TELEDYNE TECHNOLOGIES INC
Form 10-K
February 26, 2013
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-K
(Mark One)
ý ANNUAL REPORT PURSUANT TO SECTION 13 OR SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 30, 2012
OR
.. TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to
Commission file number 1-15295
TELEDYNE TECHNOLOGIES INCORPORATED
(Exact name of registrant as specified in its charter)

Delaware	25-1843385
(State or other jurisdiction of incorporation of organization)	(I.R.S. Employer Identification Number)
1049 Camino Dos Rios, Thousand Oaks, California	91360-2362
(Address of principal executive offices)	(Zip Code)

Registrant’s telephone number, including area code: (805)-373-4545
Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, par value $.01 per share	New York Stock Exchange

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 ý No ¨
Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ¨ No ý
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 ý No ¨
Indicate by check mark whether the registrant has submitted electronically and posted on its corporate website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ý 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 the definitions of “large accelerated filer,” “accelerated filer” and “smaller reporting company” in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ý 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 ý

The aggregate market value of the registrant's Common Stock held by non-affiliates on June 29, 2012 was $2.2 billion, based on the closing price of a share of Common Stock on such date, which is the last business day of the registrant's most recently completed fiscal second quarter. Shares of Common Stock known by the registrant to be beneficially owned by the registrant's directors and the registrant's executive officers subject to Section 16 of the Securities Exchange Act of 1934 are not included in the computation. The registrant, however, has made no determination that such persons are “affiliates” within the meaning of Rule 12b-2 under the Securities Exchange Act of 1934.

At February 22, 2013, there were 37,297,596 shares of the registrant's Common Stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Selected portions of the registrant's proxy statement for its 2013 Annual Meeting of Stockholders (the “2013 Proxy Statement”) are incorporated by reference in Part III of this Report. Information required by paragraphs (d)(1)-(3) and (e)(5) of Item 407 of Regulation S-K shall not be deemed “soliciting material” or to be filed with the Commission as permitted by Item 407 of Regulation S-K.

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PART IV

Explanatory Notes

In this Annual Report on Form 10-K, Teledyne Technologies Incorporated is sometimes referred to as the “Company” or “Teledyne”.

For a discussion of risk factors and uncertainties associated with Teledyne and any forward looking statements made by us, see the discussion beginning at page 12 of this Annual Report on Form 10-K.

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PART I

Item 1. Business.

Who We Are

Teledyne Technologies Incorporated provides enabling technologies for industrial growth markets. We have evolved from a company that was primarily focused on aerospace and defense to one that serves multiple markets that require advanced technology and high reliability. These markets include deepwater oil and gas exploration and production, oceanographic research, air and water quality environmental monitoring, electronics design and development, factory automation and medical imaging. Our products include monitoring and control instrumentation for marine and environmental applications, harsh environment interconnects, electronic test and measurement equipment, digital imaging sensors and cameras, aircraft information management systems, and defense electronic and satellite communication subsystems. We also supply engineered systems for defense, space, environmental and energy applications. We differentiate ourselves from many of our direct competitors by having a customer and company sponsored applied research center that augments our product development expertise.

Total sales in 2012 were $2,127.3 million, compared with $1,941.9 million in 2011 and $1,644.2 million in 2010. Our aggregate segment operating profit and other segment income were $279.8 million in 2012, $260.9 million in 2011 and $207.3 million in 2010. These amounts exclude discontinued operations related to our general aviation piston engine businesses that were sold in April 2011. Approximately 68% of our total sales in 2012 were to commercial customers and the balance was to the U.S. Government, as a prime contractor or subcontractor. Approximately 59% of these U.S. Government sales were attributable to fixed-price type contracts and the balance to cost plus fee-type contracts. Sales to international customers accounted for approximately 39% of total sales in 2012.

Our businesses are divided into four business segments: Instrumentation, Digital Imaging, Aerospace and Defense Electronics and Engineered Systems. Our four business segments and their respective percentage contributions to our total sales in 2012, 2011 and 2010 are summarized in the following table:

	Percentage of Sales		
Segment	2012	2011	2010
Instrumentation	35 %	32 %	35 %
Digital Imaging	20	18	8
Aerospace and Defense Electronics	31	34	37
Engineered Systems	14	16	20
Total	100 %	100 %	100 %

Our principal executive offices are located at 1049 Camino Dos Rios, Thousand Oaks, California 91360-2362. Our telephone number is (805) 373-4545. We are a Delaware corporation that was spun-off as an independent company from Allegheny Teledyne Incorporated (now known as Allegheny Technologies Incorporated) on November 29, 1999.

Strategy

Our strategy continues to emphasize growth in our core markets of instrumentation, digital imaging, aerospace and defense electronics and engineered systems. Our core markets are characterized by high barriers to entry and include specialized products and services not likely to be commoditized. We intend to strengthen and expand our core businesses with targeted acquisitions and through product development. We aggressively pursue operational excellence to continually improve our margins and earnings. At Teledyne, operational excellence includes the rapid integration of the businesses we acquire. Using complementary technology across our businesses and internal research and development, we seek to create new products to grow our company and expand our addressable markets. We continue to evaluate our businesses to ensure that they are aligned with our strategy.

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Our Recent Acquisitions

Consistent with our strategy, during 2012, we acquired:

- LeCroy Corporation ("LeCroy") - LeCroy, headquartered in Chestnut Ridge, New York, is a leading supplier of oscilloscopes, protocol analyzers and signal integrity test solutions. This acquisition broadened Teledyne's portfolio of analytical instrumentation with the addition of electronic test and measurement solutions.
- The parent company of PDM Neptec Limited ("PDM Neptec") - PDM Neptec, located in Hampshire, United Kingdom, provides underwater cables and fiber optic and electrical subsea connectors. This acquisition expanded our line of harsh-environment marine connectors, added additional engineering talent and strengthened our international sales channels.
- BlueView Technologies Inc. ("BlueView") - BlueView, located in Seattle, Washington, provides compact forward-looking imaging sonar, microbathymetry systems and 3D scanning sonar. BlueView's imaging sonars and microbathymetry systems further increased Teledyne's instrumentation content on autonomous underwater vehicles ("AUVs") and remotely operated vehicles ("ROVs") used in oil and gas and marine survey applications.
- A majority interest in the parent company of Optech Incorporated ("Optech") - Optech, headquartered in Vaughan, Ontario, Canada, provides light detection and ranging ("LIDAR") systems used in airborne terrestrial mapping, airborne laser bathymetry, mobile mapping and laser imaging. Optech's LIDAR systems add 3D imaging to Teledyne's portfolio of visible, infrared, X-ray and ultraviolet sensors, cameras and software. Optech's bathymetric LIDAR systems used for coastal mapping and shallow water profiling also complement our marine survey sensors and systems.
- VariSystems Inc. ("VariSystems") - VariSystems, headquartered in Calgary, Alberta, Canada is a leading supplier of custom harsh environment interconnects used in energy exploration and production. This acquisition further expanded Teledyne's portfolio of rugged interconnect solutions used in energy exploration and production and provides greater access to land-based energy markets, specifically hydraulic fracturing and oil sands applications.

In 2012, Teledyne spent $389.2 million on these acquisitions.

Available Information

Our Annual Report on Form 10-K, our Quarterly Reports on Form 10-Q, any Current Reports on Form 8-K, and any amendments to these reports, are available on our website as soon as reasonably practicable after we electronically file such materials with, or furnish them to, the Securities and Exchange Commission (the "SEC"). The SEC also maintains a website that contains these reports at www.sec.gov . In addition, our Corporate Governance Guidelines, our Global Code of Ethical Business Conduct, our Codes of Ethics for Financial Executives, Directors and Service Providers and the Charters of the standing committees of our Board of Directors are available on our website. We intend to post any amendments to these policies, guidelines and charters on our website. Our website address is www.teledyne.com.

You will be responsible for any costs normally associated with electronic access, such as usage and telephone charges. Alternatively, if you would like a paper copy of any such SEC report (without exhibits) or document, please write to Melanie S. Cibik, Senior Vice President, General Counsel and Secretary, Teledyne Technologies Incorporated, 1049 Camino Dos Rios, Thousand Oaks, California 91360-2362, and a copy of such requested document will be provided to you, free-of-charge.

Our Business Segments

Our businesses are divided into four segments: Instrumentation, Digital Imaging, Aerospace and Defense Electronics, and Engineered Systems. Financial information about our business segments can be found in Note 13 to our Notes to Consolidated Financial Statements in this Annual Report on Form 10-K.

Instrumentation

Our Instrumentation segment provides monitoring and control instruments for marine, environmental, industrial and other applications, as well as electronic test and measurement equipment. We also provide power and communications connectivity devices for distributed instrumentation systems and sensor networks deployed in mission critical, harsh environments.

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Marine Instrumentation

We offer a variety of underwater acoustic and other monitoring products. We design and manufacture geophysical streamer cables, hydrophones and specialty products used in offshore hydrocarbon exploration to locate oil and gas reserves beneath the ocean floor. Our Acoustic Doppler Current profilers ("ADCPs") precisely measure currents at varying depths in oceans and rivers, and our Doppler Velocity Logs ("DVLs") are used for navigation by civilian and military surface ships, unmanned underwater vehicles and naval divers. Additionally, we design and manufacture hydrographic survey instrumentation used in port surveys, dredging, pre and post-installation of offshore energy infrastructure and other challenging underwater applications. We manufacture a commercial multibeam echo sounder that incorporates a unique 24-bit analog to digital conversion process. We recently developed permanent reservoir monitoring subsystems for deepwater applications. In addition to our DVLs, which are acoustic navigation devices, we design and manufacture inertial sensing and navigation products, as well as subsea pipe and cable detection systems for offshore energy, oceanographic and military marine markets.

We provide a broad range of end-to-end undersea interconnect solutions to the offshore oil and gas, naval defense, oceanographic and telecom markets. We manufacture subsea, wet-mateable electrical and fiber-optic interconnect systems and subsea pressure vessel penetrators and connector systems with glass-to-metal seals. Our water-proof and splash-proof neoprene and glass reinforced epoxy connectors and cable assemblies are used in underwater equipment and submerged monitoring systems. We also manufacture subsea and topside pipeline corrosion and erosion monitoring detectors as well as flow integrity monitoring solutions for the oil and gas industry. These flow assurance sensors and equipment rely on our wet-mateable interconnect systems and our sensor feed-through systems. Our Teledyne Oil & Gas group and Teledyne Scientific Company have been working collaboratively to improve the reliability of materials exposed to ultra deep sea conditions. In 2012, we received funding from a customer to develop a subsea high-power electrical interconnect system for a deepwater oil field in Brazil. Additional funding has also been received from a customer for a deep water Gulf of Mexico application.

We offer a variety of marine instrumentation products used by the U.S. Navy and in energy exploration, oceanographic research and port and harbor security services. Our products include acoustic modems for networked underwater communication and sidescan and sub-bottom profiling sonar systems. Originally developed with our acoustic technology, we provide quality control and package integrity systems under the Taptone ® brand to the food and beverage, personal care and pharmaceutical industries. We also manufacture complete autonomous underwater vehicle systems. Our marine gliders use a silent buoyancy engine for propulsion that takes advantage of changes in buoyancy in conjunction with wings and tail steering to convert vertical motion to horizontal displacement, thereby propelling the system on a programmed route with very low power consumption. Glider applications range from oceanographic research to military persistent surveillance systems as part of a mobile underwater sensing and communication network. The modular design of our battery-powered, man-portable Gavia™ autonomous underwater vehicle allows for rapid sensor bay reconfiguration and battery replacement capability. Our Slocum gliders, as well as our ADCPs, are being used as part of the National Science Foundation's Ocean Observatories Initiative to collect physical, chemical, geological and biological data from the ocean and the seafloor on coastal, regional and global scales.

Environmental Instrumentation

We offer a wide range of products for environmental monitoring. Our instrumentation monitors trace levels of gases such as sulfur dioxide, carbon monoxide, carbon dioxide, oxides of nitrogen, methane and ozone in order to measure the quality of the air we breathe. We have also recently added instrumentation for monitoring particulate air pollution, and we supply environmental monitoring systems for the detection, measurement and automated reporting of air pollutants from industrial stack emissions. We serve the process control and monitoring needs of industrial plants with instruments that include gas analyzers, vacuum and flow measurement devices, package integrity inspection systems and torque measurement sensors. We were a pioneer in the development of precision trace oxygen analyzers, and we now manufacture a wide range of process gas and liquid analysis products for the measurement of process contaminants, hydrocarbons, combustibles, oil-in-water, moisture, pH and many other parameters. Our instrumentation is also used to detect a variety of water quality parameters. Our sampler products include portable, refrigerated and specialty samplers used in hazardous location applications. Flow meters include ultrasonic,

submerged probe, bubbler and area velocity models. Our custom analyzer systems provide turn-key solutions to complex process monitoring and/or control applications found in petrochemical and refinery facilities. Our broad line of instruments for precise measurement and control of vacuum and gas flow are used in varied applications such as semiconductor manufacturing, refrigeration, metallurgy and food processing.

We provide laboratory instrumentation that complements our process or field environmental instrumentation. We manufacture laboratory instrumentation that automates the preparation and concentration of organic samples for the analysis of trace levels of volatile organic compounds by a gas chromatograph and mass spectrometer. We also provide laboratory instrumentation for the detection of total organic carbon and total nitrogen in water and wastewater samples. In addition, we provide inductively coupled plasma laboratory spectrometers, atomic absorption spectrometers, mercury analyzers and calibration standards. The advanced elemental analysis products are used by environmental and quality control laboratories to

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detect trace levels of inorganic contaminants in water, foods, soils and other environmental and geological samples. Our high precision, high pressure syringe pumps measure process extraction rates of fluids ranging from liquefied gases to viscous tars. Plus, we manufacture liquid chromatography instruments and accessories for the purification of organic compounds. Our liquid chromatography customers include pharmaceutical laboratories involved in drug discovery and development.

Test and Measurement Instrumentation

With the August 3, 2012 acquisition of LeCroy, we now develop, manufacture, sell and license high-performance oscilloscopes and communication protocol analyzers. We also provide related test and measurement equipment, probes, accessories and application solutions. To a lesser extent, we provide extended warranty contracts, maintenance contracts and repairs and calibrations on our instruments after their warranties expire.

Our oscilloscopes are tools used by designers and engineers to measure and analyze complex electronic signals in order to develop high-performance systems, validate electronic designs and improve time to market. We offer eight families of real-time oscilloscopes, which address different solutions: HDO4000/HDO6000, our recently introduced 12-bit, high definition oscilloscopes; LabMaster 10 Zi-A, our highest bandwidth performance oscilloscope; WaveMaster, our industry leading high-end oscilloscope family; WavePro, which is targeted at the mid-to high-range performance sector; WaveRunner, designed for the general purpose and bench-top sector; WaveSurfer designed for users in the lower bandwidth bench-top sector of the market; WaveJet, designed for value-oriented users in the economy sector of the market; and WaveAce, our entry-level oscilloscope products. In addition to our real-time oscilloscopes, we have the WaveExpert family of sampling oscilloscopes and modules. Our protocol analyzers are used by designers and engineers to reliably and accurately monitor communications traffic and diagnose operational problems in a variety of communications devices to ensure that they comply with industry standards.

Our test and measurement products are sold into a broad range of industry sectors, including computer, semiconductor, consumer electronics, data storage, automotive, industrial, military, aerospace and telecommunications. We believe designers in all of these industry sectors are developing products which rely on increasingly complex electronic signals to provide the features and performance their customers require.

Digital Imaging

Our Digital Imaging segment includes high performance sensors, cameras and systems, within the visible, infrared and X-ray spectra for use in industrial, government and medical applications, as well as micro electro mechanical systems (“MEMS”). It also includes our sponsored and centralized research laboratories benefiting government programs and businesses.

With the February 12, 2011 acquisition of DALSA, we expanded our imaging products and solutions capabilities and customer base. We design, develop and manufacture image capture products, primarily consisting of high performance image sensors and digital cameras for use in industrial, scientific, medical and professional applications. We also design, develop and manufacture image processing products, primarily consisting of hardware and software for image processing in industrial and medical applications. We continue to develop high-resolution, low dose X-ray sensors for medical and dental applications. Our high performance image sensors utilize both charge coupled device (“CCD”) and complementary metal-oxide semiconductor (“CMOS”) technology. In particular, our CMOS image sensing technology is used in our large flat panel X-ray detectors for medical and dental X-ray imaging. Our image processing software allows original equipment manufacturers (“OEMs”) and systems integrators to develop vision applications using our image acquisition and processing hardware. Our smart camera products are user-friendly, cost-effective vision appliances for task-specific factory floor applications such as gauging, high-precision alignment, inspection, assembly verification and machine guidance. Unlike our OEM imaging products, this category of cameras is designed to be quickly deployed by technicians on the factory floor.

Additionally, we produce and provide manufacturing services for MEMS, high voltage and mixed signal CMOS devices and complete integrated circuit (“IC”) products. The majority of our semiconductor manufacturing capacity is consumed by external customers with the remaining capacity applied towards supplying unique CCD fabrication services for our internal image sensor requirements.

Through Optech, our Digital Imaging segment provides LIDAR systems for airborne terrestrial mapping, mobile mapping and laser-based 3D imaging applications. Optech's imaging and mapping systems are used by commercial

customers engaged in the energy, natural resources and infrastructure industries, as well as government customers. In addition, Optech provides systems and software for airborne laser bathymetry. These systems provide simultaneous high-resolution 3D data and imagery of coastal land and the seafloor, as well as information about the seafloor and water column.

We provide research and engineering services primarily in the areas of electronics, materials, optics and information science to military, aerospace and industrial customers, as well as to various businesses throughout Teledyne. We collaborate with the Defense Advanced Research Products Agency ("DARPA"), and researchers at universities and national laboratories to stay at the forefront of emerging technologies. We have developed high speed electronics, MEMS sensors and actuators, as

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well as compound semiconductors. We have developed functional materials, structural materials, liquid-crystal based optical devices and image processing algorithms.

We produce advanced focal plane arrays, sensors, and subsystems that cover a broad spectrum of frequencies from X-ray wavelengths to 18 micron long-wave infrared wavelengths. We are a leader in the development and production of large format focal plane array sensors for both military and space science markets. We support the production of third generation dual band infrared imagers designed to enable members of the armed forces to identify threats on the battlefield before any enemy can detect their presence. Our space sensors are used on the Hubble Space Telescope and the Moon Mineralogy Mapper and are expected to be used in future NASA missions such as the James Webb Space Telescope. We have developed various sensors, subassemblies and cameras for air- and ground-based applications. We have developed indium antimonide cameras and hyperspectral sensors for unmanned aerial vehicles. Most recently, we introduced the first miniature hot mid-wave infrared strained-layer-super lattice based 640X512 tactical camera targeted for missile seekers, personal weapon sights, light payloads for unmanned aerial vehicles, hand held imaging applications and situational awareness. We also design and manufacture advanced military laser protection eyewear. Finally, we develop low-noise, high performance cameras for use in laboratory instruments.

Aerospace and Defense Electronics

Our Aerospace and Defense Electronics segment provides sophisticated electronic components and subsystems and communications products, including defense electronics, harsh environment interconnects, data acquisition and communications equipment for aircraft, and components and subsystems for wireless and satellite communications, as well as general aviation batteries.

Over the years principally through focused acquisitions, we have expanded our microwave components and subsystems business with a goal of providing more highly integrated microwave subsystems and solutions to our customers. Historically, we designed and manufactured helix traveling wave tubes, commonly called TWTs, used to provide broadband power amplification of microwave signals. Military applications include radar, electronic warfare and satellite communication. We make TWTs for commercial applications as well, such as electromagnetic compatibility test equipment and satellite communication terminals. More recently, we have designed and delivered high power solid state TWT replacement amplifiers and complete amplifiers that incorporate a TWT and a power supply.

We design and manufacture solid state radio frequency (“RF”) and microwave components and subassemblies used in a wide variety of applications. As components which form the building blocks for electronic systems, we produce amplifiers, voltage-controlled oscillators, YIGs, BAWs, low noise amplifiers "LNAs", microwave mixers, and detectors using LDMOS, GaAs, GaN, InP, and SiC technologies. These components form the basis for our line of solid state power amplifiers, RF converters, and modems which are used in systems that provide communications links between ground stations, mobile units, UAVs, and orbiting satellites. Such products are also used in mobile telephone, TV broadcast and commercial data communications networks. In addition, a variety of our products are modified to design and manufacture higher level subsystems including: Improvised Explosive Device "IED" detection and jamming; UAV, mobile, and fixed location radar transmitters and receivers; and test and measurement systems; as well as Instantaneous Frequency Measurement "IFM"-based systems and subsystems, including integrated frequency locked sources and set-on receiver jammers used for the U.S. Navy and Air Force training.

We supply a variety of connectors and cable assemblies, including specialized high voltage connectors and subassemblies and coax microwave cable and connectors, for defense, aerospace and industrial applications. We also provide custom, high-reliability bulk wire and cable assemblies to a number of marine, environmental and industrial markets. Additionally, we produce pilot helmet mounted display components and subsystems for the Joint Helmet Mounted Cueing System (“JHMCS”) used in the F-15, F-16 and F-18 aircrafts. The JHMCS system is a multi-role system designed to enhance pilot situational awareness and provides visual control of aircraft targeting systems and sensors. We manufacture microprocessor-controlled aircraft ejection seat sequencers and related support elements to military aircraft programs. We have been awarded several development contracts to furnish electronic safe and arm devices for use in a number of military applications.

We provide specialty electronic manufacturing services. We develop and manufacture custom microelectronic modules that provide both high reliability and extremely dense packaging for military applications. We also develop custom tamper-resistant microcircuits designed to provide enhanced security in military communication. We serve the market for high-mix, low-volume manufacturing of sophisticated military electronics equipment. We manufacture advanced packaging solutions for military and commercial aircraft using rigid and rigid-flex printed circuit boards. We supply electromechanical relays, solid-state power relays and coaxial switching devices to military, aerospace and other industrial markets. Applications include microwave and wireless communication infrastructure, RF and general broadband test equipment, test equipment used in semiconductor manufacturing, and industrial and commercial machinery and control equipment. On commercial aircraft, our solid state and electromechanical relays are used in a variety of

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applications, including jet engine fuel control, management of control surfaces and other on board applications. We are a leading supplier of digital flight data acquisition and analysis systems to the civil aviation market. These systems acquire data for use by the aircraft's flight data recorder as well as record additional data for the airline's operation, such as aircraft and engine condition monitoring. We provide the means to transfer this data, using Teledyne's patented wireless technology, from the aircraft to the airline operation center. We also design and manufacture airborne networking products, including servers, as well as aircraft data loading equipment, flight line maintenance terminals and data distribution software used by commercial airlines and the U.S. military. We also provide lead acid aircraft batteries for general aviation, and business and light jet applications.

Engineered Systems

Our Engineered Systems segment provides innovative systems engineering and integration, advanced technology development, and manufacturing solutions for defense, space, environmental and energy applications. This segment also designs and manufactures electrochemical energy systems and small turbine engines.

Engineered Products and Services

Teledyne Brown Engineering, Inc. is a well-recognized full-service space, missile defense, marine systems, and energy company.

Our missile defense engineering and analytic capabilities include; concept definition; systems design, development, integration and testing; and prototype manufacturing with specialization in Service Oriented Architecture applications and real-time distributed test and Command and Control (“C2”) systems. We lead and support air and missile defense programs, including the Extended Air Defense Simulation (“EADSIM”) and the Objective Simulation Framework (“OSF”) programs. Associated engineering support tasks generally involve analysis, test and evaluation of air and ballistic missile defense system performance on a large number of major programs, including the Ground-based Midcourse Defense, Aegis Ballistic Missile Defense, the Patriot Advanced Capability 3, and the Terminal High Altitude Area Defense (“THAAD”) systems. As the Missile Defense Agency (“MDA”) prime contractor for the OSF contract, we design, develop, test, implement and maintain the OSF. The OSF is being designed to support full scale simulations, ground tests and live fire events throughout the life cycle of the Ballistic Missile Defense System.

We specialize in marine systems design and manufacturing. For the U.S. Special Operations Command, we are the prime contractor engaged to design, develop, test, manufacture and sustain the Shallow Water Command Submersible (“SWCS”) vehicle to replace the current SEAL Delivery Vehicle. We are producing the Littoral Battlespace Sensing Glider (“LBS-G”) system for the U.S. Navy Program Executive Office - Command, Control, Computer and Intelligence (“PEO-C4I”). Teledyne Webb Research is the glider developer and manufacturer on the LBS-G program. We manufacture gun mounts for the Littoral Combat Ship program and, under contract to Raytheon Company, we manufacture advanced mine detection and neutralization systems.

We are active in U.S. space programs and continue to play a vital role in the science operations area of the International Space Station (“ISS”) program. We provide 24-hour-per-day payload operations in the ISS Payload Operations and Integration Center located at NASA's Marshall Space Flight Center. In 2012, NASA awarded us a cooperative agreement to foster the commercial utilization of the ISS. Under this agreement, we are working to develop a commercial earth imaging platform known as the Multi-User System for Earth Imaging (“MUSES”). We also design, develop, and manufacture components for liquid rocket engines, scientific payloads, and manned space vehicles.

We operate a full service radiological analysis laboratory in Knoxville, Tennessee. This laboratory has received certification from the National Environmental Laboratory Accreditation Program in five states, including Utah and Texas where the largest commercial radiological waste disposal site resides. With its Nuclear Utilities Procurement Issues Committee certification, the laboratory also serves almost 50% of the nuclear power plants in United States. We also manage and operate a separation, purification and analysis of atmospheric samples laboratory for the U.S. Government. Additionally, we provide engineering and manufacturing for customers in the commercial nuclear market.

Extending our historic facilities and plant management services to the commercial arena, in November 2012, we were awarded a three-year lab and office facility management contract for research services from The Dow Chemical

Company. We are currently leading on-site and off-site management and support research services at Dow Chemical research facilities in Midla