AeroVironment Inc
Form 10-K
June 29, 2016
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10 K

Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
For the fiscal year ended April 30, 2016
Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
For the transition period from to

Commission file number 001 33261

AEROVIRONMENT, INC.

(Exact name of registrant as specified in its charter)

| | |
|---|---|
| Delaware | 95 2705790 |
| (State or other jurisdiction of incorporation or organization) | (I.R.S. Employer Identification No.) |
| 800 Royal Oaks Drive, Suite 210 | |
| Monrovia, CA | 91016 |
| (Address of Principal Executive Offices) | (Zip Code) |

Registrant's telephone number, including area code: (626) 357 9983

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

| Title of Class | Name of each exchange on which registered |
|---|---|

| | |
|---|---|
| Common Stock, par value $0.0001 per share | The NASDAQ Stock Market LLC |

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

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

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

Indicate by check mark whether the registrant has submitted electronically 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 (§232.405 of this chapter) during the preceding 12 months (or for such 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 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 | Accelerated filer | Non accelerated filer (Do not check if a smaller reporting company) | Smaller reporting company |

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

The aggregate market value of the voting stock held by non affiliates of the registrant, based on the closing price on the NASDAQ Global Select Market on October 31, 2015 was approximately $481.6 million.

As of June 17, 2016, the issuer had 23,355,320 shares of common stock, par value $0.0001 per share, issued and outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement to be filed with the Securities and Exchange Commission pursuant to Regulation 14A not later than 120 days after the conclusion of the registrant's fiscal year ended April 30, 2016, are incorporated by reference into Part III of this Form 10 K.

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AEROVIRONMENT, INC.

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PART I

Forward Looking Statements

This Annual Report on Form 10 K, or Annual Report, contains forward looking statements, which reflect our current views about future events and financial results. We have made these statements in reliance on the safe harbor created by the Private Securities Litigation Reform Act of 1995 (set forth in Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act). Forward looking statements include our views on future financial results, financing sources, product development, capital requirements, market growth and the like, and are generally identified by terms such as “may,” “will,” “should,” “could,” “targets,” “projects,” “predicts,” “contemplates,” “anticipates,” “believes,” “estimates,” “expects,” “i and similar words. Forward looking statements are merely predictions and therefore inherently subject to uncertainties and other factors which could cause the actual results to differ materially from the forward looking statement. These uncertainties and other factors include, among other things:

- unexpected technical and marketing difficulties inherent in major research and product development efforts;
- availability of U.S. government funding for defense procurement and research and development programs;
- the extensive regulatory requirements governing our contracts with the U.S. government and the results of any audit or investigation of our compliance therewith;
- our ability to remain a market innovator and to create new market opportunities;
- the potential need for changes in our long term strategy in response to future developments;
- unexpected changes in significant operating expenses, including components and raw materials;
- changes in the supply, demand and/or prices for our products and services;
- increased competition, including from firms that have substantially greater resources than we have and in the UAS business from lower cost consumer drone manufacturers who may seek to enhance their systems’ capabilities over time;

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the complexities and uncertainty of obtaining and conducting international business, including export compliance and other reporting requirements;

· changes in the regulatory environment; and

· general economic and business conditions in the United States and elsewhere in the world.

Set forth below in Item 1A, “Risk Factors” are additional significant uncertainties and other factors affecting forward looking statements. The reader should understand that the uncertainties and other factors identified in this Annual Report are not a comprehensive list of all the uncertainties and other factors that may affect forward looking statements. We do not undertake any obligation to update or revise any forward looking statements or the list of uncertainties and other factors that could affect those statements.

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Item 1. Business.

Overview

We design, develop, produce, support and operate a technologically advanced portfolio of products and services for government agencies, businesses and consumers. We supply unmanned aircraft systems ("UAS"), tactical missile systems and related services primarily to organizations within the U.S. Department of Defense ("DoD"). We also supply charging systems and services for electric vehicles, or EVs, and power cycling and test systems to commercial, consumer and government customers. We derive the majority of our revenue from these business areas and we believe that the markets for these solutions have significant growth potential. Additionally, we believe that some of the innovative potential products and services in our research and development pipeline will emerge as new growth platforms in the future, creating additional market opportunities.

Our success with current products and services stems from our investment in research and development and our ability to invent and deliver advanced solutions, utilizing proprietary and commercially available technologies, to help our government, commercial and consumer customers operate more effectively and efficiently. We develop these highly innovative solutions by working very closely with our key customers in each segment of our business to solve their most important challenges related to our areas of expertise. Our core technological capabilities, developed through more than 40 years of innovation, include lightweight aerostructures; power electronics; electric propulsion systems; efficient electric power generation, conversion, and storage systems; high density energy packaging; miniaturization; digital data links ("DDL"); aircraft sensors; controls integration; and systems integration and engineering optimization, hybrid propulsion, vertical takeoff fixed wing flight and autonomy, each coupled with professional field service capabilities.

Our UAS business segment focuses primarily on the design, development, production, marketing, support and operation of innovative UAS and tactical missile systems and the delivery of UAS related services that provide situational awareness, remote sensing, multi band communications, force protection and other information and mission effects to increase the safety and effectiveness of our customers' operations. Our Efficient Energy Systems, or EES, business segment focuses primarily on the design, development, production, marketing, support and operation of innovative efficient electric energy systems that address the growing demand for electric transportation solutions.

Our Strategy

As a technology solutions provider, our strategy is to develop innovative, safe and reliable new solutions that provide customers with valuable benefits and enable us to create new markets or market segments, gain market share and grow as market adoption increases. We believe that by introducing new solutions that provide customers with compelling value we are able to create new markets or market segments and then grow our positions within those markets or

market segments profitably, instead of entering existing markets and competing against large, incumbent competitors that may possess advantages in scope, scale, resources and relationships.

We intend to grow our business by preserving a leadership position in the UAS, tactical missile system, electric vehicle charging system and power cycling and test system markets, and by creating new solutions that enable us to create and establish leadership positions in new markets. Key components of this strategy include the following:

Expand our market leadership to grow existing markets and create new adjacent markets. Our small UAS, tactical missile systems, electric vehicle charging systems and power cycling and test systems enjoy leading positions in their respective markets. We intend to increase the penetration of our small UAS products and services and tactical missile systems within the U.S. military, the military forces of allied nations, other government agencies and non government organizations, including commercial entities. We believe that the broad adoption of our small UAS by the U.S. military will continue to spur demand by allied nations, and that our efforts to pursue new applications are creating opportunities beyond the early adopter military market. We similarly intend to increase the penetration of our electric vehicle charging systems and services, and our power cycling and test systems, into existing and new customer segments globally.

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Deliver innovative new solutions. Customer focused innovation is the primary driver of our growth. We plan to continue pursuing internal and customer funded research and development to develop better, more capable products, services and business models, both in response to and in anticipation of emerging customer needs. In some cases, these innovations result in upgrades to existing offerings, expanding their value among existing customers and markets. In other cases, these innovations become entirely new solutions that position us to address new markets, customers and business opportunities. We believe focused research and development investments will allow us to deliver innovative new products and services that address market needs within and outside of our current target markets, and enable us to create new opportunities for growth. We view strategic partners as a means by which to further the reach of our innovative solutions through access to new markets, customers and complementary capabilities.

Foster our entrepreneurial culture and continue to attract, develop and retain highly skilled personnel. Our company culture encourages innovation and an entrepreneurial spirit, which helps to attract and retain highly skilled professionals. We intend to preserve this culture to encourage the development of the innovative, highly technical system solutions and business models that give us our competitive advantage. A core component of our culture is our intent to demonstrate trust and integrity in all of our interactions, contributing to a positive work environment and engendering loyalty among our employees and customers. We survey our employees to identify opportunities to increase employee engagement and to create a better workplace.

Preserve our agility and flexibility. We respond rapidly to evolving markets, solve complicated customer problems, and strive to deliver new products, services and capabilities quickly, efficiently and affordably relative to available alternatives. We believe our agility and flexibility help us to strengthen our relationships with customers and partners. We intend to maintain our agility and flexibility, which we believe to be important sources of differentiation when we compete against organizations with more extensive resources.

Effectively manage our growth portfolio for long term value creation. Our production and development programs and services provide us with investment opportunities that we believe will deliver long term growth by providing our customers with valuable new capabilities. We evaluate each opportunity independently and within the context of all other investment opportunities to determine its relative timing and potential, and thereby its priority. This process allows us to make informed decisions regarding potential growth capital requirements and ensures that we allocate resources based on relative risks and returns to maximize long term value creation, which is a key element of our growth strategy.

Customers

We sell the majority of our UAS and tactical missile systems and services to organizations within the DoD, including the U.S. Army, Marine Corps, Special Operations Command, Air Force and Navy. Our EES business segment generates revenue from commercial, consumer and, to a lesser extent, government customers.

During our fiscal year ended April 30, 2016, we generated approximately 27% of our revenue from the U.S. Army pursuant to orders placed under contract by the U.S. Army on behalf of itself as well as several other organizations within the DoD. Other U.S. government agencies and government subcontractors accounted for 36% of our sales revenue, while purchases by foreign, commercial and consumer customers accounted for the remaining 37% of sales revenue during our fiscal year ended April 30, 2016.

Technology, Research and Development

Technological Competence and Intellectual Property

Our company was founded by the late Dr. Paul B. MacCready, the former Chairman of our board of directors and an internationally renowned innovator who was instrumental in establishing our entrepreneurial and creative culture. This culture has consistently enabled us to attract and retain highly motivated, talented employees and has established our reputation as an innovative leader in the industries in which we compete.

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The innovations developed by our company and our founder include, among others: the world's first effective human powered and manned solar powered airplanes; the first modern passenger electric car, the EV1 prototype for General Motors; the world's highest flying airplane in level flight, Helios™, a solar powered unmanned aircraft system that reached over 96,000 feet above sea level in 2001; Global Observer, the world's first liquid hydrogen fueled unmanned aircraft system; the Nano Hummingbird™, the world's first flapping wing unmanned aircraft system capable of precise hover and omni directional flight; TurboCord™, the smallest, most portable UL listed 240 volt EV charger; and Blackwing™, the first submarine-launched unmanned aircraft system deployed by the U.S. Navy. The Smithsonian Institution possesses seven vehicles developed by our company or our founder in its permanent collection. Our history of innovation excellence is the result of our talented, creative and skilled employees whom we encourage to invent and develop innovative new solutions.

A component of our ongoing innovation is a screening process that helps our business managers identify early market needs, which assists us in making timely investments into critical technologies necessary to develop solutions to address these needs. Similarly, we manage new product and business concepts through a commercialization process that balances spending, resources, time and intellectual property considerations against market requirements and potential returns on investment. Strongly linking our technology and business development activities to customer needs in attractive growth markets constitutes an important element of this process. Throughout the process we revisit our customer requirement assumptions to evaluate continued investment and to help ensure that our products and services deliver high value.

As a result of our commitment to research and development, we possess an extensive portfolio of intellectual property in the form of patents, trade secrets, copyrights and trademarks across a broad range of UAS and advanced energy technologies. As of April 30, 2016, we had 149 U.S. patents issued; 72 U.S. patent applications pending; 14 active Patent Cooperation Treaty applications; and numerous foreign patents and applications. In many cases, when appropriate and to preserve confidentiality, we opt to protect our intellectual property through trade secrets as opposed to filing for patent protection.

The U.S. government has licenses to some of our intellectual property that was specifically developed in performance of government contracts, and may use or authorize others to use this intellectual property. In some cases we fund the development of certain intellectual property to maximize its value and limit its use by potential competitors. While we consider the development and protection of our intellectual property to be integral to the future success of our business, at this time we do not believe that a loss or limitation of rights to any particular piece of our intellectual property would have a material adverse effect on our overall business.

Research, Development and Commercialization Projects

A core component of our business strategy is the focused development and commercialization of innovative solutions that we believe can become new products or services that enable us to create large new markets or accelerate the growth of our current products and services. We invest in an active pipeline of these commercialization projects that

range in maturity from technology validation to early market adoption. We cannot predict when, if ever, we will successfully commercialize these projects, or the exact level of capital expenditures they could require, which could be substantial.

For the fiscal years ended April 30, 2016, 2015 and 2014, our internal research and development spending amounted to 16%, 18% and 10%, of our revenue, respectively, and customer funded research and development spending amounted to an additional 20%, 14% and 11%, of our revenue, respectively.

Sales and Marketing

Our marketing strategy is based on developing leadership positions in new markets that we create through the introduction of innovation solutions that improve customer operational effectiveness and efficiency. Our ability to operate in an agile, flexible manner helps us achieve first mover advantage and work closely with early customers to achieve successful adoption of our solutions. Once we establish a market position we work to maintain our leadership position while growing our revenue by expanding sales and through continuous innovation and customer support. Our

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reputation for innovation is a key component of our brand and has been acknowledged through a variety of awards and recognized in numerous articles in domestic and international publications. We have U.S. registered trademarks for AeroVironment, AV, EV Solutions, TurboCord, PosiCharge, PosiNet, BMID, Global Observer, Wasp and Switchblade, and have several other pending applications for trademark registration.

International Sales

We contract with international sales representatives and team with domestic organizations in a number of foreign markets and believe that these markets represent growth opportunities for our business. Our international sales accounted for approximately 28%, 9% and 14%, of our revenue for the fiscal years ended April 30, 2016, 2015 and 2014, respectively.

Competition

We believe that the principal competitive factors in the markets for our products and services include product performance; safety; features; acquisition cost; lifetime operating cost, including maintenance and support; ease of use; rapid integration with existing equipment and processes; quality; reliability; customer support; and brand and reputation.

Manufacturing and Operations

We pursue a lean and efficient production strategy across our business segments, focusing on rapid prototyping, supply chain management, final assembly, integration, quality and final acceptance testing. Using concurrent engineering techniques within an integrated product team structure, we rapidly prototype design concepts and products, while working to optimize our designs to meet manufacturing requirements, mission capabilities and customer specifications. Within this framework we develop our products with feedback and input from manufacturing, quality, supply chain management, key suppliers, logistics personnel and customers. We incorporate this input into product designs in an effort to maximize the efficiency and quality of our products. As a result, we believe that we significantly reduce the time required to move a product from its design phase to full rate production deliveries while achieving high reliability, quality and yields.

We outsource certain production activities, such as the fabrication of structures, the manufacture of electronic printed circuit board subassemblies, payload components and the medium to high volume production of our EV charging products, to qualified suppliers, with many of whom we have long term relationships. This outsourcing enables us to focus on final assembly, system integration and test processes for our products, ensuring high levels of quality and

reliability. We forge strong relationships with key suppliers based on their ability to grow with our production needs and support our growth plans. We continue to expand upon our suppliers' expertise to improve our existing products and develop new solutions. We rely on both single and multiple suppliers for certain components and subassemblies. See "Risk Factors—If critical components or raw materials used to manufacture our products become scarce or unavailable, then we may incur delays in manufacturing and delivery of our products, which could damage our business" for more information. All of our production system operations incorporate internal and external quality programs and processes to increase acceptance rates, reduce lead times and lower cost.

Contract Engineering Services

We actively pursue externally funded projects that help us to strengthen our technological capabilities. Our UAS business segment submits bids to large research customers such as the Defense Advanced Research Projects Agency, the U.S. Air Force, the U.S. Army and the U.S. Special Operations Command for projects that we believe have future commercial application. Providing these services contributes to the development and enhancement of our technical competencies. In an effort to manage the ability of our key technical personnel to support multiple, high value research and development initiatives, we attempt to limit the volume of contract engineering projects that we accept. This process enables us to focus these personnel on projects we believe offer the greatest current and future value to our business.

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Contract Mix

The table below shows our revenue for the periods indicated by contract type, including both government and commercial sales:

| | Fiscal Year Ended April 30, | | | | | |
|---|---|---|---|---|---|---|
| | 2016 | | 2015 | | 2014 | |
| Fixed-price contracts | 78 | % | 85 | % | 85 | % |
| Cost-reimbursable contracts | 22 | % | 15 | % | 15 | % |

Employees

As of April 30, 2016, we had 674 full time employees, of whom 240 were in research and development and engineering, 59 were in sales and marketing, 214 were in operations and 161 were general and administrative personnel. We believe that we have a good relationship with our employees.

Backlog

We define funded backlog as unfilled firm orders for products and services for which funding currently is appropriated to us under the contract by the customer. As of April 30, 2016 and 2015, our funded backlog was approximately $65.8 million and $64.7 million, respectively. We expect that approximately 96% of our funded backlog will be filled during our fiscal year ending April 30, 2017.

In addition to our funded backlog, we had unfunded backlog of $16.7 million and $19.1 million as of April 30, 2016 and 2015, respectively. We define unfunded backlog as the total remaining potential order amounts under cost reimbursable and fixed price contracts with multiple one year options, and indefinite delivery, indefinite quantity, or IDIQ contracts. Unfunded backlog does not obligate the U.S. government to purchase goods or services. There can be no assurance that unfunded backlog will result in any orders in any particular period, if at all. Management believes that unfunded backlog does not provide a reliable measure of future estimated revenue under our contracts. Unfunded backlog does not include the remaining potential value associated with a U.S. Army IDIQ type contract for small UAS because that contract was awarded to five companies in 2012, including AeroVironment, and we cannot be certain that we will receive all task orders issued against the contract.

Because of possible future changes in delivery schedules and/or cancellations of orders, backlog at any particular date is not necessarily representative of actual sales to be expected for any succeeding period, and actual sales for the year may not meet or exceed the backlog represented. Our backlog is typically subject to large variations from quarter to quarter as existing contracts expire, are renewed, or new contracts are awarded. A majority of our contracts, specifically our IDIQ contracts, do not obligate the U.S. government to purchase any goods or services. Additionally, all U.S. government contracts included in backlog, whether or not they are funded, may be terminated at the convenience of the U.S. government.

Other Information

AeroVironment, Inc. was originally incorporated in the State of California in July 1971 and reincorporated in Delaware in 2006.

Our principal executive offices are located at 800 Royal Oaks Drive, Suite 210, Monrovia, California 91016. Our telephone number is (626) 357 9983. Our website home page is http://www.avinc.com. We make our website content available for information purposes only. It should not be relied upon for investment purposes, nor is it incorporated by reference into this Annual Report.

We make our annual reports on Form 10 K, quarterly reports on Form 10 Q, current reports on Form 8 K and proxy statements for our annual stockholders' meetings, as well as any amendments to those reports, available free of

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charge through our website as soon as reasonably practical after we electronically file that material with, or furnish it to, the Securities and Exchange Commission, or SEC. You can learn more about us by reviewing our SEC filings. Our SEC reports can be accessed through the investor relations page of our web site at http://investor.avinc.com. These reports may also be obtained at the SEC's public reference room at 100 F. Street, N.E., Washington, DC 20549. The SEC also maintains a web site at www.sec.gov that contains our reports, proxy statements and other information regarding us.

Unmanned Aircraft Systems

Our UAS business segment addresses the increasing economic and security value of network centric intelligence, surveillance and reconnaissance, or ISR, communications and remote sensing, with innovative UAS and tactical missile system solutions.

Industry Background

Small UAS

The market for small UAS has grown significantly over the last decade driven largely by the demands associated with the global threat environment and the resulting procurement by military customers, the early adopters for this technology. Small UAS now represent an accepted and enduring capability for the military. The U.S. military's transformation into a smaller, more agile force that operates via a network of observation, communication and precision targeting technologies accelerated following the terrorist attacks of September 11, 2001, as it required improved, distributed observation and targeting of enemy combatants who operate in small groups, often embedded in dense population centers or dispersed in remote locations. We believe that UAS, which range from large systems, such as Northrop Grumman's Global Hawk and General Atomics' Predator, Sky Warrior, Reaper and Gray Eagle, to small systems, such as our Raven, Wasp AE, Puma AE and Shrike, serve as integral components of today's military force. These systems provide critical observation and communications capabilities serving the increasing demand for actionable intelligence, while reducing risk to individual "warfighters." Small UAS can provide real time observation and communication capabilities to the small units who control them. As airspace regulations in the U.S. and other nations evolve to accommodate the commercial use of small UAS, we are furthering the application of small UAS technology in new markets such as energy, precision agriculture, transportation, infrastructure and public safety. We expect further growth through the introduction of UAS technology and services to these emerging commercial applications.

Tactical Missile Systems

The development of weapons capable of rapid deployment and precision strike while minimizing the risk to surrounding civilians, property and operators accelerated in recent years due to advances in enabling technologies. Weapons such as laser guided missiles, “smart” bombs and GPS guided artillery shells have dramatically improved the accuracy of strikes against hostile targets. When ground forces find themselves engaged in a firefight or near a target, their ability to employ a precision weapon system quickly and easily can mean the difference between mission success and failure. Such a rapidly deployable solution could also address emerging requirements for use in other types of situations and from a variety of sea, air and land platforms. We believe that embedding a precision lethal payload into a remotely controlled, man portable delivery system provides warfighters with a valuable and more cost effective alternative to existing airborne and land based missile systems.

Large UAS

We believe a market opportunity exists for large UAS that can fly for long periods of time to provide continuous remote sensing and communications in an affordable manner over great distances. Existing solutions such as communications satellites and manned and unmanned aircraft address some of the emerging demand for this capability, but do so at relatively high financial and resource costs. Geosynchronous satellites provide fixed, continuous communications relay capabilities to much of the globe, but they operate more than 20,000 miles from the surface of the earth, therefore limiting the bandwidth they can provide and requiring relatively larger, higher power ground stations.

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Remote sensing satellites typically operate at lower altitudes, but are unable to maintain geosynchronous positions, meaning they are moving with respect to the surface of the earth, resulting in a limited presence over specific areas of interest and significant periods of time during which they are not present over those areas. UAS that are capable of operating in an affordable manner for extended periods of time over an area of interest without gaps in availability while carrying a communications relay or observation payload could help to satisfy this need.

Our UAS Solutions

We supply our UAS products and services to multiple customers inside and outside of the United States. For the fiscal years ended April 30, 2016, 2015 and 2014, our UAS segment products and services accounted for 89%, 85% and 83%, of our revenue, respectively.

Small UAS Products

Our small UAS, including Raven, Wasp AE, Puma AE and Shrike, are designed to operate reliably a few hundred feet above the ground in a wide range of environmental conditions, providing a vantage point from which to deliver valuable information. Military forces employ our small UAS to deliver intelligence, surveillance and reconnaissance, or ISR, and communications, including real time tactical reconnaissance, tracking, combat assessment and geographic data, directly to the small tactical unit or individual operator, thereby increasing flexibility in mission planning and execution. In commercial applications, we operate our small UAS as part of a turnkey information solution to deliver advanced analysis and prescriptive actions that can reduce costs, enhance safety and increase revenue. Our small UAS wirelessly transmit critical live video and other information generated by their payload of electro optical, infrared or other sensors directly to a hand held ground control unit, enabling the operator to view and capture images, during the day or at night, on the control unit. Certain sensors generate a volume of data significantly larger than wireless bandwidth can accommodate, requiring downloading data once the air vehicle has landed. Our ground control systems allow the operator to control the aircraft by programming it for GPS based autonomous navigation using operator designated way points or by manual flight operation. The ground control systems are designed for durability and ease of use in harsh environments and incorporate a user friendly, intuitive user interface. All of our small UAS currently in production for military customers operate from our common ground control system.

All of our small UAS are designed to be portable by a single person, assembled without tools in less than five minutes and launched and operated by one or two people, with limited training required. The efficient and reliable electric motors used in all of our small UAS are powered by modular battery packs that can be replaced quickly, enabling rapid return to flight. All of our small UAS, other than Switchblade, which we consider a tactical missile system, and Blackwing, a single-use reconnaissance system deployed from submarines or unmanned underwater vehicles, are designed to be reusable for up to hundreds of flights under normal operating circumstances and can be recovered through an autonomous landing feature that enables a controlled descent to a designated location.

In military applications, our small UAS enable tactical commanders to observe around the next corner, to the next intersection or past a ridgeline in real time. This information facilitates faster, safer movement through urban, rural and mountainous environments and can enable troops to be proactive based on field intelligence rather than reactive to attack. Moreover, by providing this information, our systems reduce the risk to warfighters and to the surrounding population by providing the ability to tailor the military response to the threat. U.S. military personnel regularly use our small UAS, such as Raven, for missions such as force protection, combat observation and damage assessment. These reusable systems are easy to transport, assemble and operate and are relatively quiet when flying at typical operational altitudes of 200 to 300 feet above ground level, the result of our efficient electric propulsion systems. Furthermore, their small size makes them difficult to see from the ground. In addition, the low cost of our small UAS relative to larger systems and alternatives makes it practical for customers to deploy these assets directly to warfighters.

In emerging commercial applications, our small UAS enable companies to manage valuable assets such as crops, powerlines and railroad infrastructure, more effectively and safely than previously possible. Our commercial information services, consisting of trained operators, advanced sensors, cloud based data processing and application specific analysis, provide our customers with more accurate and timely information regarding their

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infrastructure, such as pipelines, roads and bridges, and can provide companies with agriculture operations with more accurate and timely information regarding their crops. Better and more timely information can translate into more efficient maintenance activities that prevent downtime, in the case of the energy industry, and more efficient use of scarce resources such as water, for agriculture.

Our small UAS offering also includes spare equipment, alternative payload modules, batteries, chargers, repair services and customer support. We provide training by our highly skilled instructors, who typically have extensive military experience, and continuous refurbishment and repair services for our products. By maintaining close contact with our customers and users in the field, we gather critical feedback on our products and incorporate that information into ongoing product development and research and development efforts. This approach enables us to improve our solutions in response to, and in anticipation of, evolving customer needs.

Each system in our small UAS portfolio typically includes multiple aircraft, our common and interoperable hand held ground control system and an array of spare parts and accessories. Our current small UAS portfolio consists of the following aircraft:

| Small UAS Product | Wingspan (ft.) | Weight (lbs.) | Recovery | Standard Sensors | Range (mi.)(1) | Flight Time (min.)(1) |
|---|---|---|---|---|---|---|
| Puma AE | 9.2 | 14 | Vertical autonomous landing capable (ground or water) | Mechanical pan, tilt, zoom and digital zoom electro-optical and infrared | 9.0 | 210 |
| Raven | 4.5 | 4.5 | Vertical autonomous landing capable | Mechanical pan, tilt, zoom and digital zoom electro-optical and infrared | 6.0 | 60 - 90 |
| Wasp AE | 3.3 | 2.8 | Vertical autonomous landing capable (ground or water) | Mechanical pan, tilt, zoom and digital zoom electro-optical and infrared | 3.0 | 50 |
| Shrike | 3.0 | 5.5 | Vertical takeoff and landing | Mechanical pan, tilt, zoom and digital zoom electro-optical and infrared | 3.0 | 40 |

(1) Represents point to point minimum customer mandated specifications for all operating conditions. In optimal conditions, the performance of our products may significantly exceed these specifications. Our DDL relay can enable operational modes that can extend range significantly.

The ground control system serves as the primary interface between the operator and the aircraft, and allows the operator to control the direction, speed and altitude of the aircraft as well as the orientation of the sensors to view the visual information they produce through real time, streaming video and metadata. Our common ground control system interfaces with each of our air vehicles, except Qube, providing a common user interface with each of our air vehicles. In addition to the thousands of air vehicles delivered to our customers, thousands of ground control systems are also in our customers' hands.

The Qube is an unmanned aircraft system tailored to the needs of first response professionals such as law enforcement, search and rescue and fire department personnel. Based on the Shrike platform, the Qube incorporates an advanced touch screen interface to control the system and view the information produced by the air vehicle's onboard sensors. Portable and easy to assemble, operate and stow, the Qube is designed to provide rapid airborne information within one kilometer of its launch point in situations where time is short and risk is high.

Our line of miniature gimbaled sensor payloads provides small UAS operators with enhanced observation and target tracking functionality. Our DDL is integrated into Puma AE, Raven and Wasp AE, Shrike and Qube systems, enhancing their capabilities, and ultimately, the utility of our small UAS by enabling more efficient radio spectrum utilization and communications security. Small UAS incorporating our DDL offer many more channels as compared to our analog link, increasing the number of air vehicles that can operate in a given area. Additionally, our DDL enables each air vehicle to operate as an Internet Protocol addressable hub capable of routing and relaying video, voice and data to and from multiple other nodes on this ad hoc network. This capability enables beyond line of sight operation of our small UAS, further enhancing their value proposition to our customers.

UAS Logistics Services

In support of our small UAS we offer a suite of services that help to ensure the successful operation of our products by our customers. These services generate incremental revenue for the company and provide us with continuous feedback to understand the utility of our systems, anticipate our customers' needs and develop additional customer insights. We believe that this ongoing feedback loop enables us to continue to provide our customers with innovative solutions that help them succeed. We provide spare parts as well as repair, refurbishment and replacement

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services in a manner to minimize supply chain delays and support our customers with spare parts, replacement aircraft and support whenever and wherever they need them. One of our facilities also serves as the primary depot for repairs and spare parts.

We provide comprehensive training services to support all of our small UAS. Our highly skilled instructors typically have extensive military experience. We deploy training teams throughout the continental United States and abroad to support our customers' training needs on both production and development stage systems.

UAS Contract Engineering Services

We provide contract engineering services in support of customer funded research and development projects, delivering new value added technology solutions to our customers. These types of projects typically involve developing new system solutions and technology or new capabilities for existing solutions that we introduce as retrofits or upgrades. We recognize customer funded research and development projects as revenue.

UAS Technology, Research and Development

Our primary areas of technological competence represent the sum of numerous technical skills and capabilities that help to differentiate our approach and product offerings. The following list highlights a number of our key UAS technological capabilities:

- lightweight, low speed aerostructures and aerodynamic design;
- miniaturized avionics and micro/nano unmanned aircraft systems;
- image stabilization and target tracking;
- autonomous systems;
- payload design, development, miniaturization and integration;

- electric, hydrogen and hybrid propulsion systems and high pressure ratio turbochargers;

- high altitude long endurance flight operations;

- fluid dynamics;

- miniature, low power wireless digital communications;

- vertical takeoff and landing fixed wing flight unmanned aircraft systems; and

- system integration and optimization.

Two of our UAS and tactical missile systems development initiatives are described below:

Tactical Missile System Variants. We pioneered a rapidly deployable, high precision tactical missile system, called Switchblade, for defensive use by ground forces. Switchblade is now employed by the U.S. military to provide force protection to its soldiers overseas. During a multitude of demonstrations over the course of several years, multiple potential customers requested modifications to Switchblade to accommodate their specific mission requirements. We performed a number of successful demonstrations and are now developing several variants to Switchblade for new customers and applications, including deployment from sea and air vehicles. Blackwing, a submarine-launched

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reconnaissance system, represents one of the variants. We believe these new variants have the potential to expand our tactical missile systems opportunities significantly.

Commercial Unmanned Aircraft Systems Based Information Services. In the same way our small UAS provide on demand situational awareness to military customers, we can employ our small UAS with advanced sensors to scan vast or inaccessible infrastructure, plants or wildlife, then process and analyze the resulting data to produce actionable information for a wide variety of companies in industries that include energy, agriculture and natural resource management. We have deployed this capability with early adopters and continue to gain knowledge and experience that will enable us to further our market position as airspace regulations evolve to permit what could be a large market.

UAS Sales and Marketing

We organize our U.S. UAS business development team members by market and customer and we locate team members in close proximity to the customers they support, where possible. Our program managers are organized by product and focus on designing optimal solutions and contract fulfillment, as well as internalizing feedback from customers and users. By maintaining assigned points of contact with our customers, we believe that we are able to maintain our relationships, service existing contracts effectively and gain vital feedback to improve our responsiveness and product offerings.

UAS Manufacturing and Operations

Continued investment in infrastructure has established our manufacturing capability to meet demand with scalable capacity. We have the manufacturing infrastructure to produce UAS products at high rates, support initial low rate production for new UAS development programs and tactical missile systems and execute initial low rate production of large UAS. By drawing upon experienced personnel across various manufacturing industries including aerospace, automotive and volume commodities, we have instituted lean production systems and leverage our International Organization for Standardization, or ISO, certification, integrated supply chain strategy, document control systems and process control methodologies for production. Presently, we perform small UAS manufacturing at the 85,000 square foot manufacturing facility we established in 2005. This ISO 9001:2008 certified manufacturing facility is designed to accommodate demand of up to 1,000 aircraft per month. ISO 9001:2008 refers to a set of voluntary standards for quality management systems. These standards are established by the ISO to govern quality management systems used worldwide. Companies that receive ISO certification have passed audits performed by a Registrar Accreditation Board certified auditing company. These audits evaluate the effectiveness of companies' quality management systems and their compliance with ISO standards. Some companies and government agencies view ISO certification as a positive factor in supplier assessments.

UAS Competition

The market for military small UAS continues to evolve in response to changing technologies, shifting customer needs and expectations and the potential introduction of new products. We believe that a number of established domestic and international defense contractors have developed or are developing small UAS that will continue to compete directly with our products. Some of these contractors have significantly greater financial and other resources than we possess. Our current principal small UAS competitors include Elbit Systems Ltd., L 3 Communications Holdings, Inc. and Lockheed Martin Corporation. We do not view large UAS such as Northrop Grumman Corporation's Global Hawk, General Atomics, Inc.'s Predator and its derivatives, The Boeing Company's ScanEagle and Textron Inc.'s Shadow as direct competitors to our small UAS because they perform different missions, do not typically deliver their information directly to front line ground forces and are not hand launched and controlled. However, we cannot be certain that these platforms will not become direct competitors in the future. The market for long endurance UAS is in an early stage of development. As a result, this category is not well defined and is characterized by multiple potential solutions. An existing contractor that claims to provide long endurance UAS is Northrop Grumman Corporation with its Global Hawk. Several aerospace and defense contractors are pursuing this market opportunity with proposed very long duration UAS, including The Boeing Company, Qinetiq Group PLC, Aurora Flight Sciences Corporation, Lockheed Martin Corporation and Northrop Grumman Corporation. Some internet technology companies have acquired small firms that

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focus on this type of capability and represent potential future competitors. Companies pursuing airships (high altitude aircraft that is kept buoyant by a body of gas that is lighter than air) as a solution for this market include Lockheed Martin Corporation and Northrop Grumman Corporation. Companies pursuing satellites as a solution for this market include The Boeing Company, Lockheed Martin Corporation, General Dynamics Corporation, EADS N.V., Ball Corporation and Orbital Sciences Corporation.

The market for tactical missile systems is in an early stage of development, but it is evolving rapidly. Potential competitors in this market include Textron Inc., Raytheon Company and Lockheed Martin Corporation.

The market for commercial UAS products and services is in an early stage of development, but is evolving rapidly, generating a great deal of interest as government regulations evolve to accommodate commercial UAS operations in the National Airspace System and in the airspace of other countries. Given the breadth of applications and the diversity of industries that could benefit from UAS technology, a growing number of potential competitors in this market include consumer drone manufacturers who seek to enhance their systems' capabilities over time; other small UAS manufacturers, including large aerospace companies; aerial surveying and mapping service providers; ground based surveying and mapping service providers; satellite imagery providers and specialty system manufacturers and service providers aiming to address specific market segments. The emerging non military market is attracting numerous additional competitors and significant venture capital funding given perceived lower barriers to entry and a much more fragmented marketplace as compared to the military market. Potential additional competitors include start up companies providing low cost solutions.

We believe that the principal competitive factors in the markets for our UAS products and services include product performance, features, acquisition cost, lifetime operating cost, including maintenance and support, ease of use, integration with existing equipment and processes, quality, reliability, customer support, brand and reputation.

UAS Regulation

Due to the fact that we contract with the DoD and other agencies of the U.S. government, we are subject to extensive federal regulations, including the Federal Acquisition Regulations, Defense Federal Acquisitions Regulations, Truth in Negotiations Act, Foreign Corrupt Practices Act, False Claims Act and the regulations promulgated under the DoD Industrial Security Manual, which establishes the security guidelines for classified programs and facilities as well as individual security clearances. The federal government audits and reviews our performance on contracts, pricing practices, cost structure, and compliance with applicable laws, regulations and standards. Like most government contractors, our contracts are audited and reviewed on a continual basis by federal agencies, including the Defense Contract Management Agency, or DCMA, and the Defense Contract Audit Agency, or DCAA.

Certain of these regulations impose substantial penalties for violations, including suspension or debarment from government contracting or subcontracting for a period of time. We monitor all of our contracts and contractual efforts to minimize the possibility of any violation of these regulations.

In addition, we are subject to industry specific regulations due to the nature of the products and services we provide. For example, certain aspects of our business are subject to further regulation by additional U.S. government authorities, including (i) the FAA, which regulates airspace for all air vehicles in the U.S. National Airspace System, (ii) the National Telecommunications and Information Administration and the Federal Communications Commission, which regulate the wireless communications upon which our UAS depend in the United States and (iii) the Defense Trade Controls of the U.S. Department of State that administers the International Traffic in Arms Regulations, which regulate the export of controlled technical data, defense articles and defense services. In 2006, the FAA issued a clarification of its existing policies stating that, in order to engage in public use of small UAS in the U.S. National Airspace System, a public (government) operator must obtain a Certificate of Authorization, or COA, from the FAA or fly in restricted airspace. The FAA's COA approval process requires that the public operator certify the airworthiness of the aircraft for its intended purpose, that a collision with another aircraft or other airspace user is extremely improbable, that the small unmanned aircraft system complies with appropriate cloud and terrain clearances and that the operator or spotter of the small unmanned aircraft system is generally within one half mile laterally and 400 feet vertically of the small unmanned aircraft system while in operation. Furthermore, the FAA's clarification of existing policy states that the rules for

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radio controlled hobby aircraft do not apply to public or commercial use of small UAS. In 2012, the U.S. Congress mandated that the FAA develop rules that provide for the integration of small UAS into the U.S. National Airspace System by September 30, 2015.

The FAA issued the first restricted type certificate for the commercial operation of an unmanned aircraft over American soil to our Puma AE system in 2014. Under a COA, we operated Puma AE systems in the Prudhoe Bay area of Alaska to support a major oil and gas customer. The Secretary of Transportation has the authority to determine whether an airworthiness certificate is required for a UAS to operate safely in the U.S. National Airspace System. On September 25, 2014 the FAA began issuing case by case authorization for certain unmanned aircraft to perform commercial operations prior to the finalization of the rules providing for the integration of small UAS into the U.S. National Airspace System. As of May 11, 2015 the FAA had granted us four exemptions for the use of our Puma AE and Shrike systems for agriculture, aerial survey, and patrol operations and for inspections of fixed infrastructures in controlled environments. On June 21, 2016 the FAA released its final rules that allow routine use of certain small UAS in the U.S. National Airspace System. The FAA rules, which go into effect in August 2016, provide safety rules for small UAS (under 55 pounds) conducting non recreational operations. The rules limit flights to visual line of sight daylight operation, unless the UAS has anti-collision lights in which case twighlight operation is permitted. The final rule also addresses height and speed restrictions, operator certification, optional use of a visual observer, aircraft registration and marking and operational limits, including prohibiting flights over unprotected people on the ground who are not directly participating in the operation of the UAS.

Furthermore, our non U.S. operations are subject to the laws and regulations of foreign jurisdictions, which may include regulations that are more stringent than those imposed by the U.S. government on our U.S. operations.

UAS Government Contracting Process

We sell the significant majority of our small UAS products and services as the prime contractor under contracts with the U.S. government. Certain important aspects of our government contracts are described below.

UAS Bidding Process

Most of our current government contracts were awarded through a competitive bidding process. The U.S. government awards competitive bid contracts based on proposal evaluation criteria established by the procuring agency. Competitive bid contracts are awarded after a formal bid and proposal competition among providers. Interested contractors prepare a bid and proposal in response to the agency’s request for proposal or request for information. A bid and proposal is usually prepared in a short time period in response to a deadline and requires the extensive involvement of numerous technical and administrative personnel. Following award, competitive bid contracts may be challenged by unsuccessful bidders.

UAS Funding

The funding of U.S. government programs is subject to congressional appropriations. Although multi year contracts may be authorized in connection with major procurements, Congress generally appropriates funds on a fiscal year basis, even though a program may continue for many years. Consequently, programs are often only partially funded initially, and additional funds are committed only as Congress makes further appropriations.

The U.S. military funds its contracts for our full rate production UAS either through operational needs statements or as programs of record. Operational needs statements represent allocations of discretionary spending or reallocations of funding from other government programs. Funding for our production of initial Raven system deliveries, for example, was provided through operational needs statements. We define a program of record as a program which, after undergoing extensive DoD review and product testing, is included in the five year government budget cycle, meaning that funding will be allocated for purchases under these contracts during the five year cycle, absent affirmative action by the customer or Congress to change the budgeted amount. Despite bring included in the five-year budget cycle, funding for these programs is subject to annual approval.

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UAS Material Government Contract Provisions

All contracts with the U.S. government contain provisions, and are subject to laws and regulations, that give the government rights and remedies not typically found in commercial contracts, including rights that allow the government to:

- terminate existing contracts for convenience, in whole or in part, when it is in the interest of the government to do so;
- terminate contracts for default upon the occurrence of certain enumerated events;
- unilaterally modify contracts with regard to certain performance requirements;
- cancel multi year contracts and related orders, if funds for contract performance for any subsequent year become unavailable;
- potentially obtain rights in, or ownership to, intellectual property associated with products and systems developed or delivered by a contractor as a result of its performance of the contract;
- adjust contract costs and fees on the basis of audits completed by its agencies;
- suspend or debar a contractor from doing business with the U.S. government; and
- control or prohibit the export of certain items.

Generally, government contracts are subject to oversight audits by government representatives. Compensation, if any, in the event of a termination for default is limited to payment for work completed at the time of termination. In the event of a termination for convenience, the contractor will may receive the contract price for completed work, as well as its costs of performance of terminated work including an allowance for profit and reasonable termination settlement costs.

UAS Government Contract Categories

We have three types of government contracts, each of which involves a different payment methodology and level of risk related to the cost of performance. These basic types of contracts are typically referred to as fixed price contracts, cost reimbursable contracts, including cost plus fixed fee, cost plus award fee, and cost plus incentive fee, and time and materials contracts.

In some cases, depending on the urgency of the project and the complexity of the contract negotiation, we will enter into a Letter Contract prior to finalizing the terms of a definitive fixed price, cost reimbursable or time and materials definitive contract. A Letter Contract is a written preliminary contractual instrument that provides limited initial funding and authorizes us to begin immediately manufacturing supplies or performing services while negotiating the definitive terms of the procurement.

Fixed Price. These contracts are not subject to adjustment by reason of costs incurred in the performance of the contract. With this type of contract, we assume the risk that we will not be able to perform at a cost below the fixed price, except for costs incurred because of contract changes ordered by the customer. Upon the U.S. government's termination of a fixed price contract, generally we would be entitled to payment for items delivered to and accepted by the U.S. government and, if the termination is at the U.S. government's convenience, for payment of fair compensation for work performed plus the costs of settling and paying claims by any terminated subcontractors, other settlement expenses and a reasonable allowance for profit on the costs incurred.

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Cost Reimbursable. Cost reimbursable contracts include cost plus fixed fee contracts, cost plus award fee contracts and cost plus incentive fee contracts. Under each type of contract, we assume the risk that we may not be able to recover costs if they are not allowable under the contract terms or applicable regulations, or if the costs exceed the contract funding.

- Cost plus fixed fee contracts are cost reimbursable contracts that provide for payment of a negotiated fee that is fixed at the inception of the contract. This fixed fee does not vary with actual cost of the contract, but may be adjusted as a result of changes in the work to be performed under the contract. This contract type poses less risk of loss than a fixed price contract, but our ability to win future contracts from the procuring agency may be adversely affected if we fail to perform within the maximum cost set forth in the contract.

- A cost plus award fee contract is a cost reimbursable contract that provides for a fee consisting of a base amount, which may be zero, fixed at inception of the contract and an award amount, based upon the government's satisfaction with the performance under the contract. With this type of contract, we assume the risk that we may not receive the award fee, or only a portion of it, if we do not perform satisfactorily.

- A cost plus incentive fee contract is a cost reimbursable contract that provides for an initially negotiated fee to be adjusted later by a formula based on the relationship of total allowable costs to total target costs.

We typically experience lower profit margins and lower risk under cost reimbursable contracts than under fixed price contracts. Upon the termination of a cost reimbursable contract, generally we would be entitled to reimbursement of our allowable costs and, if the termination is at the U.S. government's convenience, a total fee proportionate to the percentage of work completed under the contract.

Time and Materials. Under a time and materials contract, our compensation is based on a fixed hourly rate established for specified labor or skill categories. We are paid at the established hourly rates for the hours we expend performing the work specified in the contract. Labor costs, overhead, general and administrative costs and profit are included in the fixed hourly rate. Materials, subcontractors, travel and other direct costs are reimbursed at actual costs plus an amount for material handling. We make critical pricing assumptions and decisions when developing and proposing time and materials labor rates. We risk reduced profitability if our actual costs exceed the costs incorporated into the fixed hourly labor rate. One variation of a standard time and materials contract is a time and materials, award fee contract. Under this type of contract, a positive or negative incentive can be earned based on achievement against specific performance metrics.

UAS Indefinite Delivery Indefinite Quantity Contract Form

The U.S. government frequently uses IDIQ contracts and IDIQ type contract forms, such as cost reimbursable and fixed price contracts with multiple one year options, to obtain fixed price, cost reimbursable and time and materials

contractual commitments to provide products or services over a period of time pursuant to established general terms and conditions. At the time of the award of an IDIQ contract or IDIQ type contract, the U.S. government generally commits to purchase only a minimal amount of products or services from the contractor to whom such contract is awarded.

After award of an IDIQ contract the U.S. government may issue task orders for specific services or products it needs. The competitive process to obtain task orders under an award contract is limited to the pre selected contractors. If an IDIQ contract has a single prime contractor, then the award of task orders is limited to that contractor. If the contract has multiple prime contractors, then the award of the task order is competitively determined among only those prime contractors.

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IDIQ and IDIQ type contracts typically have multi year terms and unfunded ceiling amounts that enable, but do not commit, the U.S. government to purchase substantial amounts of products and services from one or more contractors.

Efficient Energy Systems

Our EES business segment addresses the increasing economic, environmental and energy security value of electric transportation with solutions for developing, manufacturing and charging electric vehicles.

Industry Background

Electric Vehicle Charging Systems

Plug in electric vehicles (PEVs) and advanced hybrid electric vehicles (HEVs) require on board battery packs to provide the electricity that powers their operation. These battery packs vary in chemistry, size, weight, shape, and energy storage capacity. As drivers operate electric vehicles, their battery packs discharge electricity similar to the way an internal combustion vehicle's gasoline tank supplies fuel to the engine as it is driven. Upon discharging the battery pack, the driver of an electric vehicle must either replace it with a fully charged pack, if it is removable, or recharge the pack while it remains in the vehicle. Because of the differences in battery sizes and composition, as well as the manner in which each vehicle is operated and the type of electric service available, a variety of charging systems exist to support these vehicles. These charging systems range from relatively slow charging devices that require many hours to completely recharge a battery pack to very fast chargers that can do so in minutes.

Passenger and Fleet Electric Vehicle Charging Systems

Numerous factors contribute to a growing interest among consumers, governments and automakers in vehicles that do not rely solely on fossil fuels. These factors include:

· concerns regarding the environmental impact of resource extraction and carbon emissions associated with fossil fuel based transportation;

· awareness of the geopolitical and economic costs associated with the current dependence on petroleum imports;

- anticipation of future energy price volatility;

- the increasing demand for automobiles in large, rapidly growing markets such as China and India and the resulting anticipated growth in demand for fossil fuels; and

- government and private investments in “clean” technologies.

In response to these factors most major automotive manufacturers around the world are developing and introducing modern PEVs for everyday consumer and fleet transportation. Vehicles in this class incorporate battery electric drive systems either in a dedicated format in which an onboard battery pack supplies electricity to one or more electric motors, or in an advanced hybrid design, in which an onboard battery pack provides electricity to an electric motor, and a small onboard internal combustion engine recharges the battery as needed. A PEV requires that its battery pack be recharged from an external power source or be replaced with a fully charged battery pack. An advanced HEV does not require recharging from an external power source because an onboard gasoline powered internal combustion engine recharges the battery pack, but using an external power source can minimize gasoline consumption and vehicle carbon emissions.

Most EVs recharge using external systems installed at home, work and at public places such as shopping centers, supermarkets, highway rest stops, and locations similar to gasoline refueling stations. With a growing number of new consumer electric vehicle models now deployed, and additional models scheduled to follow, there exists demand for charging infrastructure to enable their safe, reliable and practical recharging.

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The rate at which a passenger electric vehicle battery pack can be recharged depends on a number of factors including battery type, size, ambient temperature, the capacity of the vehicle's onboard controller to convert electricity to the proper format for storage in a battery pack, its ability to receive high current charging and the amount of power available. Electric vehicle charging systems may be segmented into three general categories.

| Level | Infrastructure Requirement | Recharge Time |
|---|---|---|
| Level 1 | Power cord with safety features that plugs into a dedicated 120 volt AC outlet | Capable of slow recharge that could require up to 24 hours or more for certain battery packs |
| Level 2, known as Electric Vehicle Supply Equipment | A hard wired or portable device that requires professional installation of a dedicated 240 volt AC circuit | Capable of fully recharging most battery packs in two to six hours |
| Level 3, DC or fast/quick charge | Typically requires installation onto a three phase, 480 volt AC circuit | Capable of fully recharging battery packs designed to accept such a charge in minutes |

We believe that broad adoption of passenger electric vehicles requires a mix of these types of charging systems, distributed so as to make them accessible to drivers when and where they need them. The adoption of passenger electric vehicles also necessitates supporting services, such as: experienced electrical assessment and installation, the integration of PEVs and charging systems into smart grids and the ability to monitor and manage the use of electricity and provide for various payment methods and plans such as subscription and credit card point of sale.

Industrial Electric Vehicle Charging Systems

Industrial electric vehicles have been in use extensively for decades. In industrial environments such as factories, distribution centers and airports, fast charge technology, which charges a battery with a high electrical current while the battery remains in the vehicle, eliminates the need for frequent battery changing and a dedicated battery room. This approach increases productivity, reduces operating costs and improves facility safety. The earliest adopters of fast charge technology include the automotive and air transportation industries. Large food and retail industry customers now also utilize fast charge technology.

Industrial electric vehicles rely on large onboard batteries that can consume up to 17 cubic feet and weigh up to 3,500 pounds. In multi shift fleet operations, traditional slow charging systems require users to exchange vehicle batteries throughout the day because these batteries discharge their energy through vehicle usage and there is insufficient vehicle downtime to recharge them during a shift. As a result, drivers must leave their work areas when the battery reaches a low state of charge and drive to a dedicated battery changing room, which often occupies valuable floor space and is frequently located far from a driver's work area. The driver, or in some cases a dedicated battery attendant, must then remove the battery from the vehicle, place it on a storage rack, connect it to a conventional

battery charger, identify a fully charged battery, move it into the vehicle's battery compartment and reconnect the battery to the motor before the driver may return to the work area. These battery changes take place every day in facilities around the world, resulting in reduced material movement and increased operating costs. Furthermore, depending on the type of battery, conventional battery chargers can require up to eight hours to recharge the battery, which then must cool for up to an additional eight hours before it is ready to be used again. Consequently, depending on vehicle usage and the number of shifts in an operation, a fleet may require more than one battery per vehicle, which necessitates additional storage space, chargers and maintenance time. Moreover, the high levels of heat generated by conventional battery chargers during their normal use can cause excessive evaporation of the water contained in the battery and damage to the battery's components. Over time, this evaporation of fluid and damage to components result in battery degradation and adversely affect the battery's life.

Power Cycling and Test Systems

Developers and manufacturers of electric and hybrid electric vehicles typically conduct a variety of tests on the electric propulsion and energy storage systems that convert electricity to motion. These tests include simulating the

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consumption, conversion and storage of electricity through a range of operating scenarios, and include long term testing to simulate the rigors of real world driving. Developers of battery packs, electric motors and fuel cells also test their devices to validate design hypotheses and identify potential operating issues. Customers include commercial, government, military and university research and development labs as well as commercial manufacturing facilities.

Our EES Solutions

EES Products

Our EES business segment produces electric transportation and industrial productivity solutions for commercial, consumer and government customers, develops new potential electric transportation solutions and performs contract engineering services. These solutions consist of: (i) electric vehicle charging systems, services and related solutions for plug in passenger and fleet vehicles; (ii) PosiCharge industrial electric vehicle charging systems for electric material handling vehicles and airport ground support equipment; and (iii) power cycling and test systems for developers and manufacturers of EVs as well as battery packs, electric motors and fuel cells. For the fiscal years ended April 30, 2016, 2015 and 2014, EES sales accounted for 11%, 15% and 17%, respectively, of our revenue. We believe that the markets for our electric vehicle charging systems and power cycling and test systems continue to develop and that continued diversification of our customer base and the increasing adoption of electric vehicles will support increased penetration into target markets.

Passenger and Fleet Electric Vehicle Charging Systems

In response to automakers' introductions of PEVs and broader trends favoring electric transportation, we have developed solutions to support the adoption and use of PEVs by nearly every major automaker and many startups worldwide. Our initial EV charging technology emerged from our development of the GM Impact, the first modern EV. Over two decades we improved the technology, deployed it to industrial markets, and adapted it for the current generation of EVs. We believe that most EV drivers will charge their vehicles overnight at their homes. Those without a charging location at home or who make trips beyond the range of their vehicle's battery pack will require public charging infrastructure. Our strategy is to offer a charging infrastructure solution, including TurboCord portable dual voltage level 2 charging cords, overnight home chargers, public chargers, installation services, data collection systems and communications through multiple wired and wireless data communications options. We offer an integrated solution designed to enable the broad adoption and the practical use of PEVs and HEVs.

A component of our strategy is to develop relationships across multiple channels that lever our strengths and provide complementary pathways to market. We have announced several such agreements to date with leading auto manufacturers, electric utilities and state and municipal governments.

We believe these relationships represent a valuable position from which to expand our charging infrastructure footprint. We continue to work with automakers, utilities and government agencies at multiple levels as well as with private industry to explore business models and to promote our solutions.

In addition to the thousands of level 2 charging systems we have deployed in North America, we have also deployed PEV fast charging systems, which we view as a powerful tool that can help enable the broader adoption of PEVs.

Passenger and Fleet Electric Vehicle Charging Services

We have established broad geographic coverage in North America to provide installation and repair services for our growing footprint of passenger and fleet electric vehicle charging systems. We identify, qualify, select, train, certify and monitor the performance of these contractors and equip them with proprietary tools, expertise and web based information systems to facilitate the successful installation and support of our charging systems as this market opportunity grows. Our 24 hour customer service center provides support to answer customer inquiries and promote a high level of customer satisfaction.

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The appearance of our products and services can readily be customized to support our partners' marketing programs. This capability is designed to enable automakers, utilities, government agencies and other businesses to deliver a branded solution to their customers that will enhance their customer relationships.

PosiCharge Industrial Electric Vehicle Charging System

Developed from our work on electric and HEVs and advanced battery systems in the 1990s, PosiCharge industrial electric vehicle charging systems quickly and safely recharge industrial electric vehicle batteries while the batteries remain in the vehicle during regularly scheduled breaks and at other times when the vehicle is not in use. By eliminating battery changing, PosiCharge systems improve supply chain productivity by returning time to the vehicle operator to complete more work. Furthermore, because of their advanced efficient energy capabilities, PosiCharge systems can reduce the amount of electricity required to support industrial electric vehicles by several hundred dollars per year per vehicle, as compared to less efficient conventional battery chargers. Many customers who implement our charging systems in their facilities are able to re purpose the battery changing room floor space for more productive activities and create a safer working environment, as drivers or battery attendants no longer need to exchange large lead acid batteries continually.

The proprietary battery charging algorithms built into PosiCharge systems, which are tailored to battery type, brand and size, maximize the rate at which they deliver energy into the battery while minimizing heat generation and its damaging effects on the battery's internal components. We developed these algorithms over years of advanced battery testing and usage. We believe our work to develop these algorithms contributed to the major battery manufacturers offering warranties for the use of their batteries with our charging systems, which provided a critical assurance to customers that our rapid charging systems would not harm their batteries. In combination with a weekly equalization charge that balances all the cells within the battery pack, our "intelligent" charging process enhances the performance of batteries. We believe that competing rapid and conventional charging systems, which lack our current and voltage regulating tailored charge algorithms and monitoring capabilities, may actually contribute to lower battery performance and lifespan, ultimately resulting in higher battery costs and degraded vehicle performance.

Our PosiCharge offering is focused on providing smart, efficient products to enhance the charging process and help customers maximize the life and performance of their industrial fleets by managing and extending the lives of their batteries, and thereby increasing the productivity of their drivers.

Power Cycling and Test Systems

We supply a line of power cycling and test systems to research and development organizations that focus on electric propulsion systems, electric generation systems and electricity storage systems. Customers employ these systems to test batteries, electric motors, electric and hybrid drivetrains and fuel cell systems.

Our line of DC test systems has the flexibility to perform a variety of electric load tests. With a power range (+/−5kW to +/−800kW) of bi directional DC equipment, our power cycling and test systems can handle a wide variety of DC supply or load requirements—from lead acid to the latest lithium ion battery chemistries to fuel cells with integrated power electronics. In addition, these systems can emulate any drive train component, enabling the testing of individual components or partial drive trains accurately and realistically, and allowing hardware in the loop testing. We also offer flexible software control options via the C language Remote Operation System and Windows based languages such as LabVIEW or CAN.

EES Technology, Research and Development

The following list highlights a number of our key EES technological capabilities:

· battery management and testing;

· power electronics and controls;

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- efficient electric drive systems and controls;
- high density energy packaging;
- efficient electric power generation, storage and management;
- charging algorithms and thermal management;
- on/off grid controls and controls integration;
- system integration and optimization; and
- web based real time data collection and reporting.

EES Sales and Marketing

Passenger and Fleet Electric Vehicle Charging Systems

As the market for PEVs evolves, we are pursuing numerous potential sales channels for our products and services. We continue to seek to partner with auto manufacturers, utilities, government agencies and others to position ourselves for an increase in demand for charging solutions associated with electric and HEV adoption. We also sell our charging products to consumers, both directly and via major retailers. We have a broad network of licensed electrical contractors whom we train and certify to install and service home and public charging systems. To enable this installation and service network we have developed an e commerce platform to integrate customers' orders, inventory management, dispatching and provisioning, billing and product and service traceability. This platform, along with our broad network, is designed to support our growth as we pursue numerous electric vehicle charging opportunities.

Industrial Electric Vehicle Charging Systems

We primarily sell our PosiCharge industrial electric vehicle charging systems through a dedicated, direct sales force complemented by a network of resellers and industrial battery and lift truck dealers. The sales team targets large entities with the potential for domestic and international enterprise adoption of our solutions. The sales team also coordinates distribution of PosiCharge systems through battery and lift truck dealers. These dealers' relationships with, and proximity to, our customers' facilities enable them to sell our solutions and provide post sale service to our

customers. We believe that these dealers are well suited to address the large number of smaller and geographically dispersed customers with industrial vehicle fleets. When evaluating a facility for its ability to benefit from PosiCharge systems, we typically perform a detailed analysis of the customer's operations. This analysis allows us to quantify the benefit projected for a PosiCharge system implementation, helping customers to determine for themselves if the business case is sufficiently compelling.

Power Cycling and Test Systems

We sell our power cycling and test systems through a dedicated, direct sales force and through a network of international distributors and representatives who have access to the research and development and manufacturing organizations that procure and use these types of systems. Given the distances involved, we enable and often rely on our international distributors to provide service in support of our customers.

EES Manufacturing and Operations

We perform assembly and testing of our power cycling and test systems at our 85,000 square foot, ISO 9001:2008 and ISO14001:2004 certified facility. We designed the portion of this facility where we perform such assembly and testing operations for flexibility, using a work cell model for final assembly and have included fixtures optimized for final testing. We utilize contract manufacturing for the production of the majority of our PosiCharge

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industrial electric vehicle charging systems. We have also implemented a contract manufacturing strategy to support our passenger and fleet electric and HEV charging systems business opportunity.

EES Competition

Competitors in the emerging market for passenger and fleet electric and HEV charging systems include focused charging system suppliers such as ChargePoint, Inc. and ClipperCreek, Inc. and large industrial electrical device suppliers such as Bosch Automotive Service Solutions LLC, Delta Electronics, Inc., Eaton Corporation, General Electric Company, Leviton Manufacturing Co., Inc., Schneider Electric SA, The ABB Group and Siemens AG.

The primary direct competitors to PosiCharge systems are other fast charge suppliers, including Aker Wade Power Technologies LLC, Minit Charger and PowerDesigners, LLC. Some of the major industrial motive battery suppliers have aligned themselves with fast charge suppliers. In addition, our PosiCharge systems compete against the traditional method of battery changing. Competitors in this area include suppliers of battery changing equipment and infrastructure, designers of battery changing rooms, battery manufacturers and dealers who may experience reduced sales volume because PosiCharge systems reduce or eliminate the need for extra batteries.

Direct competitors for our power cycling and test systems include Bitrode Corporation and Digatron Power Electronics.

We believe that the principal competitive factors in the markets for our products and services include product performance, safety, features, acquisition cost, lifetime operating cost, including maintenance and support, ease of use, integration with existing equipment, quality, reliability, customer support, brand and reputation.

For additional financial information with respect to our UAS and EES segments, please see Note 18 to our consolidated financial statements, which are included in Item 8, “Financial Statements and Supplementary Data” of this Annual Report.

Item 1A. Risk Factors.

General Business Risks

We rely heavily on sales to the U.S. government, particularly to agencies of the Department of Defense.

Historically, a significant portion of our total sales and substantially all of our small UAS sales have been to the U.S. government and its agencies. Sales to the U.S. government, either as a prime contractor or subcontractor, represented approximately 71% of our revenue for the fiscal year ended April 30, 2016. The DoD, our principal U.S. government customer, accounted for approximately 40% of our revenue for the fiscal year ended April 30, 2016. We believe that the success and growth of our business for the foreseeable future will continue to depend to a significant degree on our ability to win government contracts, in particular from the DoD. Many of our government customers are subject to budgetary constraints and our continued performance under these contracts, or award of additional contracts from these agencies, could be jeopardized by spending reductions, including constraints on government spending imposed by the Budget Control Act of 2011, or budget cutbacks at these agencies. The funding of U.S. government programs is uncertain and dependent on continued congressional appropriations and administrative allotment of funds based on an annual budgeting process. We cannot assure you that current levels of congressional funding for our products and services will continue and that our business will not decline. Furthermore, all of our contracts with the U.S. government are terminable by the U.S. government at will. A significant decline in government expenditures generally, or with respect to programs for which we provide products, could adversely affect our business and prospects. Our operating results may also be negatively impacted by other developments that affect these government programs generally, including the following:

· changes in government programs that are related to our products and services;

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- adoption of new laws or regulations relating to government contracting or changes to existing laws or regulations;

- changes in political or public support for security and defense programs;

- delays or changes in the government appropriations and budget process;

- uncertainties associated with the current global threat environment and other geo political matters; and

- delays in the payment of our invoices by government payment offices.

These developments and other factors could cause governmental agencies to reduce their purchases under existing contracts, to exercise their rights to terminate contracts at will or to abstain from renewing contracts, any of which would cause our revenue to decline and could otherwise harm our business, financial condition and results of operations.

Military transformation and changes in overseas operational levels may affect future procurement priorities and existing programs, which could limit demand for our UAS.

Over the last decade, operational activity in Afghanistan and Iraq led to adoption and an increase in demand for our small UAS. More recently, the U.S. military has reduced its presence and operational activity in Afghanistan and Iraq, reducing demand for certain of our small UAS products from prior levels. We cannot predict whether the reduction in overseas operational levels will continue, how future procurement priorities related to defense transformation will be impacted or how changes in the threat environment will impact opportunities for our small UAS business in terms of existing, additional or replacement programs. If defense transformation or overseas operations cease or slow down, then our business, financial condition and results of operations could be impacted.

We operate in evolving markets, which makes it difficult to evaluate our business and future prospects.

Our UAS, EV charging systems and other energy technologies are sold in new and rapidly evolving markets. The commercial UAS market and EV markets are in early stages of customer adoption. Accordingly, our business and future prospects may be difficult to evaluate. We cannot accurately predict the extent to which demand for our products will increase, if at all. The challenges, risks and uncertainties frequently encountered by companies in rapidly evolving markets could impact our ability to do the following:

- generate sufficient revenue to maintain profitability;
- acquire and maintain market share;
- achieve or manage growth in our operations;
- develop and renew contracts;
- attract and retain additional engineers an