
Using:

	June 30, 2018	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
<b>Assets:</b>				
Foreign currency forward contracts	\$ 121	\$ -	\$ 121	\$ -
<b>Liabilities:</b>				
Contingent earnout arrangements	\$ 5,405	\$ -	\$ -	\$ 5,405
Net put option	\$ 2,024	\$ -	\$ -	\$ 2,024

Fair Value Measurements at June 30, 2017

Using:

	Quoted Prices in Active Markets for Identical Assets	Significant Other Observable Inputs	Significant Unobservable Inputs
June 30, 2017	(Level 1)	(Level 2)	(Level 3)
<b>Assets:</b>			
Foreign currency forward contracts	\$ 191	\$ -	\$ 191
<b>Liabilities:</b>			
Contingent earnout arrangements	\$ 5,795	\$ -	\$ -
			\$ 5,795

The Company's policy is to report transfers into and out of Levels 1 and 2 of the fair value hierarchy at fair values as of the beginning of the period in which the transfers occur. There were no transfers in and out of Levels 1 and 2 of the fair value hierarchy during fiscal years 2018 and 2017.

The following table presents a reconciliation of the beginning and ending fair value measurements of the Company's level 3 contingent earnout arrangements related to the acquisitions of II-VI EpiWorks and IPI and the net put option relating to the purchase of the equity investment in November 2017. (\$000):

	Significant Unobservable Inputs (Level 3)
Balance at July 1, 2017	\$ 5,795
<b>Activity:</b>	
Purchase price adjustment - IPI	(35 )
Net put option	2,233
Changes in fair value recorded in other expense (income), net	(564 )
Balance at June 30, 2018	\$ 7,429

The fair values of cash and cash equivalents are considered Level 1 among the fair value hierarchy and approximate fair value because of the short-term maturity of those instruments. The Company's borrowings includes both variable and fixed interest rates, non-interest bearing debt and a capital lease obligation and are considered Level 2 among the fair value hierarchy and accordingly their carrying amounts approximate fair value.

Note 14. Derivative Instruments

The Company, from time to time, purchases foreign currency forward exchange contracts, primarily in Japanese Yen, that permit it to sell specified amounts of these foreign currencies expected to be received from its export sales, for pre-established U.S. dollar amounts at specified dates. These contracts are entered into to limit transactional exposure to changes in currency exchange rates of export sales transactions in which settlement will occur in future periods and which otherwise would expose the Company, on the basis of its aggregate net cash flows in respective currencies, to foreign currency risk.

The Company has recorded the fair value of these contracts in the Company's financial statements. These contracts had a total notional amount of \$12.0 million and \$12.7 million at June 30, 2018 and 2017, respectively. As of June 30, 2018, these forward contracts had expiration dates ranging from July 2018 through October 2018, with Japanese Yen denominations individually between 250 million and 500 million Yen. The Company does not account for these contracts as hedges as defined by U.S. GAAP and records the change in the fair value of these contracts in Other expense (income), net in the Consolidated Statements of Earnings as they occur. The fair value measurement takes into consideration foreign currency rates and the current creditworthiness of the counterparties to these contracts, as applicable, and is based upon quoted prices for similar assets and liabilities in active markets, or other inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the financial instruments and thus represents a Level 2 measurement. These contracts are recorded in prepaid and other current assets in the Company's Consolidated Balance Sheets as of June 30, 2018. The change in the fair value of these contracts for the fiscal year ended June 30, 2018, 2017 and 2016 was insignificant.

#### Note 15. Employee Benefit Plans

Eligible U.S. employees of the Company participate in a profit sharing retirement plan. Contributions accrued for the plan are made at the discretion of the Company's board of directors and were \$5.0 million, \$4.3 million, and \$3.4 million for the years ended June 30, 2018, 2017 and 2016, respectively.

The Company has an employee stock purchase plan available for employees who have completed six months of continuous employment with the Company. The employee may purchase the Company's common stock at 5% below the prevailing market price. The amount of shares which may be bought by an employee during each fiscal year is limited to 10% of the employee's base pay. This plan, as amended, limits the number of shares of common stock available for purchase to 1,600,000 shares. There were 462,798 and 477,949 shares of common stock available for purchase under the plan at June 30, 2018 and 2017, respectively.

#### Switzerland Defined Benefit Plan

In conjunction with the acquisition of II-VI Laser Enterprise in fiscal year 2014, the Company assumed a pension plan covering employees of our Swiss subsidiary (the "Swiss Plan"). Employer and employee contributions are made to the Swiss Plan based on various percentages of salary and wages that vary according to employee age and other factors. Employer contributions to the Swiss Plan for years ended June 30, 2018 and 2017 were \$2.7 million and \$2.4 million, respectively. Expected employer contributions in fiscal year 2019 are \$2.7 million.

The changes in the funded status of the Swiss Plan during the fiscal years ended June 30, 2018 and 2017 were as follows:

Year Ended June 30,	2018	2017
<b>Change in projected benefit obligation:</b>		
Projected benefit obligation, beginning of period	\$59,518	\$54,094
Service cost	3,766	3,689
Interest cost	424	163
Benefits accumulated, net of benefits paid	1,474	1,743
Plan amendments (Reduction of the conversion rate 6.8% to 6.2%)	(4,068 )	-
Actuarial (gain) loss on obligation	1,606	(2,777 )
Participant contributions	1,415	1,262
Currency translation adjustment	(1,581 )	1,344
Projected benefit obligation, end of period	\$62,554	\$59,518
<b>Change in plan assets:</b>		
Plan assets at fair value, beginning of period	42,990	35,857
Actual return on plan assets	1,566	805
Employer contributions	2,731	2,432
Participant contributions	1,415	1,262
Benefits accumulated, net of benefits paid	1,474	1,743
Currency translation adjustment	(1,142 )	891
Plan assets at fair value, end of period	\$49,034	\$42,990
<b>Amounts recognized in consolidated balance sheets:</b>		
<b>Other non-current assets:</b>		
Deferred tax asset	\$2,859	\$3,496
<b>Other non-current liabilities:</b>		
Underfunded pension liability	\$13,520	16,528

Amounts recognized in accumulated other comprehensive

income, net of tax:

Pension adjustment	\$2,846	\$2,514
Accumulated benefit obligation, end of period	\$59,800	\$56,457

76

---

Net periodic pension cost associated with the Swiss Plan included the following components:

Year Ended June 30,	2018	2017	2016
Service cost	\$3,766	\$3,689	\$2,680
Interest cost	424	163	434
Expected return on plan assets	849	(742 )	(1,097)
Net actuarial loss and prior service credit	203	594	(234 )
Net periodic pension cost	\$5,242	\$3,704	\$1,783

The projected and accumulated benefit obligations for the Swiss Plan were calculated as of June 30, 2018 and 2017 using the following assumptions:

June 30,	2018	2017
Discount rate	0.9 %	0.8 %
Salary increase rate	2.0 %	2.0 %

The net periodic pension cost for the Swiss Plan was calculated during the fiscal years ended June 30 2018, 2017, and 2016 using the following assumptions:

Year Ended June 30,	2018	2017	2016
Discount rate	0.8 %	0.3 %	1.1 %
Salary increase rate	2.0 %	2.0 %	2.0 %
Expected return on plan assets	2.0 %	2.0 %	2.0 %

The discount rate is based on assumed pension benefit maturity and estimates developed using the rate of return and yield curves for high quality Swiss corporate and government bonds. The salary increase rate is based on our best assessment for on-going increases over time. The expected long-term rate of return on plan assets is based on the expected asset allocation, taking into consideration historical long-term rates of return for the relevant asset categories.

As is customary with Swiss pension plans, the assets of the plan are invested in a collective fund with multiple employers. We have no investment authority over the assets of the plan, which are held and invested by a Swiss insurance company. The investment strategy of the Swiss Plan is managed by an independent asset manager with the objective of achieving a consistent long-term return which will provide sufficient funding for future pension obligations while limiting risk.

The Swiss Plan is legally separate from II-VI, as are the assets of the plan. As of June 30, 2018, the Swiss Plan's asset allocation was as follows (all of which are categorized as Level 2 in the fair value hierarchy):

June 30,	2018	2017
Fixed income investments	12.0 %	10.0 %
Equity investments	50.0 %	52.0 %
Real estate	31.0 %	26.0 %

Edgar Filing: II-VI INC - Form 10-K

Cash	4.0	%	9.0	%
Other	3.0	%	3.0	%
	100.0	%	100.0	%

Estimated future benefit payments under the Swiss Plan are estimated to be as follows:

Year Ending June 30, (\$000)	
2019	\$5,100
2020	1,800
2021	2,700
2022	2,900
2023	3,200
Next five years	22,400



## Other Employee Benefit Plans

The Company has no program for post-retirement health and welfare benefits.

The II-VI Incorporated Deferred Compensation Plan (the “Compensation Plan”) is designed to allow officers and key employees of the Company to defer receipt of compensation into a trust fund for retirement purposes. Under the Compensation Plan, as it is currently implemented by the Company, eligible participants can elect to defer up to 100% of certain discretionary incentive compensation and certain equity awards into the Compensation Plan. The Compensation Plan is a nonqualified, defined contribution employees’ retirement plan. At the Company’s discretion, the Compensation Plan may be funded by the Company making contributions based on compensation deferrals, matching contributions and discretionary contributions. Compensation deferrals will be based on an election by the participant to defer a percentage of compensation under the Compensation Plan. All assets in the Compensation Plan are subject to claims of the Company’s creditors until such amounts are paid to the Compensation Plan participants. Employees of the Company made contributions to the Compensation Plan in the amounts of approximately \$1.1 million, \$0.8 million, and \$1.2 million for the fiscal years ended June 30, 2018, 2017, and 2016, respectively. There were no employer contributions made to the Compensation Plan for the fiscal year ended June 30, 2016.

## Note 16. Other Accrued Liabilities

The components of other accrued liabilities were as follows:

June 30, (\$000)	2018	2017
Deferred revenue	\$3,384	\$2,345
Warranty reserve	4,679	4,546
Earnout arrangements	5,405	3,930
Other accrued liabilities	29,511	18,235
	\$42,979	\$29,056

The following table summarizes the change in the carrying value of the Company’s warranty reserve included in Other Accrued Liabilities as of and for the years ended June 30, 2018 and 2017.

Year Ended June 30, (\$000)	2018	2017
Balance-Beginning of Year	\$4,546	\$3,908
Settlements during the period	(3,688)	(4,212)
Additional warranty liability recorded	3,821	4,850
Balance-End of Year	\$4,679	\$4,546

## Note 17. Commitments and Contingencies

The Company has purchase commitments for materials and supplies as part of the ordinary conduct of business. A portion of the commitments are long-term and are based on minimum purchase requirements. Certain short-term raw

material purchase commitments have a variable price component which is based on market pricing at the time of purchase. Due to the proprietary nature of some of the Company's materials and processes, certain contracts may contain liquidated damage provisions for early termination. The Company does not believe that a significant amount of liquidated damages are reasonably likely to be incurred under these commitments based upon historical experience and current expectations. The Company also has commitments relating to earnout arrangements on its prior year acquisitions of \$5.4 million and \$85.0 million for the planned acquisition of CoAdna. Inc., for fiscal year 2019. Total future commitments are as follows:

Year Ending June 30, (\$000)	
2019	\$ 114,307
2020	3,477
2021	567
2022	-
2023	-

## Note 18. Share Repurchase Programs

In August 2017, in conjunction with the Company's offering and sale of the Notes, the Company's Board of Directors authorized the Company to purchase up to \$50 million of its common stock with a portion of the net proceeds received from the offering and sale of the Notes. The shares that were purchased by the Company pursuant to this authorization were retained as treasury stock and are available for general corporate purposes. The Company purchased 1,414,900 shares of its common stock for approximately \$49.9 million pursuant to this authorization in fiscal 2018.

In August 2014, the Company's Board of Directors authorized the Company to purchase up to \$50 million of its common stock through a share repurchase program (the "Program") that calls for shares to be purchased in the open market or in private transactions from time to time. The Program has no expiration and may be suspended or discontinued at any time. Shares purchased by the Company are retained as treasury stock and available for general corporate purposes. The Company did not repurchase shares pursuant to this Program during the fiscal years ended June 30, 2018 and 2017. During the fiscal year ended June 30, 2016, the Company purchased 380,538 shares of its common stock for \$6.3 million under this program. Through June 30, 2018, the Company has cumulatively purchased 1,316,587 shares of its common stock pursuant to the Program for approximately \$19.0 million.

## Note 19. Accumulated Other Comprehensive Income (Loss)

The changes in accumulated other comprehensive income ("AOCI") by component, net of tax, for the years ended June 30, 2018, 2017, and 2016 were as follows (\$000):

	Foreign		Total
	Currency	Defined	Accumulated
	Translation	Benefit	Other
	Adjustment	Pension	Comprehensive
		Plan	Income
AOCI - June 30, 2015	\$ 9,466	\$(801 )	\$ 8,665
Other comprehensive income (loss) before reclassifications	(15,651 )	(6,805 )	(22,456 )
Amounts reclassified from AOCI	-	(226 )	(226 )
Net current-period other comprehensive income	(15,651 )	(7,031 )	(22,682 )
AOCI - June 30, 2016	(6,185 )	(7,832 )	(14,017 )
Other comprehensive income (loss) before reclassifications	(2,275 )	1,920	(355 )
Amounts reclassified from AOCI	-	594	594
Net current-period other comprehensive income	(2,275 )	2,514	239
AOCI - June 30, 2017	\$(8,460 )	\$(5,318 )	\$(13,778 )
Other comprehensive income (loss) before reclassifications	7,152	2,643	9,795
Amounts reclassified from AOCI	-	203	203
Net current-period other comprehensive income	7,152	2,846	9,998
AOCI - June 30, 2018	\$(1,308 )	\$(2,472 )	\$(3,780 )

## Note 20. Capital Lease

During fiscal 2017, the Company's OptoElectronic Devices subsidiary entered into a capital lease related to a building in Warren, New Jersey. The following table shows the future minimum lease payments due under the non-cancelable capital lease (\$000):

Fiscal Year Ending June 30,	Amount
2019	\$2,292
2020	2,355
2021	2,419
2022	2,486
2023	2,554
Thereafter	24,740
Total minimum lease payments	\$36,846
Less amount representing interest	11,906
Present value of capitalized payments	\$24,940

The current and long-term portion of the capital lease obligation was recorded in Other accrued liabilities and Other liabilities, respectively, in the Company's Consolidated Balance Sheets as of June 30, 2018 and 2017. The present value of the minimum capital lease payments at inception was \$25.0 million recorded in Property, Plant & Equipment, net, in the Company's Consolidated Balance Sheet, with associated depreciation being recorded over the 15 year life of the lease. During the fiscal year ended June 30, 2018, the Company recorded \$1.7 million of depreciation expense associated with the capital leased asset.

## Quarterly Financial Data (unaudited)

## Fiscal Year 2018

Quarter Ended	September 30, 2017	December 31, 2017	March 31, 2018	June 30, 2018
(\$000)				
2018				
Net revenues	\$ 261,503	\$ 281,470	\$ 294,746	\$ 321,075
Cost of goods sold	155,528	172,037	176,361	193,580
Internal research and development	25,574	27,764	30,560	33,346
Selling, general and administrative	50,624	49,122	53,087	55,924
Interest expense	3,645	4,644	5,014	5,049
Other expense (income) - net	(767 )	(1,965 )	(1,496 )	(1,031 )
Earnings before income taxes	26,899	29,868	31,220	34,207
Income taxes	5,758	20,272	1,122	7,040
Net Earnings	\$ 21,141	\$ 9,596	\$ 30,098	\$ 27,167
Basic earnings per share	\$ 0.34	\$ 0.15	\$ 0.48	\$ 0.44
Diluted earnings per share	\$ 0.32	\$ 0.15	\$ 0.45	\$ 0.42

## Fiscal Year 2017

Quarter Ended	September 30, 2016	December 31, 2016	March 31, 2017	June 30, 2017
(\$000)				
2017				
Net revenues	\$ 221,520	\$ 231,822	\$ 244,987	\$ 273,717
Cost of goods sold	133,918	137,559	147,277	164,939
Internal research and development	21,832	23,632	25,380	25,966
Selling, general and administrative	42,079	43,495	43,291	47,137
Interest expense	1,246	1,365	1,936	2,262

Edgar Filing: II-VI INC - Form 10-K

Other expense (income) - net	(1,402 )	(6,045 )	(2,164 )	(445 )
Earnings before income taxes	23,847	31,816	29,267	33,858
Income taxes	7,553	7,913	6,837	1,211
Net Earnings	\$ 16,294	\$ 23,903	\$ 22,430	\$ 32,647
Basic earnings per share	\$ 0.26	\$ 0.38	\$ 0.36	\$ 0.52
Diluted earnings per share	\$ 0.26	\$ 0.37	\$ 0.35	\$ 0.50

## SCHEDULE II

## II-VI INCORPORATED AND SUBSIDIARIES

## VALUATION AND QUALIFYING ACCOUNTS

YEARS ENDED JUNE 30, 2018, 2017, AND 2016

(IN THOUSANDS OF DOLLARS)

	Balance at Beginning of Year	Charged to Expense	Charged to Other Accounts	Deduction from Reserves	Balance at End of Year
<b>YEAR ENDED JUNE 30, 2018:</b>					
Allowance for doubtful accounts	\$ 1,314	\$(129 )	\$-	\$ (348 ) <sup>(2)</sup>	\$837
Warranty reserves	\$ 4,546	\$3,821	\$-	\$ (3,688 )	\$4,679
Deferred tax asset valuation allowance	\$ 42,562	\$(4,602)	\$(16,163) <sup>(5)</sup>	\$ -	\$21,797
<b>YEAR ENDED JUNE 30, 2017:</b>					
Allowance for doubtful accounts	\$ 2,016	\$(134 )	\$-	\$ (568 ) <sup>(2)</sup>	\$1,314
Warranty reserves	\$ 3,908	\$4,850	\$-	\$ (4,212 )	\$4,546
Deferred tax asset valuation allowance	\$ 42,641	\$(79 )	\$-	\$ -	\$42,562
<b>YEAR ENDED JUNE 30, 2016:</b>					
Allowance for doubtful accounts	\$ 1,048	\$1,123	\$-	\$ (155 ) <sup>(2)</sup>	\$2,016
Warranty reserves	\$ 3,251	\$4,648	\$82	<sup>(1)</sup> \$ (4,073 )	\$3,908
Deferred tax asset valuation allowance	\$ 2,713	\$8,464	\$36,240	<sup>(3)</sup> \$ (4,776 ) <sup>(4)</sup>	\$42,641

(1) Relates to the warranty reserve acquired from acquisitions.

(2) Primarily relates to write-offs of accounts receivable.

(3) Valuation allowance recorded through goodwill.

(4) Reduction in valuation allowance as a result of divestiture of portion of business.

(5) Primarily relates to the Company's deferred taxes on the conversion feature of the convertible debt.

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

None.

## Item 9A. CONTROLS AND PROCEDURES

## Evaluation of Disclosure Controls and Procedures

The Company's management evaluated, with the participation of the Company's Chief Executive Officer, and the Company's Chief Financial Officer and Treasurer, the effectiveness of the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934, as amended (the

“Exchange Act”)) as of the end of the period covered by this Annual Report on Form 10-K. The Company’s disclosure controls were designed to provide reasonable assurance that information required to be disclosed in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. It should be noted that the design of any system of controls is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions, regardless of how remote. However, the controls have been designed to provide reasonable assurance of achieving the controls’ stated goals. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that, as of June 30, 2018, the Company’s disclosure controls and procedures are effective.



#### Management's Report on Internal Control Over Financial Reporting

Refer to Management's Report on Internal Control Over Financial Reporting included in Item 8.

#### Report of the Registered Public Accounting Firm

The report of Ernst & Young LLP, an independent registered public accounting firm, with respect to our internal control over financial reporting is included in Item 8 of this Annual Report on Form 10-K.

#### Changes in Internal Control over Financial Reporting

There have been no changes in the Company's internal controls over financial reporting that occurred during our most recent quarter that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

#### Item 9B. OTHER INFORMATION

None.

### PART III

#### Item 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

The information set forth above in Part I of this Annual Report on Form 10-K under the caption "Executive Officers of the Registrant" is incorporated herein by reference. The other information required by this item is incorporated herein by reference to the information set forth under the captions "Election of Directors Section 16(a) Beneficial Ownership Reporting Compliance" in the Company's definitive proxy statement for the 2018 Annual Meeting of Shareholders to be filed pursuant to Regulation 14A of the Exchange Act (the "Proxy Statement").

#### Audit Committee Financial Expert

The information as to the Audit Committee and the Audit Committee Financial Expert is incorporated herein by reference to the information set forth in the Company's Proxy Statement.

#### Code of Ethics

The Company has adopted its Code of Business Conduct and Ethics for all of its employees and its Code of Ethics for Senior Financial Officers including the principal executive officer and principal financial officer. The Code of Business Conduct and Ethics and Code of Ethics for Senior Financial Officers can be found on the Company's Internet web site at [www.ii-vi.com](http://www.ii-vi.com) under "Investors Information – Corporate Governance Documents." The Company will promptly disclose on its web site (i) any amendments or waivers with respect to a director's or executive officer's compliance with the Code of Business Conducts and Ethics and (ii) any amendments or waivers with respect to any provision of the Code of Ethics for Senior Financial Officers. Any person may also obtain a copy of the Code of Business Conduct and Ethics and/or the Code of Ethics for Senior Financial Officer without charge by submitting their request to the Chief Financial Officer and Treasurer of II-VI Incorporated, 375 Saxonburg Boulevard, Saxonburg, Pennsylvania 16056, or by calling (724) 352-4455.

The web site and information contained on it or incorporated in it are not intended to be incorporated in this Annual Report on Form 10-K or other filings with the SEC.

Item 11. EXECUTIVE COMPENSATION

The information required by this item is incorporated herein by reference to the information set forth under the caption “Director Compensation in Fiscal Year 2018,” “Executive Compensation,” “Compensation Committee Report” and “Compensation and Risk” in the Company’s Proxy Statement.

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

The information required by this item is incorporated herein by reference to the information set forth under the captions “Equity Compensation Plan Information” and “Security Owners of Certain Beneficial Owners and Management” in the Company’s Proxy Statement.

**Item 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE**

The information required by this item is incorporated herein by reference to the information set forth under the caption “Director Independence and Corporate Governance Policies” in the Company’s Proxy Statement.

**Item 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES**

The information required by this item is incorporated herein by reference to the information set forth under the caption “Ratification of Selection of Independent Registered Public Accounting Firm” in the Company’s Proxy Statement.

**PART IV**

**Item 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES**

**(a)(1) Financial Statements**

The financial statements are set forth under Item 8 of this Annual Report on Form 10-K.

**(2) Schedules**

Schedule II – Valuation and Qualifying Accounts for each of the three fiscal years in the period ended June 30, 2018 is set forth under Item 8 of this Annual Report on Form 10-K.

Financial statements, financial statement schedules and exhibits not listed have been omitted where the required information is included in the Consolidated Financial Statements or notes thereto, or is not applicable or required.

Exhibit No.	Description	Location
3.01	<u>Amended and Restated Articles of Incorporation of II-VI Incorporated</u>	Incorporated herein by reference to Exhibit 3.1 to II-VI's Current Report on Form 8-K (File No. 000-16195) filed on November 8, 2011.
3.02	<u>Amended and Restated By-Laws of II-VI Incorporated</u>	Incorporated herein by reference to Exhibit 3.1 to II-VI's Current Report on Form 8-K (File No. 000-16195) filed on August 29, 2014.
4.01	<u>Indenture, dated as of August 29, 2017, by and between II-IV Incorporated and U.S. Bank, National Association, as Trustee</u>	Incorporated herein by reference to Exhibit 4.1 to II-VI's Current Report on Form 8-K (File No. 000-16195) filed on November 14, 2017.
4.02	<u>Form of 0.25% Convertible Senior Notes due 2022.</u>	Included in Exhibit 4.01.
10.01	<u>Third Amended and Restated Credit Agreement, by and among II-VI Incorporated, each of the Guarantors party thereto, the Lenders party thereto, and PNC Bank, National Association, as Administrative and Documentation Agent, and Bank of America, N.A., as Syndication Agent, dated as of July 28, 2016.</u>	Incorporated herein by reference to Exhibit 10.1 to II-VI's Current Report on Form 8-K (File No. 000-16195) filed on August 2, 2016.
10.02	<u>First Amendment to Third Amended and Restated Credit Agreement, dated as of August 17, 2017, by and among II-VI Incorporated, the Guarantors party thereto, the Lenders party thereto and PNC Bank, National Association, as Administrative Agent.</u>	Incorporated herein by reference to Exhibit 10.1 to II-VI's Current Report on Form 8-K (File No. 000-16195) filed on August 22, 2017.
10.03	<u>Credit Agreement, dated as of January 31, 2012, by and among II-VI Japan Incorporated, each of the Guarantors party thereto, PNC Bank, National Association, the other Banks party thereto, and PNC Bank, National Association, in its capacity as agent for the Banks thereunder (500,000,000 Yen Revolving Credit</u>	Incorporated herein by reference to Exhibit 10.02 to II-VI's Annual Report on Form 10-K (File No. 000-16195) for the year ended June 30, 2015.

Facility)

- |       |   |   |
|-------|---|---|
| 10.04 | <u>First Amendment to Credit Agreement, dated as of September 18, 2015, by and among II-VI Japan Incorporated, the Guarantors party thereto, the Banks party thereto, and PNC Bank, National Association, as agent.</u> | Incorporated herein by reference to Exhibit 10.01 to II-VI's Quarterly Report on Form 10-Q (File No. 000-16195) for the quarter ended September 30, 2015. |
| 10.05 | <u>Employment Agreement, dated August 1, 2016, by and between II-VI and Vincent D. Mattera, Jr.*</u>  | Incorporated herein by reference to Exhibit 10.1 to II-VI's Current Report on Form 8-K (File No. 000-16195) filed on August 2, 2016.                      |
| 10.06 | <u>Employment Agreement, dated March 6, 2014, by and between II-VI Incorporated and Mary Jane Raymond*</u>  | Incorporated herein by reference to Exhibit 10.1 to II-VI's Current Report on Form 10-Q (File No. 000-16195) for the quarter ended March 31, 2014.        |
| 10.07 | <u>Employment Agreement, dated October 3, 2012, by and between II-VI Incorporated and Giovanni Barbarossa*</u>  | Incorporated herein by reference to Exhibit 10.07 to II-VI's Annual Report on Form 10-K (File No. 000-16195) for the year ended June 30, 2015.            |
| 10.08 | <u>Employment Agreement, dated November 10, 2008, by and between II-VI Incorporated and David G. Wagner*</u>  | Incorporated herein by reference to Exhibit 10.08 to II-VI's Annual Report on Form 10-K (File No. 000-16195) for the year ended June 30, 2015.            |
| 10.09 | <u>Employment Agreement, dated February 1, 2016, by and between II-VI Incorporated and Gary A. Kapusta*</u>   | Incorporated herein by reference to Exhibit 10.01 to II-VI's Current Report on Form 8-K (File No. 000-16195) filed on February 1, 2016.                   |

- |       |  |   |
|-------|--|---|
| 10.10 | <u>Employment Agreement, dated March 6, 2017, by and between II-VI Incorporated and Jo Anne Schwendinger *</u> | Filed herewith.   |
| 10.11 | <u>Consulting Agreement, dated June 30, 2016, between II-VI Incorporated and Carl J. Johnson*</u>              | Incorporated herein by reference to Exhibit 10.01 to II-VI's Current Report on Form 10-Q (File No. 000-16195) for the quarter ended March 31, 2017.   |
| 10.12 | Form of Employment Agreement* (P)  | Incorporated herein by reference to Exhibit 10.16 to II-VI's Registration Statement on Form S-1 (File No. 33-16389).                                  |
| 10.13 | Form of Executive Employment Agreement   | Filed herewith  |
| 10.14 | <u>Form of Exhibit 1 to Employment Agreement</u>   | Filed herewith  |
| 10.15 | <u>Form of Indemnification Agreement</u>   | Filed herewith  |
| 10.16 | Form of Representative Agreement between II-VI and its foreign representatives (P)                             | Incorporated herein by reference to Exhibit 10.15 to II-VI's Registration Statement on Form S-1 (File No. 33-16389).                                  |
| 10.17 | II-VI Incorporated Amended and Restated Employees' Stock Purchase Plan (P)                                     | Incorporated herein by reference to Exhibit 10.04 to II-VI's Registration Statement on Form S-1 (File No. 33-16389).                                  |
| 10.18 | <u>First Amendment to the II-VI Incorporated Amended and Restated Employees' Stock Purchase Plan</u>           | Incorporated herein by reference to Exhibit 10.01 to II-VI's Quarterly Report on Form 10-Q (File No. 000-16195) for the quarter ended March 31, 1996. |
| 10.19 | II-VI Incorporated Amended and Restated Employees' Profit-Sharing Plan and Trust Agreement, as amended (P)     | Incorporated herein by reference to Exhibit 10.05 to II-VI's Registration Statement on Form S-1 (File No. 33-16389).                                  |
| 10.20 | <u>Description of Bonus Incentive Plan*</u>  | Incorporated herein by reference to Exhibit 10.14 to II-VI's Annual Report on Form 10-K (File No. 000-16195) for the fiscal year ended June 30,       |

1996.

- 10.21 Description of Discretionary Incentive Plan (now known as the Goal/ Results Incentive Program)\* Incorporated herein by reference to Exhibit 10.27 to II-VI's Annual Report on Form 10-K (File No. 000-16195) for the fiscal year ended June 30, 2009.
- 10.22 Description of Management-By-Objective Plan\*(P) Incorporated herein by reference to Exhibit 10.09 to II-VI's Annual Report on Form 10-K (File No. 000-16195) for the fiscal year ended June 30, 1993.
- 10.23 Amended and Restated II-VI Incorporated Deferred Compensation Plan (applicable to periods prior to January 1, 2015)\* Incorporated herein by reference to Exhibit 10.17 to II-VI's Annual Report on Form 10-K (File No. 000-16195) for the fiscal year ended June 30, 2015.
- 10.24 Amended and Restated II-VI Incorporated Deferred Compensation Plan (applicable to periods after January 1, 2015)\* Incorporated herein by reference to Exhibit 10.18 to II-VI's Annual Report on Form 10-K (File No. 000-16195) for the fiscal year ended June 30, 2015.
- 10.25 Trust Under the II-VI Incorporated Deferred Compensation Plan\* Incorporated herein by reference is Exhibit 10.13 to II-VI's Annual Report on Form 10-K (File No. 000-16195) for the fiscal year ended June 30, 1996.

- 10.26 II-VI Incorporated 2009 Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit A to II-VI's Definitive Proxy Statement on Schedule 14A (File No. 000-16195) filed on September 25, 2009.
- 10.27 Form of Nonqualified Stock Option Agreement under the II-VI Incorporated 2009 Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.27 to II-VI's Current Report on Form 10-Q (File No. 000-16195) for the quarter ended December 31, 2011.
- 10.28 Form of Restricted Share Award Agreement under the II-VI Incorporated 2009 Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.28 to II-VI's Current Report on Form 10-Q (File No. 000-16195) for the quarter ended December 31, 2011.
- 10.29 Form of Performance Share Award Agreement under the II-VI Incorporated 2009 Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.29 to II-VI's Current Report on Form 10-Q (File No. 000-16195) for the quarter ended December 31, 2011.
- 10.30 Form of Stock Appreciation Rights Agreement under the II-VI Incorporated 2009 Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.30 to II-VI's Current Report on Form 10-Q (File No. 000-16195) for the quarter ended December 31, 2011.
- 10.31 Form of Performance Unit Award Agreement under the II-VI Incorporated 2009 Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.31 to II-VI's Current Report on Form 10-Q (File No. 000-16195) for the quarter ended March 31, 2012.
- 10.32 Form of Restricted Share Unit Award Agreement under the II-VI Incorporated 2009 Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.32 to II-VI's Current Report on Form 10-Q (File No. 000-16195) for the quarter ended March 31, 2012.
- 10.33 II-VI Incorporated Amended and Restated 2012 Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.01 to II-VI's Registration Statement on Form S-8 (File No. 333-199855) filed on November 4, 2014.

10.34



Edgar Filing: II-VI INC - Form 10-K

- Form of Nonqualified Stock Option Agreement under the II-VI Incorporated Amended and Restated 2012 Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.30 to II-VI's Annual Report on Form 10-K (File No. 000-16195) for the fiscal year ended June 30, 2013.
- 10.35 Form of Restricted Share Award Agreement under the II-VI Incorporated Amended and Restated 2012 Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.31 to II-VI's Annual Report on Form 10-K (File No. 000-16195) for the fiscal year ended June 30, 2013.
- 10.36 Form of Performance Share Award Agreement (Consolidated Revenue) under the II-VI Incorporated Amended and Restated 2012 Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.32 to II-VI's Annual Report on Form 10-K (File No. 000-16195) for the fiscal year ended June 30, 2013.
- 10.37 Form of Stock Appreciation Rights Agreement under the II-VI Incorporated Amended and Restated 2012 Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.33 to II-VI's Annual Report on Form 10-K (File No. 000-16195) for the fiscal year ended June 30, 2013.
- 10.38 Form of Performance Unit Award Agreement under the II-VI Incorporated Amended and Restated 2012 Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.34 to II-VI's Annual Report on Form 10-K (File No. 000-16195) for the fiscal year ended June 30, 2013.

- 10.39 Form of Restricted Share Unit Award Agreement under the II-VI Incorporated Amended and Restated 2012 Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.35 to II-VI's Annual Report on Form 10-K (File No. 000-16195) for the fiscal year ended June 30, 2013.
- 10.40 Form of Performance Share Award Agreement (Total Shareholder Return) under the II-VI Incorporated Amended and Restated 2012 Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.38 to II-VI's Annual Report on Form 10-K (File No. 000-16195) for the fiscal year ended June 30, 2014.
- 10.41 Form of Performance Unit Award Agreement (Total Shareholder Return) under the II-VI Incorporated Amended and Restated 2012 Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.39 to II-VI's Annual Report on Form 10-K (File No. 000-16195) for the fiscal year ended June 30, 2014.
- 10.42 Form of Performance Share Award Agreement (Cash Flow From Operations) under the II-VI Incorporated Amended and Restated 2012 Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.36 to II-VI's Annual Report on Form 10-K (File No. 000-16195) for the fiscal year ended June 30, 2015.
- 10.43 Form of Performance Unit Award Agreement (Cash Flow From Operations) under the II-VI Incorporated Amended and Restated 2012 Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.37 to II-VI's Annual Report on Form 10-K (File No. 000-16195) for the fiscal year ended June 30, 2015.
- 10.44 II-VI Incorporated Second Amended and Restated Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.1 to II-VI's Current Report on Form 10-Q (File No. 000-16195) for the quarter ended December 31, 2015.
- 10.45 Form of Nonqualified Stock Option Agreement under the II-VI Incorporated Second Amended and Restated Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.03 to II-VI's Quarterly Report on Form 10-Q (File No. 000-16195) for the quarter ended September 30, 2016.
- 10.46 Form of Stock Appreciation Rights Agreement under the II-VI Incorporated Second Amended and Restated Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.04 to II-VI's Quarterly Report on Form 10-Q (File No. 000-16195) for the quarter ended September 30, 2016.

10.47

Edgar Filing: II-VI INC - Form 10-K

- Form of Restricted Share Award Agreement (3 year) under the II-VI Incorporated Second Amended and Restated Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.05 to II-VI's Quarterly Report on Form 10-Q (File No. 000-16195) for the quarter ended September 30, 2016.
- 10.48 Form of Restricted Share Award Agreement (1 year) under the II-VI Incorporated Second Amended and Restated Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.06 to II-VI's Quarterly Report on Form 10-Q (File No. 000-16195) for the quarter ended September 30, 2016.
- 10.49 Form of Restricted Share Unit Award Agreement under the II-VI Incorporated Second Amended and Restated Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.07 to II-VI's Quarterly Report on Form 10-Q (File No. 000-16195) for the quarter ended September 30, 2016.
- 10.50 Form of Performance Share Award Agreement under the II-VI Incorporated Second Amended and Restated Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.08 to II-VI's Quarterly Report on Form 10-Q (File No. 000-16195) for the quarter ended September 30, 2016.
- 10.51 Form of Performance Unit Award Agreement under the II-VI Incorporated Second Amended and Restated Omnibus Incentive Plan\* Incorporated herein by reference to Exhibit 10.09 to II-VI's Quarterly Report on Form 10-Q (File No. 000-16195) for the quarter ended September 30, 2016.

10.52	<u>Form of Performance Share Award Agreement (June 30, 2019) under the II-VI Incorporated Second Amended and Restated Omnibus Incentive Plan*</u>	Incorporated herein by reference to Exhibit 10.10 to II-VI's Quarterly Report on Form 10-Q (File No. 000-16195) for the quarter ended September 30, 2016.
10.53	<u>Form of Total Shareholder Return Performance Share Award Agreement under the II-VI Incorporated Second Amended and Restated Omnibus Incentive Plan*</u>	Incorporated herein by reference to Exhibit 10.11 to II-VI's Quarterly Report on Form 10-Q (File No. 000-16195) for the quarter ended September 30, 2016.
10.54	<u>Form of Total Shareholder Return Performance Unit Award Agreement under the II-VI Incorporated Second Amended and Restated Omnibus Incentive Plan*</u>	Incorporated herein by reference to Exhibit 10.12 to II-VI's Quarterly Report on Form 10-Q (File No. 000-16195) for the quarter ended September 30, 2016.
21.01	<u>List of Subsidiaries of II-VI Incorporated</u>	Filed herewith.
23.01	<u>Consent of Ernst &amp; Young LLP</u>	Filed herewith.
31.01	<u>Certification of the Chief Executive Officer pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934, as amended, and Section 302 of the Sarbanes-Oxley Act of 2002</u>	Filed herewith.
31.02	<u>Certification of the Chief Financial Officer pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934, as amended, and Section 302 of the Sarbanes-Oxley Act of 2002</u>	Filed herewith.
32.01	<u>Certification of the Chief Executive Officer pursuant to Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, and 18 U.S.C. § 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002</u>	Furnished herewith.
32.02	<u>Certification of the Chief Financial Officer pursuant to Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, and 18 U.S.C. § 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002</u>	Furnished herewith.

101 Interactive Data File

(101.INS) XBRL Instance Document Filed herewith.

(101.SCH) XBRL Taxonomy Extension Schema Document Filed herewith.

(101.CAL) XBRL Taxonomy Extension Calculation Linkbase Document Filed herewith.

(101.DEF) XBRL Taxonomy Definition Linkbase Filed herewith.

(101.LAB) XBRL Taxonomy Extension Label Linkbase Document Filed herewith.

(101.PRE) XBRL Taxonomy Extension Presentation Linkbase Document Filed herewith.

\*Denotes management contract or compensatory plan, contract or arrangement.

(P)Denotes filed via paper copy.

The Registrant will furnish to the Commission upon request copies of any instruments not filed herewith which authorize the issuance of long-term obligations of the Registrant not in excess of 10% of the Registrant's total assets on a consolidated basis.

Item 16. FORM 10-K SUMMARY

None.

88

---

SIGNATURES

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

II-VI INCORPORATED

Date: August 28, 2018 By: /s/ Vincent D. Mattera Jr.  
Vincent D. Mattera Jr.  
President and Chief Executive Officer

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

Principal Executive Officer:

Date: August 28, 2018 By: /s/ Vincent D. Mattera Jr.  
Vincent D. Mattera Jr.  
President and Chief Executive Officer

Principal Financial and Accounting Officer:

Date: August 28, 2018 By: /s/ Mary Jane Raymond  
Mary Jane Raymond  
Chief Financial Officer and Treasurer

Date: August 28, 2018 By: /s/ Francis J. Kramer  
Francis J. Kramer  
Chairman of the Board and Director

Date: August 28, 2018 By: /s/ Joseph J. Corasanti  
Joseph J. Corasanti  
Director

Date: August 28, 2018 By: /s/ RADM Marc Y. E. Pelaez (retired)  
RADM Marc Y. E. Pelaez (retired)  
Director

Date: August 28, 2018 By: /s/ Howard H. Xia  
Howard H. Xia  
Director

Date: August 28, 2018 By: /s/ William Schromm  
William Schromm  
Director

Date: August 28, 2018 By: /s/ Shaker Sadasivam  
Shaker Sadasivam  
Director

Date: August 28, 2018 By: /s/ Enrico Digirolamo  
Enrico Digirolamo  
Director