II-VI INC
Form 10-K
August 27, 2010

United States

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

x **Annual Report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the fiscal year ended June 30, 2010**

¨ 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 incorporation or organization)	(I.R.S. Employer Identification No.)
375 Saxonburg Boulevard Saxonburg, PA (Address of principal executive offices)	16056 (Zip code)

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

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

Title of Each Class	**Name of Each Exchange on Which Registered**
Common Stock, no par value	Nasdaq Global Select Market

Securities registered pursuant to Section 12(g) of the Act: None

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

Yes____ No__X__

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act.

Yes____ No__X__

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes X No ____

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for shorter period that the registrant was required to submit and post such files).

Yes ____ No ____

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant s knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ¨

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definition of large accelerated filer, accelerated filer and smaller reporting company in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer x Accelerated filer ¨ Non-accelerated filer ¨ Smaller reporting company ¨

(Do not check if a smaller reporting company)

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes ¨ No x

Aggregate market value of outstanding Common Stock, no par value, held by non-affiliates of the Registrant at December 31, 2009, was approximately $767,938,000 based on the closing sale price reported on the Nasdaq Global Select Market. For purposes of this calculation only, directors and executive officers of the Registrant and their spouses are deemed to be affiliates of the Registrant.

Number of outstanding shares of Common Stock, no par value, at August 20, 2010, was 30,916,051.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant s definitive proxy statement, which will be issued in connection with the 2010 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, and the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These statements relate to the Company s performance on a going-forward basis. Forward looking statements are also identified by words such as expects, anticipates, intends, plans, projects or similar expressions.

The forward-looking statements in this 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. The Company believes that all forward-looking statements made by it have a reasonable basis, but there can be no assurance that these expectations, beliefs or projections as expressed in the forward-looking statements will actually occur or prove to be correct. Actual results could materially differ from such statements. In addition to general industry and economic conditions, including any failure to sustain the recent recovery from the global economic downturn, factors that could cause actual results to differ materially from those discussed in the forward-looking statements include, but are not limited to: (i) the failure of any one or more of the assumptions stated above to prove to be correct; (ii) the Risk Factors set forth in Item 1A; (iii) purchasing patterns from customers and end-users; (iv) timely release of new products, and acceptance of such new products by the market; (v) the introduction of new products by competitors and other competitive responses; and/or (vi) the Company s ability to devise and execute strategies to respond to market conditions.

PART I

ITEM 1. BUSINESS

Introduction

II-VI Incorporated (II-VI , the Company, we, us, or our) was incorporated in Pennsylvania in 1971. Our executive offices 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 Form 10-K, unless the context requires otherwise, refers to II-VI Incorporated and its wholly-owned and majority-owned subsidiaries. The Company s name is pronounced Two Six Incorporated. The majority of our revenues are attributable to the sale of optical components for industrial, military and medical laser applications, telecommunication products, compound semiconductor substrate-based products for industrial, medical and military applications, and elements for material processing and refinement. Reference to fiscal or fiscal year means our fiscal year ended June 30 for the year referenced.

In January 2010, the Company acquired all the outstanding shares of Photop Technologies, Inc. (Photop). Photop headquartered in Fuzhou, China is a vertically integrated manufacturer of crystal materials, optics, microchip lasers for display applications and optical modules for use in fiber optic communication networks and other diverse consumer and commercial applications. Photop became an operating unit within our Near-Infrared Optics business segment. The financial results for the fiscal year ended June 30, 2010 includes the results of Photop for six months.

In June 2009, the Company sold its x-ray and gamma-ray radiation sensor business, eV PRODUCTS, Inc., which was previously reported in the Compound Semiconductor Group business segment. Financial and operational data included herein for the fiscal years ended June 30, 2009, 2008 and earlier periods reflect the presentation of eV PRODUCTS, Inc. as a discontinued operation.

In January 2008, the Company acquired a 74.93% equity interest in HIGHYAG Lasertechnologie GmbH (HIGHYAG), a designer and manufacturer of automated equipment to deliver high power one micron laser light for cutting, drilling and welding in automotive, semiconductor and other material processing applications, which became an operating unit within the Infrared Optics business segment.

Our internet address is 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 Securities Exchange Act of 1934. 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 ten-percent beneficial owners pursuant to Section 16 of the Securities Exchange Act of 1934. We also make available on our website our corporate governance documents, including the Company s Code of Business Ethics, governance guidelines and the charters for various board committees. All such documents are located on the Investors page of our website and are available free of charge.

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, 2010 is set forth in the consolidated statements of earnings and in Note M to the Company s consolidated financial statements included in Item 8 of this Form 10-K. We also discuss certain Risk Factors set forth in Item 1A of this Form 10-K related to our foreign operations which are incorporated herein by reference.

General Description of Business

We develop, refine, manufacture and market high-technology materials and derivative precision components and products for precision use in industrial, military, telecommunications, medical and aerospace applications. We use advanced engineered material growth technologies coupled with proprietary high-precision fabrication, micro-assembly, thin-film coating and electronic integration to enable complex optoelectronic devices and modules. Our products are supplied to manufacturers and users in a wide variety of markets including industrial, defense, telecommunications and medical and are deployed in applications that we believe improve the cost and performance of laser cutting, welding and marking operations; reduce the cost and improve the operations of telecommunication products; reduce the cost and improve the reliability of medical procedures; and reduce the cost and improve the performance of cooling and power generation solutions. A key strategy is to develop, refine and manufacture complex materials. We focus on providing critical components to the heart of our customers assembly lines for products such as high-power laser material processing systems, military fire control and missile guidance devices, fiber optics and wireless communication systems, medical diagnostic systems and industrial, commercial and consumer thermal management systems. We develop, manufacture, refine and market infrared and near-infrared laser optical elements, military infrared optical components, selenium and tellurium metals and chemicals, thermoelectric cooling and power generation solutions and single crystal silicon carbide (SiC) substrates.

Our U.S. production operations are located in Pennsylvania, Florida, California, New Jersey, Texas and Mississippi and our non-U.S. production operations are based in Singapore, China, Vietnam, the Philippines and Germany. In addition to sales offices at most of our manufacturing sites, we have sales and marketing subsidiaries in Germany, Japan, China, Switzerland, Belgium, the United Kingdom (U.K.) and Italy. Approximately 49% of our revenues in the fiscal year ended June 30, 2010 were from product sales to customers outside of the U.S.

Our primary products are as follows:

Laser-related products for CO_2 lasers and forward-looking infrared systems, and high precision optical elements used to focus and direct infrared lasers onto target work surfaces. The majority of these laser products require advanced optical materials that are internally produced.

Laser-related products for one micron lasers for cutting, drilling and welding in automotive, semiconductor and other material processing applications. We produce tools for laser material processing, including modular laser processing heads for fiber lasers, yttrium aluminum garnet (YAG) lasers and other one micron laser systems. We also manufacture beam delivery systems including fiber optic cables and modular beam systems.

Laser-related products for solid-state lasers, high precision optical elements and assemblies used to focus and direct laser beams onto target work surfaces and Ultra-violet (UV) Filters used in systems to detect shoulder-launched missiles to help improve the survivability of low-flying aircraft if attacked. The majority of these laser products require advanced optical materials and crystals that are internally produced.

Photonics and optical components products for use in optical communication networks and other diverse consumer and commercial applications. We leverage our expertise in crystal materials and optics to design and manufacture a diverse range of customized optics and optical components such as projection devices and lasers.

Military infrared optical products and assemblies including optics for targeting and navigation systems.

Selenium and tellurium metals and chemicals via refining and reclamation processes. These products are used as additive materials for metallurgical, glass and animal feed applications, and are used for photovoltaic, electronic and other industrial applications.

Thermoelectric coolers, thermoelectric systems, power generation modules and power generation systems based on highly engineered semiconductor materials that provide reliable and low cost temperature control or power generation capability.

SiC substrates which are wide bandgap semiconductor materials that enable high-temperature, high-power and high-frequency device capabilities.

Our Markets

Our market-focused businesses are organized by technology and products. Our business is comprised of the following primary markets:

Design, manufacture and marketing of optical and electro-optical components and materials for infrared optics for industrial, medical and military applications by our II-VI Infrared operations.

Design, manufacture and marketing of customized technology for laser material processing to deliver high-power one micron laser light for industrial applications by our Infrared Optics HIGHYAG operations.

Design, manufacture and marketing of ultra-violet, visible and near-infrared laser products for industrial, military, scientific and medical instruments, including laser gain materials and products for solid-state YAG and other crystal-based lasers by our VLOC operations in the Near-Infrared Optics segment.

Design, manufacture and marketing of a diverse range of customized optics and optical components for consumer and commercial application such as fiber optic communications, projection and display systems and biomedical instrumentation by our Photop operations in the Near-Infrared Optics segment.

Design, manufacture and marketing of infrared products for military applications by our Military & Materials Military Infrared Optics operations.

Refinement, reclamation, manufacturing and marketing of selenium and tellurium products for industrial applications by our Military & Materials Materials Processing and Refinement operations.

Design, manufacture and marketing of thermoelectric cooling and power-generation products for use in defense, telecommunications, medical, automotive, consumer and industrial markets by our Compound Semiconductor Group s Marlow Industries, Inc. (Marlow) operations.

Design, manufacture and marketing of single crystal SiC substrates for use in defense and space, telecommunications, and industrial markets by our Compound Semiconductor Group s Wide Bandgap Group (WBG) operations.

Infrared Optics Market. Over the last few years, significant increases in the installed worldwide base of laser machines for a variety of laser processing applications have driven CO_2 laser optics component consumption. It is estimated that there are over 55,000 CO_2 laser systems currently deployed in the world. CO_2 lasers offer benefits in a wide variety of cutting, welding, drilling, ablation, cladding, heat treating and marking

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applications for materials such as steel alloys, non-ferrous metals, plastics, wood, paper, fiberboard, ceramics and composites. Laser systems enable the manufacturers to reduce part cost and improve quality, as well as augment process precision, speed, throughput, flexibility, repeatability and automation. Automobile manufacturers, for example, deploy lasers both to cut body components and to weld those parts together in high-throughput production lines. Manufacturers of motorcycles, lawn mowers and garden tractors cut, trim, and weld metal parts with lasers to reduce post-processing steps and, therefore, lower overall manufacturing costs. Furniture manufacturers utilize lasers because of their easily reconfigurable, low-cost prototyping and production capabilities for customer-specified designs. In high-speed food and pharmaceutical packaging lines, laser marking is used to provide automated product, date, and lot coding on containers. In addition to being installed by original equipment manufacturers (OEMs) of laser systems in new machine builds, our optical components are purchased as replacement parts by end users of laser machines to maintain proper system performance. We believe that the current addressable market serviced by the II-VI Infrared business is approximately $500 million.

One Micron Laser Market. In many areas of material processing, laser technology has proved to be a better alternative to conventional production techniques. The precise cut and elegant seam are visible proof of a laser beam s machining efficiency. Industrial applications such as cutting, drilling and welding have driven the recent market growth of the one-micron laser systems, and are demanding increased performance, lower total cost of ownership, ease of use and portability of one-micron laser systems. One micron laser systems require efficient and reliable tools, including modular laser processing heads for fiber lasers, beam delivery systems including fiber optic cables and modular beam systems. We believe that the current addressable market serviced by HIGHYAG is approximately $50 million.

Near-Infrared Optics Market. The Near-Infrared laser market is driven by applications in the military, medical, industrial and telecommunication markets. Military applications include use in rangefinders, target designators, missile detection, countermeasures and high energy laser weapon systems. Medical applications include aesthetic, vision correction, dental and diagnostic lasers. Industrial market segments addressed by YAG lasers are used in higher power applications such as cutting and welding, and lower power applications such as marking and scribing. These industrial applications are demanding higher performance levels for less cost, creating competition for other technologies. The telecommunication market is being driven by demand for high-bandwidth communication capabilities by the growing number of broadband users worldwide and the greater reliance on high-bandwidth capabilities in our daily lives. For example, video and music downloads, gaming and other on-line interactive applications are growing rapidly. Optical networks are being extended closer to the end user with fiber-to-the-home and other fiber networks. Mobile data traffic also is increasing as smart phones continue to proliferate with increasingly sophisticated audio, photo, video, email and Internet capabilities. The resulting traffic, in turn, is felt throughout the network, including the core that depends on optical technology. The near-infrared market also addresses opportunities in the semiconductor processing, instrumentation and research segments. We believe that the current addressable market serviced by our Near-Infrared Optics segment is approximately $1.2 billion.

Military Infrared Optics Market. We provide several key infrared optical components such as windows, domes and related subassemblies to the military market for infrared applications in night vision, targeting, navigation and Homeland Security systems. Infrared window and window assemblies for navigational and targeting systems are deployed on fixed and rotary-wing aircraft, such as the F-16 fighter jet, Apache Attack Helicopter, Joint Strike Fighter and ground vehicles such as the Abrams M-1 Tank and Bradley Fighting Vehicle. Infrared domes are used on missiles with infrared guidance systems ranging from small, man-portable designs to larger designs mounted on helicopters, fixed-wing aircraft and ground vehicles. Additionally, multiple fighter jets including the F-16 are being equipped with large area sapphire windows manufactured by the Company, as a key component for the aircraft providing advanced targeting and imaging systems. The development and manufacture of these large area sapphire windows has played a key role in our ability to provide an even larger suite of sapphire panels that are a key component of the Joint Strike Fighter Electro Optical Targeting System. 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. Our military infrared optical products are sold

primarily to U.S. government prime contractors and directly to various U.S. government agencies. We believe that the current addressable market serviced by our Military Infrared Optics business is approximately $500 million.

Materials Processing and Refinement Market. Numerous processes require the presence of high-purity elements for proper processing. The Company s Pacific Rare Specialty Metals & Chemicals, Inc. (PRM) business addresses the market for two specific rare elements: selenium and tellurium. Selenium and tellurium usually are by-products of refining processes for other more common materials such as copper and zinc. High-purity selenium and tellurium are used in a variety of industrial applications, including the manufacture of steel and glass, the production of animal feeds and fertilizers, the manufacture of thermoelectric coolers and the production of photovoltaic solar panels. Our products are sold to customers who require selenium and/or tellurium in their manufacturing processes. We believe that the current addressable market serviced by our PRM business is approximately $110 million, although demand is highly dependent upon minor metal indexed pricing.

Thermoelectric Coolers Market. Thermoelectric coolers (TECs) are solid-state semiconductor devices that act as small heat pumps to cool, heat or temperature stabilize a wide range of materials, components and systems. Conversely, the principles underlying thermoelectrics allow TECs to be used as a source of power when subjected to a temperature difference. TECs are more reliable than alternative cooling solutions that require moving parts and provide more precise temperature control solutions than competing technologies. TECs also have many other advantages which spurred the adoption of TECs in a variety of industries and applications. For example, TECs provide critical cooling and temperature stabilization solutions in a myriad of defense and space applications, including infrared cooled and un-cooled temperature stabilized night vision technologies and thermal reference sources that are deployed in state-of-the-art weapons, as well as cooling high powered lasers used for range finding target designation by military personnel. TECs also allow for temperature stabilization for telecommunication lasers that generate and amplify optical signals for fiber optics systems. Thermoelectric cooling solutions appear in a variety of medical applications including instrumentation and analytical applications such as DNA replication, blood analyzers and medical laser equipment. The industrial, commercial, and consumer markets provide a variety of niche applications ranging from desk-top refrigerators and wine coolers to semi-conductor process and test equipment. Mosquito trap applications utilize the power generation capabilities of the technology to rid residences, resorts and camps of mosquitoes. In addition, power generation applications are expanding into fields such as waste heat recovery, heat scavenging and co-generation. We believe the current addressable market serviced by our Marlow Industries, Inc. business is approximately $250 million.

Silicon Carbide Substrate Market. Silicon Carbide (SiC) is a wide bandgap semiconductor material that offers high-temperature, high-power and high-frequency capabilities as a substrate for applications that are emerging at the high-performance end of the defense, telecommunication and industrial markets. SiC has certain intrinsic physical and electronic advantages over competing semiconductor materials such as Silicon and Gallium Arsenide. For example, the high thermal conductivity of SiC enables SiC-based devices to operate at high power levels and still dissipate the excess heat generated. Typically, our customers deposit either SiC or Gallium Nitride (GaN) epitaxial layers on a SiC substrate and then fabricate optoelectronic or electronic devices. SiC and GaN-based structures are being developed and deployed for the manufacture of a wide variety of microwave and power switching devices. High-power, high-frequency SiC-based microwave devices are used in next generation wireless switching telecommunication applications and in both commercial and military radar applications. SiC based, high-power, high-speed devices improve the performance, efficiency and reliability of electrical power transmission and distribution systems (smart grid), as well as power conditioning and switching in power supplies and motor controls in a wide variety of applications including aircraft, hybrid vehicles, industrial, communications and green energy applications. We believe the current addressable market serviced by our Wide Bandgap Group is approximately $35 million.

Our Strategy

Our strategy is to build businesses with world-class, high technology materials capabilities at their core. Our significant materials capabilities are as follows:

Infrared Optics: Zinc Selenide (ZnSe) and Zinc Sulfide (ZnS)

Near-Infrared Optics: Yttrium Aluminum Garnet (YAG), Yttrium Lithium Fluoride (YLF), Calcium Fluoride (CaF_2), Potassium Nickel Sulfate (KNS), Neodymium doped Yttrium Vanadate (Nd:YVO_4), Potassium Titanyl Phosphate (KTP) and Borium Borate Oxide (BBO)

Military Infrared Optics: Germanium (Ge)

Materials Processing and Refinement: Selenium (Se) and Tellurium (Te)

Thermoelectric Coolers: Bismuth Telluride (Bi_2Te_3)

Silicon Carbide Substrates: Silicon Carbide (SiC)

We manufacture precision parts and components from these and other materials using our expertise in low damage surface and micro fabrication, thin-film coating and exacting metrology. A substantial portion of our business is based on contracts with market leaders, which enables forward planning and production efficiencies. We intend to capitalize on the execution of this proven model, participate effectively in the growth of the market and continue our focus on operational excellence as we execute additional growth initiatives.

Our specific strategies are as follows:

Vertical-Integration. By combining the capabilities of our various business segments and operating units, we have created opportunities for our businesses to address manufacturing opportunities across multiple disciplines and markets. Where appropriate, we develop and/or acquire technological capabilities in areas such as material refinement, crystal growth, fabrication, diamond-turning, thin-film coating, metrology and assembly.

Investment in Manufacturing Operations. We continually invest in our manufacturing operations worldwide to increase production capacity and capabilities. The majority of our capital expenditures are for our manufacturing operations.

Enhance Our Reputation as a Quality and Customer Service Leader. We are committed to understanding our customers needs and meeting their expectations. We have established ourselves as a consistent, high quality supplier of components into our customers assembly lines. In many cases, we deliver on a just-in-time basis. We believe our quality and delivery performance enhance our relationships with our customers.

Identify New Products and Markets. We intend to identify new products and markets to meet evolving customer requirements for high performance materials. Due to the special properties of the advanced materials we produce, we believe there are numerous applications and markets for such materials.

Utilize Asian Manufacturing Operations. Our manufacturing operations in Singapore, China, the Philippines and Vietnam play an important role in the operational and financial performance of the Company. We will continue to invest in these operations and utilize their capabilities.

Identify and Complete Strategic Acquisitions and Alliances. Some of the markets we participate in remain fragmented, and we expect consolidation to occur over the next several years. We will

carefully pursue strategic acquisitions and alliances with companies whose products or technologies may compliment our current products, expand our market opportunities or create synergies with our current capabilities. We intend to 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.

Pursue Military Programs. Our Military Infrared Optics business serves military and defense applications. In addition, a portion of our other businesses are focused on products that are utilized in military and defense applications. Our strategy is to actively work with major defense contractors during the initial product development phase in order to incorporate our products into our customers systems. Early participation in long-term programs has proven to be a successful strategy and a competitive advantage in addressing the military market.

Balanced Approach to Research and Development. Our research and development program includes both internally and externally funded research and development expenditures targeting an overall investment of between 5 and 10 percent of product revenues. We are committed to accepting the right mix of internally and externally funded research that ties closely to our long-term strategic objectives.

Our Products

The main products for each of our markets are described as follows:

Infrared Optics. We supply a broad line of precision infrared optical components such as lenses, output couplers, windows and mirrors for use in CO_2 lasers. Our precision optical components are used to attenuate the amount of laser energy, enhance the properties of the laser beam and focus and direct laser beams to a target work surface. The optical components include both reflective and transmissive optics and are made from materials such as ZnSe, copper, silicon, gallium arsenide and germanium. Transmissive optics used with CO_2 lasers are predominately made from ZnSe. We believe we are the largest manufacturer of ZnSe in the world. We supply replacement optics to end users of CO_2 lasers. Over time, optics may become contaminated and must be replaced to maintain peak laser operations. This aftermarket portion of our business continues to grow as laser applications proliferate worldwide and the installed base of serviceable laser systems increases each year. We estimate that 85% to 90% of our infrared optics sales service this installed base of CO_2 laser systems. We serve the aftermarket via a combination of selling to OEM and selling directly to system end users.

One Micron Laser Components. Our broad expertise in laser technology, optics, sensor technology and laser applications enables us to supply a broad array of tools for laser materials processing, including modular laser processing heads for fiber lasers, YAG lasers and other one micron laser systems. We also manufacture beam delivery systems including fiber optic cables and modular beam systems.

Near-Infrared Optics. We manufacture products across a broad spectral range, including UV, Visible and Near-Infrared. We offer a wide variety of standard and custom laser gain materials, optics and assemblies for military, medical, industrial, telecommunication, scientific and research and development laser systems. Laser gain materials are produced to stringent industry specifications and precisely fabricated to customer demands. Key materials and precision optical components for YAG and other solid-state laser systems complete our near-infrared optics product offerings. We manufacture waveplates, polarizers, lenses, prisms and mirrors for visible and near-infrared applications, which are used to control or alter visible or near-infrared energy and its polarization. In addition, we manufacture coated windows used as debris shields in the industrial and medical laser aftermarkets. For our telecommunications market, we offer micro optics and photonic crystal parts for optical communications components, optical and photonic crystal parts for instrumentation and laser applications, optical communication components and functional modules for optical communications and DPSS laser for optical instruments, display and biotechnology. Our Near-Infrared Optics segment also produces

components for UV Filters used in early warning missile detection. The end use of the UV Filter products we make is in systems used to detect shoulder-launched missiles to help improve the survivability of low-flying aircraft when attacked.

Military Infrared Optics. We offer optics and optical subassemblies for military infrared systems including thermal imaging, night vision, targeting and navigation systems. Our product offering is comprised of missile domes, electro-optical windows and subassemblies, imaging lenses and other components. Our precision optical products utilize infrared optical materials such as Sapphire, Germanium, Zinc Sulfide, Zinc Selenide, Silicon, and Aluminum Oxynitride. In addition, our products also include visible materials and fused silica. Our products are currently utilized on the F-16 fighter jet, Apache Attack Helicopter, Joint Strike Fighter and ground vehicles such as the Abrams M-1 Tank and Bradley Fighting Vehicle.

Material Processing and Refinement. Our product offering includes selenium and tellurium metals and chemicals in a variety of purity levels and forms.

Thermoelectric Coolers. We supply a broad array of thermoelectric modules and related assemblies to various market segments. In the defense market, TECs are used in guidance systems, smart weapons and night vision systems, as well as soldier cooling. TECs are also used in products providing temperature stabilization for telecommunication lasers that generate and amplify optical signals for fiber optic communication systems. We also produce and sell a variety of solutions from thermoelectric components to complete subsystems used in the medical equipment market and other industrial and commercial applications. Thermoelectric modules, used as power generators are also applied in a range of end-use applications. We offer single-stage TECs, micro TECs, multi-stage TECs, planar multi-stage TECs, extended life coolers, thermoelectric thermal reference sources, power generators and thermoelectric assemblies.

Silicon Carbide. Our product offerings are 6H-SiC (semi-insulating) and 4H-SiC (conducting) poly-types and are available in sizes up to 100mm diameter. SiC substrates are used in wireless infrastructure, radio frequency (RF) electronics and power switching industries.

Research, Development and Engineering

Our research and development program includes internally and externally funded research and development expenditures targeting an overall investment of between 5 and 10 percent of product revenues. From time to time, the ratio of externally funded contract activity to internally funded contract activity varies due to the unevenness of government research programs and changes in the focus of our internally funded research programs. We are committed to accepting the right mix of internally and externally funded research that ties closely to our long-term strategic objectives.

We devote significant resources to research, development and engineering programs directed at the continuous improvement of existing products and processes and to the timely development of new technologies, materials and products. We believe that our research, development and engineering activities are essential to our ability to establish and maintain a leadership position in each of the markets that we serve. As of June 30, 2010, we employed 617 people in research, development and engineering functions, 475 of who are engineers or scientists. In addition, certain manufacturing personnel support or participate in research and development on an ongoing basis. Interaction between the development and manufacturing functions enhances the direction of projects, reduces costs and accelerates technology transfers.

During the fiscal year ended June 30, 2010, we focused our research and development investments in the following areas:

Silicon Carbide Substrate Technology: SiC substrate technology development efforts continue to move forward, with emphasis in the areas of defect density reduction, substrate fabrication, surface

polishing and diameter expansion. We were awarded continued funding through the Missile Defense Agency (MDA) focused on the manufacturing producibility of 100mm diameter 6H-SiC (semi-insulating) substrates for RF applications. We have also been awarded new funding through the Air Force Research Laboratory (AFRL) for development and manufacturing optimization of 100mm 150mm 4H (semi-conducting) SiC substrates for high power switching applications and 6H (semi-insulating) SiC substrates for RF applications. Our research and development efforts in all of these areas have been both internally and externally funded.

Ceramic Oxide Materials: Our activities in this area are focused on process improvements, benchmarking the quality of commercially available research-grade ceramics and comparing their properties and performance to single crystal materials. Continued efforts involve investigation of composite materials for thermally-enhanced laser architectures and could lead to new applications. Our research and development efforts in this area have been both internally and externally funded.

Photonics Design: We have ongoing efforts to refine and improve our photonic crystal materials, optical parts, micro optical parts, passive and active components, laser instrumentation and display. Our research and development efforts in this area have been internally funded.

Thermoelectric Materials and Devices: We continue to develop the industry-leading Bi_2Te_3 Micro-Alloyed Materials (MAM) for thermoelectric cooling applications. Enabled by the thermal performance and fine grain microstructure of MAM, our research and development has focused on achieving levels of miniaturization and watt density beyond the reach of TECs based on single crystal and polycrystalline materials produced by standard crystal growth techniques. In addition, we are developing capabilities in thermo-electric power generation materials that, combined with our intellectual property position, will allow us to bring to market new thermoelectric compounds that have been developed for NASA. Our research and development efforts in this area have been both internally and externally funded.

The development and manufacturing of our products and 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. When faced with potential infringement of our proprietary information, we have in the past and continue currently to assert and vigorously protect our intellectual property rights.

Internal research and development expenditures were $11.8 million, $10.2 million and $7.7 million for the fiscal years ended June 30, 2010, 2009 and 2008, respectively. For these same periods, the external research and development expenditures were $7.0 million, $7.5 million and $9.4 million, respectively.

Marketing and Sales

We market our products through a direct sales force in the U.S., Japan, Singapore, China, the Philippines, Germany, Belgium, Switzerland, the U.K. and Italy, and through representatives and distributors elsewhere in the world. Our market strategy is focused on understanding customer requirements and building market awareness and acceptance of our products. New products are continually being produced and sold to our established customers in all markets.

Each of our product lines is responsible for its own worldwide marketing and sales functions, as follows, although certain subsidiaries sell more than one product line:

The Infrared Optics marketing and sales activities are handled through a direct sales force in the U.S. and through our wholly-owned subsidiaries in Japan, Singapore, China, Germany, Belgium, Switzerland, the U.K. and Italy as well as through distributors throughout the rest of the world.

The One Micron Laser marketing and sales activities are handled through a direct sales force in the U.S. and Germany as well as through distributors throughout the rest of the world.

Each of our subsidiaries in the Near-Infrared Optics segment is responsible for its own worldwide marketing and sales functions, although certain subsidiaries sell more than one product line. However, there is significant cooperation and coordination between our subsidiaries to utilize the most efficient and appropriate marketing channel when addressing these diverse markets. The Near-Infrared Optics segment markets its products through its direct sales force in the U.S., China, Germany and Japan and through distributors throughout the rest of the world.

The Military Infrared Optics marketing and sales initiative is handled through a direct sales force in the U.S.

The Materials Processing and Refinement marketing and sales initiative is handled through a direct sales force in the Philippines and occasionally through non-exclusive distribution channels.

The Thermoelectric Coolers marketing and sales initiative is handled through a direct sales force in the U.S., through our wholly-owned subsidiary in Germany, through direct sales forces co-located in II-VI offices in Japan, Singapore and China as well as through distributors throughout the rest of the world.

The Silicon Carbide marketing and sales initiative is handled through a direct sales force in the U.S. and at our wholly-owned international subsidiaries.

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 forces include a highly-trained team of application engineers to assist customers in designing, testing and qualifying our parts as key components of our customers systems. As of June 30, 2010, we employed 196 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. The discussion provided in the section on Risk Factors set forth in Item 1A of this Form 10-K related to our exposure to government markets is incorporated herein by reference.

Manufacturing Technology and Processes

As noted in the Our Strategy section, many of the products we produce depend on our ability to manufacture and refine technically challenging materials and components. The table below shows these key materials.

Product Line	**Materials Produced/Refined**
Infrared Optics	ZnSe and ZnS
Near-Infrared Optics VLOC	YAG, YLF, CaF_2 and KNS
Near-Infrared Optics Photop	Nd:YVO_4, KTP and BBO
Military Infrared Optics	Ge
Materials Processing and Refinement	Se and Te
Thermoelectric Coolers	Bi_2Te_3
Silicon Carbide Substrates	SiC

The ability to produce, process and refine these difficult materials and to control their quality and yields is an expertise of the Company. Processing these materials into finished products is also difficult to accomplish; yet the quality and reproducibility of these products are critical to the performance of our customers instruments and systems. In the markets we serve, there are a limited number of suppliers of many of the components we manufacture and there are very few industry-standard products.

Our network of worldwide manufacturing sites allows products to be produced in regions that provide cost-effective advantages and enable proximity to our customers. We employ numerous advanced manufacturing technologies and systems at our manufacturing facilities. These include automated Computer Numeric Control optical fabrication, high throughput thin-film coaters, micro precision metrology and custom-engineered automated furnace controls for the 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. We embody a technology and quality mindset that gives our customers the confidence to utilize our products on a just-in-time basis straight into the heart of their production lines.

Sources of Supply

The major raw materials we use include zinc, selenium, hydrogen selenide, hydrogen sulfide, tellurium, yttrium oxide, aluminum oxide, iridium, platinum, bismuth, silicon, thorium fluoride, antimony, carbon, gallium arsenide, copper, germanium, molybdenum, quartz, optical glass and other materials. Excluding our own production, there are more than two external suppliers for all of the above materials except for ZnSe, ZnS, hydrogen selenide and thorium fluoride, for which there is only one proven source of supply outside of the Company s capabilities. For many materials, we have entered into purchase arrangements whereby suppliers provide discounts for annual volume purchases in excess of specified amounts.

The continued high-quality of and access to these materials is critical to the stability and predictability of our manufacturing yields. We conduct testing of materials at the onset of the production process. Additional research and capital investment may be needed to better define future starting 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. A significant failure of our suppliers to deliver sufficient quantities of necessary high-quality materials on a timely basis could have a materially adverse effect on the results of our operations.

Customers

Our existing customer base for infrared optics including our laser component products consists of over 5,000 customers worldwide. The main groups of customers for these products are as follows:

- OEM and system integrators of industrial, medical and military laser systems. Representative customers are Rofin-Sinar Technologies, Trumpf and Bystronic.

- Laser end users who require replacement optics for their existing laser systems. Representative customers are John Deere and Caterpillar.

- Military and aerospace customers who require products for use in advanced targeting, navigation and surveillance. Representative customers are Northrop Grumman and Lockheed-Martin.

For our one micron laser products, our customers are automotive manufacturers, laser manufacturers and system integrators. Representative customers are Volkswagen, Daimler and Thyssen.

For our near-infrared laser-based optics and crystal products, our customers are OEMs and system integrators of solid-state lasers used in industrial, scientific, military and medical markets. Representative customers include Candela Corporation, Raytheon and Northrop Grumman.

For our near-infrared high volume optics and components products our customers are sub-system integrators for telecommunication and data communication and manufacturers of consumer products such as displays and projection devices. Due to the competitive landscape within the telecommunication market and the existence of non-disclosure agreements, the Company is unable to disclose its main customer group.

For our military infrared optics products, our customers are manufacturers of equipment and devices for aerospace, defense and commercial markets. Representative customers include Lockheed-Martin, Raytheon and various U.S. government agencies.

For our materials processing and refining products, our customers are manufacturers and developers of materials for industrial applications, including the manufacturing of steel and glass, the production of animal feeds and fertilizers and the manufacturing of thermo-electric coolers and solar cells. Examples of external customers include Retorte and 5NPlus, Inc., while internal customers are II-VI Infrared and Marlow Industries.

For our thermoelectric products, our customers are manufacturers and developers of equipment and devices for defense and space, telecommunications, medical and industrial, automotive and commercial markets. Representative customers include Raytheon, Beckman Coulter and Bookham Technologies.

For our SiC products, our customers are manufacturers and developers of equipment and devices for high power RF electronics and high power and high voltage switching and power conversion systems for both the U.S. Department of Defense and commercial applications. We are currently dependent on a limited number of key customers for our SiC products.

Competition

We believe that we are a significant producer of products and services in our addressed markets. In the area of infrared laser optics and materials, we believe we are an industry leader. We believe that we are an industry leader in laser material processing tools for high power one micron laser systems. We are a significant supplier of YAG rods and near-infrared laser optics to the worldwide markets for defense, scientific, research, medical and industrial applications. We are a leading photonics designer and integrator of display optics, precision optics and crystal materials for telecommunication applications. We are a leading supplier of infrared optics used in complex military assemblies for targeting, navigation and thermal imaging systems to major military prime contractors. We believe we are a leading supplier of selenium and tellurium products for electronic, agricultural and thermoelectric applications. We believe we are a global leader in the design and manufacturer of TECs and thermal control subsystems. We believe we are a preferred alternative to the leading supplier of single crystal SiC substrates for use in the defense, telecommunication and industrial markets.

We compete on the basis of product technical specifications, quality, delivery time, technical support and pricing. Management believes 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 provide competitive advantages.

We have a number of present and potential competitors that are larger and have greater financial, selling, marketing or technical resources. Competitors producing infrared laser optics include Sumitomo Electric and Ophir Optronics. Competing producers of automated equipment and laser material processing tools to deliver high power one micron laser systems include Optoskand, Precitec and Laser Mechanisms. Competing producers of YAG materials and optics include Northrop Grumman and CVI Melles Griot. Competing producers of optical communication products include Neophotonics Corp., O-Net Communications Ltd. and OPLINK Communication, Inc. Competing producers of infrared optics for military applications are DRS, Goodrich, Elcan and in-house fabrication and thin film coating capabilities of major military customers, such as Raytheon Corporation. Competing producers of selenium and tellurium metals and chemicals include Umicore and Vital Chemical. Competing producers of TECs include Komatsu, Laird Technologies and Ferrotec. Competing producers of single crystal SiC substrates include Cree, Dow Corning and Nippon Steel.

In addition to competitors who manufacture products similar to those we produce, there are other technologies or materials that can compete with our products.

Bookings and Backlog

We define our bookings as customer orders received that are expected to be converted to revenues over the next twelve months. For long-term customer orders, the Company records only those orders which are expected to be converted into revenues within twelve months from the end of the reporting period due to the inherent uncertainty of an order that far in the future. For the year ended June 30, 2010, our bookings, including those bookings converted to revenues prior to year end, were approximately $388 million compared to bookings of approximately $261 million for the year ended June 30, 2009.

We define our backlog as bookings that have not been converted to revenues by the end of the reporting period. Bookings are adjusted if changes in customer demands or production schedules move a delivery beyond twelve months. As of June 30, 2010, our backlog was approximately $157 million compared to approximately $103 million at June 30, 2009. Photop contributed approximately $17 million of backlog as of January 4, 2010, the acquisition date.

Employees

As of June 30, 2010, we employed 6,869 persons worldwide. Of these employees, 617 were engaged in research, development and engineering, 5,461 in direct production (of which 1,251 employees of Photop in Fuzhou, China work under contract manufacturing arrangements for customers of the Company) and the balance of the Company s employees work in sales and marketing, administration, finance and support services. Our production staff includes highly skilled optical craftsmen. We have a long-standing practice of encouraging active employee participation in areas of operations management. We believe our relations with our employees to be good. We reward our employees with incentive compensation based on achievement of performance goals. 139 employees located in the Philippines are covered under a collective bargaining agreement.

Trade Secrets, Patents and Trademarks

We rely on our trade secrets, proprietary know-how, invention disclosures and patents to help us develop and maintain our competitive position. We have begun to aggressively pursue process and product patents in certain areas of our businesses. We have confidentiality and noncompetition agreements with certain personnel. We require that all U.S. employees sign a confidentiality and noncompetition agreement upon commencement of employment.

The processes and specialized equipment utilized in crystal growth, infrared materials fabrication and infrared optical coatings as developed by us are 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 infrared optical configurations and processes, and others could obtain patents covering technology similar to our technology. 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 which 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.

We currently hold several registered tradenames and trademarks including the following:

II-VI Incorporated(TM) tradename

Infraready Optics(TM) tradename for replacement optics for industrial CO_2 lasers

MP-5(TM) tradename for low absorption coating technology

Marlow Industries, Inc.™ tradename

Marlow Industries, Inc.™ trademark

Photop Technologies, Inc.™ tradename

ITEM 1A. RISK FACTORS

The Company cautions investors that its performance and, therefore, any forward-looking statement is subject to risks and uncertainties. Various important factors including, but not limited to, the following may cause the Company s future results to differ materially from those projected in any forward-looking statement.

General Economic Conditions May Adversely Affect Our Business, Operating Results and Financial Condition

Current and future conditions in the economy have an inherent degree of uncertainty. As a result, it is difficult to estimate the level of growth or contraction for the 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, medical and telecommunication markets in which we participate. Because all components of our forecasting are dependent upon estimates of growth or contraction in the markets we serve and demand for our products, the prevailing economic uncertainties render estimates of future income and expenditures very difficult to make. In addition, changes in general economic conditions may affect industries in which our customers operate. These changes could include decreases in the rate of consumption or use of our customers products due to economic downturn. These conditions may have a material adverse effect on demand for our customers product and, in turn, on demand for our products. Adverse changes have occurred and, although we have experienced improvements in worldwide markets and customers demand in the second half of fiscal year 2010, may reoccur 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 generally. These changes may negatively affect sales of products, increase exposure to losses from bad debt, increase the cost and availability of financing and increase costs associated with manufacturing and distributing products. Any economic downturn or the failure to sustain the recent recovery from the global economic downturn could have a material adverse effect on our business, results of operations or financial condition.

Our Future Success Depends on International Sales and Management of Global Operations

Sales to customers in countries other than the U.S. accounted for approximately 49%, 44% and 47% of revenues during the years ended June 30, 2010, 2009 and 2008, respectively. We anticipate that international sales will continue to account for a significant portion of our revenues for the foreseeable future. In addition, we manufacture products in Singapore, China, Vietnam, the Philippines and Germany and maintain direct sales offices in Germany, Japan, Switzerland, the U.K., Belgium, Singapore, China and Italy. Sales and operations outside of the U.S. are subject to certain inherent risks, including fluctuations in the value of the U.S. dollar relative to foreign currencies, the current global economic downturn, tariffs, quotas, taxes and other market barriers, political and economic instability, restrictions on the export or import of technology, potentially limited intellectual property protection, difficulties in staffing and managing international operations and potentially adverse tax consequences. There can be no assurance that any of these factors will not have a material adverse effect on our business, results of operations or financial condition. In particular, currency exchange fluctuations in countries where we do business in the local currency could have a material adverse affect on our business, results of operations or financial condition by rendering us less price-competitive than foreign manufacturers. Our sales in Japan are denominated in Yen and, accordingly, are affected by fluctuations in the dollar/Yen currency exchange rates. We generally reduce our exposure to such fluctuations of the Yen through forward exchange agreements which target to hedge approximately 75% of our sales in Japan. We do not engage in the speculative trading of financial derivatives. There can be no assurance, however, that our practices will reduce or eliminate the risk of fluctuation of the U.S. dollar/Japanese Yen exchange rate.

There Are Limitations on the Protection of Our Intellectual Property

We rely on a combination of trade secrets, patents, copyright and trademark laws combined with employee 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, thus materially and adversely affecting our business, results of operations or financial condition. 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 expend substantial amounts in order to obtain a license or modify processes so that they no longer infringe such proprietary rights, any of which could have a material adverse effect on our business, results of operations or financial condition.

We Depend on Highly Complex Manufacturing Processes Which Require Products from Limited Sources of Supply

We utilize high-quality, optical grade ZnSe in the production of many of our infrared optical products. We are the 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. ZnSe is available from only one significant outside source whose quantities and quality of ZnSe may be limited. Lack of adequate availability of high quality ZnSe would have a material adverse effect upon us. 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. Hydrogen Selenide is available from only one outside source whose quantities and quality may be limited. The cost of purchasing such material is greater than the cost of internal production. As a result, the purchase of a substantial portion of such material from the outside source would increase our ZnSe production costs. Therefore, an 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 utilize other high purity and relatively uncommon materials and compounds to manufacture our products including, but not limited to ZnS, YAG, YLF, CaF_2, KNS, V, Ge, Se, Te, Bi_2Te_3 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.

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 changes in commodity prices. Our PRM business purchases, produces and sells high purity Te, Se and other raw materials based upon quoted market prices from minor metal exchanges. As a result, changes in commodity prices which may not be recovered in our product sales could have a material adverse effect on our business, results of operations or financial condition.

We May Expand Product Lines and Markets by Acquiring Other Businesses

Our business strategy includes expanding our product lines and markets through internal product development and acquisitions. Any acquisition could result in potentially dilutive issuances of equity securities, the incurrence of debt and contingent liabilities and amortization expense related to intangible assets acquired,

any of which could have a material adverse effect on our business, results of operations or financial condition. In addition, acquired businesses may be experiencing operating losses. Any acquisition will involve numerous risks, including difficulties in the assimilation of the acquired company s operations and products, uncertainties associated with operating in new markets and working with new customers and the potential loss of the acquired company s key personnel.

The following information relates to significant acquisitions made since June 30, 2000.

Acquired Party	Year Acquired	Business Segments	Percentage Ownership as of June 30, 2010
Laser Power Corporation	Fiscal 2001	Military & Materials an	