ARCHIVED REPORT

For data and forecasts on current programs please visit

www.forecastinternational.com or call +1 203.426.0800

Esterline Technologies Corporation

Outlook

- In October 2018, TransDigm announced it would acquire Esterline in \$4.0 billion deal
- Deal follows recent spate of M&A activity among Airbus and Boeing subcomponent producers
- The goal of all these recent amalgamations is to be a one-stop shop for as many components as possible
- Esterline will be a very complementary acquisition that builds TransDigm's presence in this hyper-competitive marketplace



Headquarters

Esterline Technologies Corporation City Center Bellevue 500 - 108th Ave NE, Suite 1500 Bellevue, WA 98004 Telephone: + 1 (425) 453-9400 Website: http://www.esterline.com

Esterline Technologies, a Delaware corporation formed in 1967, is a specialized manufacturing company with a focus on the aerospace and defense markets. The company operates through three key segments: Avionics & Controls, Sensors & Systems, and Advanced Materials. Esterline is a major subcontractor to industry primes. In this position, its products are incorporated into a wide variety of platforms, ranging from military helicopters, fighters, and transports to commercial widebody, regional, and business jets. Some of the firm's largest customers include Airbus, Boeing, Honeywell, BAE Systems, Lockheed Martin, GE Aviation, and Thales.

In October 2018, TransDigm announced it would acquire Esterline for \$4.0 billion. The transaction is expected to be completed by mid-2019.

Structure and Personnel

Curtis Reusser Chairman, President and CEO Paul Benson Executive Vice President and Chief HR Officer Stephen M. Nolan Executive Vice President, Chief Financial Officer Brian Reid Controller and Chief Accounting Officer Roger Ross Executive Vice President and President, Sensors & Systems Donald E. Walther Executive Vice President and General Counsel Amy Watson Deputy General Counsel and Corporate Secretary Albert S. Yost Executive Vice President and President, Advanced Materials and Avionics & Controls



Product Area

Esterline Technologies is a Tier I and Tier II contractor organized in the following manner:

- 1. Avionics & Controls
- 1.1 Avionics Systems
- 1.2 Control & Communication Systems
- 1.3 Interface Technologies
- 2. Sensors & Systems
- 2.1 Power Systems
- 2.2 Connection Technologies
- 2.3 Advanced Sensors
- 3. Advanced Materials
- 3.1 Engineered Materials
- 3.2 Defense Technologies

Avionics & Controls. Provides technology interface systems, including lighted switches and displays and pilot grips and wheels, for commercial and military aircraft and military vehicles. Companies in this

segment also manufacture technology products for secure communications systems, specialized medical equipment, and other high-end industrial applications.

Sensors & Systems. Produces high-precision temperature, pressure, and speed sensors; electrical power switching devices; control and data communication devices; fluid control components; micro-motors; motion control sensors; and related systems, principally for aerospace and defense markets.

Advanced Materials. Develops process-related technologies, including high-performance elastomer products used for military and commercial aerospace purposes and combustible ordnance and electronic warfare countermeasure products.

Facilities

Avionics & Controls

CMC Electronics Inc, 600 Dr. Frederik Philips Blvd, Ville Saint-Laurent, Québec, Canada H4M 2S9. Telephone: + 1 (514) 748-3148. Chief business areas include avionics, commercial communications, communications systems, data communications products, ground navigation aids, and radar systems.

Website: http://www.cmcelectronics.ca

Korry Electronics, 11910 Beverly Park Rd, Everett, WA 98204. Telephone: + 1 (425) 297-9700. Designs and manufactures specialized aerospace lighting solutions for commercial, business, and military flight decks and control stations.

Website: http://www.esterline.com/controlsystems

AVISTA Inc, 1575 E Business Hwy 151, PO Box 636, Platteville, WI 53818. Telephone: + 1 (608) 348-8815. AVISTA specializes in software development and independent verification for mission-critical systems.

Website: http://www.esterline.com/controlsystems

Mason Controls, 13955 Balboa Blvd, Sylmar, CA 91342. Telephone: + 1 (818) 361-3366. Manufactures switches, switch panels, grips, autonomous grips, control wheels, throttle quadrants, active sidesticks, and control subsystems.

Website: http://www.esterline.com/controlsystems

Palomar Products, 23042 Arroyo Vista, Rancho Santa Margarita, CA 92688. Telephone: + 1 (949) 766-5300. Manufactures military voice and data switching systems.

Website: http://www.esterline.com/controlsystems

Esterline Interface Technologies, 600 W Wilbur Ave, Coeur d'Alene, ID 83815. Telephone: + 1 (208) 765-8000. Produces custom keyboards, keypads, and input devices that integrate cursor control devices, barcode scanners, displays, laser pointers, and voiceactivation technologies.

Website: http://www.esterline.com/advancedinput

Esterline Interface Technologies, Memtron Input Components, 530 N Franklin, Frankenmuth, MI 48734-0207. Telephone: + 1 (888) 636-8766. Manufactures membrane switches, passive and active PC boardbacked switches, elastomeric keypads, and touchscreenintegrated panels.

Website: http://www.esterline.com/memtron

Sensors & Systems

Auxitrol SA, Centre d'Etudes et de Production, 5 allée Charles Pathé, 18941 Bourges Cedex 9, France. Telephone: + 33 0 2 48 66 78 78. Manufactures highprecision temperature and pressure sensors, liquid levels, and various other measuring devices.

Website: http://www.esterline.com/advancedsensors

Page 2

Norwich Aero, 50 O'Hara Dr, Norwich, NY 13815. Telephone: + 1 (607) 336-7636. Manufactures speed and temperature sensors.

Website: http://www.esterline.com/advancedsensors

Weston Aerospace Ltd, 124 Victoria Rd, Farnborough, Hampshire GU14 7PW England. Telephone: + 44 0 1252 544433. Manufactures sensors and accessories for aero engines, industrial gas turbines, and airframe applications.

Website: http://www.esterline.com/advancedsensors

Leach International, 6900 Orangethorpe Ave, Buena Park, CA 90620-5032. Telephone: +1 (714) 736-7598. Manufactures a range of high-reliability power switching and control components.

Website: http://www.esterline.com/powersystems

Souriau, 9 rue de la Porte de Buc, 78000 Versailles, France. Telephone: + 33 1 30 84 77 99. Produces highperformance, high-reliability interconnect solutions for severe environments primarily in the aerospace, defense, and industrial equipment markets.

Website: http://www.souriau.com

Esterline Technologies Corporation

Advanced Materials

Esterline Defense Technologies (Armtec), 85-901 Ave 53, Coachella, CA 92236. Telephone: + 1 (760) 398-0143. Produces combustible ordnance and expendable countermeasures under the Armtec brand.

Website: www.esterline.com/defensetechnologies

Darchem Engineering, Ironmasters Way, Stillington, Stockton-on-Tees, TS21 1LB United Kingdom. Telephone: + 44 1740 630461. Provides engineered solutions to high-temperature/thermal-engineering problems.

Website: http://www.esterline.com/engineeredmaterials

Hytek Finishes, 8127 S 216th St, Kent, WA 98032. Telephone: + 1 (253) 872-7160. Provides plating, anodizing, painting, non-destructive testing, shot peening, and polishing services for aerospace, defense, and specialty manufacturers.

Website:

http://www.esterline.com/engineeredmaterials/HytekFin ishes/AboutUs.aspx

Corporate Overview

Esterline Technologies is a specialized manufacturing company whose focus is aerospace and defense subcontracting. Approximately 80 percent of the firm's revenues are derived from aerospace/defense markets, equally split between defense and commercial markets. The remaining 20 percent hails from the application of these technologies in industrial markets.

New Products and Services

Antonov Components. In July 2016, Esterline CMC Electronics was awarded two contracts to supply avionics systems for the An-124 transport aircraft operated by Antonov Airlines as well as for An-148/158/178 aircraft. Under the terms of the first contract, CMC will supply its CMA-9000 flight management system (FMS), CMA-5024 GPS sensor, and MFD-2068 multifunction display in a dual configuration for the upgrade of seven An-124 aircraft.

For the second contract, CMC will supply dual CMA-9000 FMSs as well as five MFD-3068 multifunction displays for 60 new-production An-148/158/178 aircraft for commercial and military use. The An-148/158 will feature a civil configuration. The An-178 will feature both civil and military cargo capability. The CMA-9000 FMS and MFD-3068 will provide improved civil navigation features that prepare the aircraft for the European 2020 Air Traffic Mandates.



SCOUT SV Components. In September 2015, General Dynamics UK selected Esterline's Codis visualization products for the armored SCOUT Specialist Vehicle (SV) program, with a total contract value of \$21 million over seven years. Products being supplied include turret crew-station displays, triple-head driver's displays, and specialized video-processing hardware. Hardware deliveries were to begin in 2016 and continue for seven years. Esterline would manufacture the Codis hardware in its Kortrijk, Belgium, facility.

Regional Jet Components. In June 2015, UTC Aerospace Systems selected Esterline's Power Systems business group to design and manufacture the primary electrical power distribution systems for Embraer's second generation of E-Jets and the Mitsubishi Regional Jet (MRJ) aircraft program. Esterline's equipment will support Embraer regional jet models E175-E2, E190-E2, and E195-E2, as well as the Mitsubishi Aircraft Co MRJ90. The second-generation E-Jet's primary power distribution system consists of four separate units – the Left Integrated Control Center, Right Integrated Control Center, Auxiliary Integrated Control Center. On the MRJ, Esterline will be providing the Left, Right, and Emergency Integrated Control Centers.

In total, Esterline estimates these contracts will generate more than \$200 million in revenue for the company.

U.K. Nuclear Decommissioning. In June 2015, Esterline announced it would provide more than a thousand high-integrity stainless steel storage containers for Sellafield Ltd, under contract to the U.K. Nuclear Decommissioning Authority (NDA). Sellafield selected Esterline's Darchem storage products for use in its current decommissioning project at the Sellafield nuclear site, a U.K. nuclear decommissioning, reprocessing, and waste management site. The concrete and stainless steel containers are designed for long-term storage of intermediate-level radioactive waste, which will be retrieved from the legacy waste storage area on the Sellafield site and moved into the new, more compact and robust Darchem storage containers. The program is valued at GBP50 million.

Plant Expansion/Organization Update

Belgium Displays Facility Opened. In February 2017, Esterline opened a new manufacturing site in Kortrijk, Belgium. After Esterline acquired the advanced display and visual systems technologies of Barvo NV in 2015, the company invested more than EUR15 million in upgrading the related facilities in Belgium and consolidating them into one engineering and manufacturing operation. The facility operates within the Esterline Avionics Systems business platform in the company's Avionics & Controls segment.

Mergers/Acquisitions/Divestitures

TransDigm Buys Esterline. In October 2018, TransDigm Group Inc agreed to acquire Esterline in a transaction valued at approximately \$4.0 billion, including the assumption of debt. The acquisition of Esterline expands TransDigm's platform of proprietary and sole-source content for the aerospace and defense industries, including significant aftermarket exposure. According to TransDigm, Esterline has "attractive platform positions in both the OEM and aftermarket" and has substantial content on many important commercial aircraft variants, regional and business jet aircraft, and major defense platforms. The companies expect to complete the transaction in the second half of 2019.

Kirkhill Elastomer Sold. In March 2018, Esterline completed the sale of its Kirkhill engineered elastomer business based in Brea, California, to TransDigm for \$50 million. Kirkhill produces specialty seals and rubber components primarily for aerospace and defense markets.

BVR Technologies Sold. In March 2017, Kaney Aerospace completed its acquisition of BVR

Technologies Co from Esterline. The combined company now operates as Kaney Aerospace, with a workforce of over 120 primarily in Rockford, Illinois, and with annual sales to the aerospace and medical equipment industries in excess of \$20 million. Terms were not disclosed.

Wallop Defence Systems Sold. In November 2015, Esterline completed its divestiture of Wallop Defence Systems with a sale of certain assets to U.K. ammunition and countermeasures firm Chemring Group. Chemring reportedly paid GBP2.5 million (\$3.7 million) in cash initially, with potential additional payments of GBP9 million that are conditional on the future receipt of specific orders. Esterline originally acquired Wallop, a U.K.-based manufacturer of defense pyrotechnics, in 2006.

Pacific Aerospace & Electronics Sold. In July 2015, Esterline completed the sale of its Pacific Aerospace & Electronics (PA&E) subsidiary, based in Wenatchee, Washington, to an affiliate of ShoreView Industries, a Minneapolis-based private equity firm. PA&E produces electronics packaging and connector products, as well as machining and sealing processes, to protect equipment in the defense, medical, oil and gas, and other industrial markets. Terms were not disclosed.

Eclipse Electronic Systems Divested. In June 2015, Esterline completed the \$10 million sale of its Texas-based subsidiary Eclipse Electronic Systems to BAE Systems. Eclipse produces specialized receivers for the intelligence, surveillance, and reconnaissance (ISR) market. The deal, originally valued at \$28 million, was first announced in December 2014. The reduction in purchase price occurred following negotiations on facilities and real estate. Esterline originally acquired Eclipse in 2011 for approximately \$120 million.

Barco Acquired. In February 2015, Esterline completed its acquisition of the defense, aerospace and training display (DAT) businesses of Barco NV for EUR150 million (approximately \$175 million). These operations design and manufacture harsh-environment displays and visualization solutions for the avionics, defense, air traffic control, and training and simulation markets. The deal was first announced in September 2014.

Divestitures Planned. Over the course of 2014, Esterline initiated a restructuring aimed at integrating certain facilities and functions, and creating greater cost efficiency through consolidation and shared services in selling, general, and administrative (SG&A) areas and support functions. These efforts have included six facility or product consolidation initiatives. As part of this effort, the company identified several operations for

divestiture: Eclipse Electronic Systems (sold in June 2015), Pacific Aerospace & Electronics (sold July 2015), and Wallop Defence Systems (sold November 2015), as well as a small distribution operation.

Sunbank Acquired. In December 2013, Esterline acquired Joslyn Sunbank Company LLC for approximately \$45 million, plus up to \$5 million in earn-out consideration. Sunbank, a unit of Meggitt plc, is a Southern California-based supplier of connector accessories, backshells, and conduit systems for aerospace and industrial markets. The company employs approximately 500 people between its facilities in California and Mexico. The acquisition complements the group's earlier purchase of Souriau in 2011.

Souriau Group Acquired. In July 2011, Esterline acquired the Souriau Group for approximately \$715 million. Souriau manufactures highly engineered connectors for harsh environments. The company, based in Versailles, France, serves the aerospace, defense and space, power generation and rail, and industrial equipment markets, and has operations in six countries. It employs over 2,300 people. Souriau's aeronautics business, which represents approximately 35 percent of its total business, focuses on both commercial and military fixed- and rotary-wing aircraft, weapons delivery systems, and avionics. Souriau's defense and space business, which represents approximately 30 percent of total revenues, manufactures connectors primarily for satellite, missile, and communications systems. The company's power generation and rail business, which represents approximately 15 percent of revenues, serves the nuclear power, railway, and geophysics markets. The company's industrial equipment business, which represents approximately 20 percent of total revenues, serves the automation, medical equipment, and autosport markets.

Esterline Technologies Corporation

The purchase bolstered Esterline's Sensors & Systems segment and reinforced the company's presence in France, which includes facilities in Bourges, Niort, and Sarralbe.

Teaming/Competition/Joint Ventures

GAMCO. In December 2003, CMC Electronics formed a marketing alliance with Abu Dhabi-based Gulf Aircraft Maintenance Company (GAMCO) to upgrade the cockpit avionics of classic commercial and military aircraft. This alliance was launched when the Dubai Air Wing selected GAMCO as the prime contractor for its C-130 cockpit upgrade, and CMC Electronics was chosen as the avionics systems integrator for the project. CMC Electronics will supply its CMA-900 flight management system as the core of the upgrade, and GAMCO will be responsible for all program depot maintenance requirements and a new cargo-handling system, as well as the installation of the aviation upgrade systems.

Israel Military Industries. In June 2010, Esterline Defense Technologies (EDT) and Israel Military Industries joined forces to produce and market IMI's new advanced covert flares in the United States. These countermeasures decoy flares provide protection against various infrared guided missile threats at both low and high altitudes.

Lockheed Martin. In June 2018, Esterline Belgium (formerly Barco Defense & Aerospace) signed a Memorandum of Agreement with Lockheed Martin as part of the F-16 Replacement Program's essential security interests. Through this agreement, both companies will seek to develop further long-term partnerships if the Belgian government decides to choose the F-35 as successor for its F-16s.

Financial Results/Corporate Statistics

For the year ended September 30, 2017, Esterline Technologies reported sales of \$2.0 billion, relatively unchanged from FY16. Net income for FY17 was \$112 million, compared with \$98 million for the same period a year earlier. Approximately 3 percent of Esterline's 2017 sales were made directly to the U.S. government. The company estimates that subcontracting activities for U.S. government prime contractors accounted for approximately 18 percent of sales during the year (2016: 15 percent). Historic results have been restated to the company's current presentation.



Esterline Technologies (NYSE:ESL)					
(USD millions)	2013	2014	2015	2016	2017
Net Sales	1,867	2,029	2,003	1,993	2,000
Net Income	165	102	87	98	112
Sales to Gov't	113	82	60	60	60
Percent Gov't Sales	6%	4%	3%	3%	3%
R&D Expenditures	89	98	100	100	110
Backlog	1,200	1,100	1,200	1,300	1,300
Long-Term Debt	538	510	701	699	709
Shareholder Equity	1,874	1,888	1,537	1,605	1,835
Debt-to-Equity Ratio	.28	.26	.45	.43	.38
Employees	12,049	12,874	13,290	13,572	13,255



Industry Segments

A breakdown of the firm's net sales and operating income by business segment for the past five years follows. Totals may have been rounded.

SALES	2013	2014	2015	2016	2017
(USD millions)					
Avionics & Controls	718	767	826	862	841
Sensors & Systems	676	771	715	696	724
Advanced Materials	473	491	462	436	435
TOTAL	1,867	2,029	2,003	1994	2,000

OPERATING INCOME	2013	2014	2015	2016	2017
(USD millions)					
Avionics & Controls	108	120	93	81	91
Sensors & Systems	88	86	84	82	87
Advanced Materials	109	105	91	75	74
TOTAL	305	311	268	238	252



GEOGRAPHIC SALES	2013	2014	2015*	2016	2017
(USD millions)					
United States	946	1,015	933	1,088	1,080
Canada	239	239	177	187	190
France	463	522	408	450	470
United Kingdom	250	289	266	262	238
Other	116	130	244	331	353
Eliminations	-149	-166	-254	-325	-331
TOTAL	1,865	2,029	1,774	1,993	2,000

* Esterline changed its fiscal year effective with the year ending September 30, 2016. As a result, the company's 2015 fiscal period was shortened from 12 months to an 11-month transition period ended on October 2, 2015. Data for this chart was NOT restated by the company.

Major Competitors

Esterline Technologies identifies its major competitors as Astronautics, BAE Systems, Bose, Eaton, Elbit, EMS, GE Aerospace, Honeywell, IAI, L3 Technologies, Leonardo (Selex), Otto Controls, RAFI, Rockwell Collins, Telephonics, Thales, Ultra Electronics, Universal Avionics Systems Corporation, and Zodiac. In the Avionics & Controls segment, competitors are Ametek, Amphenol, Eaton, Meggitt, STPI-Deutsch, TE Connectivity, and Zodiac. In the Sensors & Systems segment, competitors are Chemring, Doncasters, Hi-Temp, J&M, JPR Hutchinson, Kmass, Meggitt (including Dunlop Standard Aerospace Group), Rheinmetall, Trelleborg, ULVA, UMPCO, and UTAS. In Advanced Materials, Woodward Products is a competitor.



Strategic Outlook

Following years of building itself up through acquisitions, Esterline now finds itself on the other side of the table following TransDigm's move to acquire the firm for \$4.0 billion.

Esterline Technologies itself is not considered a prime contractor. Instead, the firm contents itself with being a key Tier II or Tier III supplier. In other words, it supplies components to subcontractors (Tier I), which in turn supply the program primes.

Here there has been some turbulence in the market. As prime contractors have been constantly looking for ways to reduce costs, they are bringing component production in-house. This is a big change from the past, when the "make or buy" decisions usually fell on the buy side of the equation. Most recently, both Airbus and Boeing have announced plans to build more parts themselves. For example, Boeing announced in May 2018 it would buy parts company KLX for \$3.2 billion.

To counter this move, subcontractors themselves have been adding critical mass to their operations. At the same time the TransDigm/Esterline merger was announced, Harris and L3 Technologies announced their own tie-up. Meanwhile, UTC Aerospace's pending buy of Rockwell Collins should be completed shortly following the divestiture of some assets to satisfy antitrust concerns.

The goal of all these recent amalgamations is to be a one-stop shop for as many components as possible on current aircraft programs, thus providing greater advantage in negotiating cost-reduction agreements with OEMs.

Overall, the addition of Esterline's broad subcontracting portfolio will integrate well with TransDigm. Esterline has many solid positions in both the OEM and aftermarket areas and has substantial content on many key commercial, regional and business jet aircraft, as well as on many major defense platforms. Overall, it will be a very complementary acquisition that builds TransDigm's presence in this hyper-competitive marketplace.

Prime Award Summary

The following chart and table show the dollar volume of federal prime contracts awarded from 2013 through 2017, and the top 100 rank (if applicable) of the company in terms of federal contracts for each of the five years. For more information, refer to Appendix I, "Recipients of Federal Contract Awards."

Esterline	2013	2014	2015	2016	2017
(USD millions)					
Rank	-	-	-	-	-
Total Federal Awards	59.8	46.8	88.2	93.6	89.6



Source: http://www.usaspending.gov

Program Activity

Esterline Technologies and its subsidiaries are subcomponent producers to many industry prime contractors. According to the company, some of its largest customers include Boeing, Honeywell, BAE Systems, Lockheed Martin, GE Aviation, and Sikorsky for Avionics & Control systems; Flame, Safran, Rolls-Royce, General Electric, Avnet, Boeing, Honeywell, and BAE Systems for Sensors & Systems products; and Orbital ATK, Boeing, General Dynamics, KAPCO, Honeywell, Lockheed Martin, and Goodrich for various Advanced Materials goods.

Some specific programs of major importance currently underway at Esterline Technologies are listed below.

Aircraft Programs

Airbus A400M

The A400M is a four-engine, turboprop-powered military transport aircraft. Esterline Technologies is developing the primary electrical power distribution system for the A400M airframe.

Bell UH-1/Model 204/205/212/412

Bell Helicopter and Esterline CMC Electronics have developed a new GPS sensor to replace the existing Doppler or inertial velocity sensors that 412-series helicopters use to measure their speed during automated approach-to-hover and hover-hold maneuvers.

Boeing 777X

In June 2014, Boeing chose Esterline's Korry flight deck control panels and associated software for the 777X program. The equipment being supplied includes 26 modular flight deck panels that pilots use to monitor and control aircraft systems. Esterline will design and manufacture the panels at its Everett, Washington, facility under the Korry product brand, and the panels will feature Esterline's AVISTA software and Mason rotary switches.

Boeing 787

This is a long-range, twin-engine commercial transport seating 242 passengers in a typical three-class seating arrangement. Short-range and extended-cabin variants



are also offered. Esterline Technologies is a Tier 1 supplier to the 787, providing all of the cockpit overhead panels plus the embedded software.

Bombardier CSeries (now Airbus A220)

This is a short- to medium-range regional transport designed for the 110- and 130-seat market. Esterline Technologies is providing integrated cockpit control panels for the aircraft.

Embraer KC-390

In January 2012, Esterline announced that its Sylmarbased Control Systems operation had been selected by Embraer Defense and Security to design and manufacture the rudder pedal stations, flap selectors, speed brake LRUs, landing gear levers, wheel tiller, and autobrake switch control panels for the KC-390 military transport/tanker program. Earlier, in October 2011, the unit was selected to supply the thrust control quadrant assembly for the aircraft.

Lockheed Martin F-35 JSF

In March 2011, Lockheed Martin Aeronautics Company selected Esterline's Engineered Materials operation to supply sealing and low-observable products for the multirole F-35 Lightning II. The agreement, valued at more than \$190 million, covered the low-rate production phase of the program, estimated to include 596 aircraft to be produced through the year 2017. Two Esterline Engineered Materials locations – Kirkhill Elastomers in Brea, California, and TA Aerospace in Valencia, California – would actively participate in meeting the requirements of this agreement. In addition to engineered materials, Esterline supplies the F-35 with a variety of other technical solutions, ranging from specialized sensors and systems to avionics and controls.

Electronics Programs

CMC Electronics produces a variety of airborne electronic systems, including flight management systems, flight and displays management systems, GPS receivers, mission computers, and navigation sensors.

PilotView Electronic Flight Bag

CMC's PilotView EFB improves productivity by enabling access to up-to-date aircraft documentation and flight-planning information. PilotView provides en route approach charts, a moving map display, and real-time weather information. It is a compact, lightweight system with a display/processor unit featuring a wireless connection. PilotView is easy to install in a variety of cockpits where space is at a premium. CMC has been delivering units to customers since November 2004.

Aviation Gas Turbine Programs

CFM International CFM56

The CFM56 is a two-spool, axial-flow, high-bypassratio, subsonic turbofan engine used on commercial and military transport aircraft. Esterline is the sole-source supplier of temperature probes for use on all versions of the CFM56 jet engine.

Europrop International TP400-D6

The TP400-D6 aviation turboprop is primarily used on very large fixed-wing military and commercial aircraft. Its current application is the Airbus A400M military transport. Esterline is providing sensor suites for the TP400-D6. Concurrently, the company is developing the primary electrical power distribution system for the A400M airframe.

Rolls-Royce Trent

In January 2014, Esterline's Advanced Sensors operation signed an agreement to collaborate on the Rolls-Royce Trent XWB-97 aero engine program. The XWB-97 powers the Airbus A350-1000 aircraft, and Esterline Advanced Sensors will be solely responsible for integration of the sensors system package for the engine. As such, Esterline will supply approximately 30 separate components in the sensors package. Collectively, Esterline Advanced Sensors' agreements with Rolls-Royce have resulted in exclusive partnerships to supply sensors for the entire line of Trent XWB engines that power all current Airbus A350 variations.

U.S. Contract Awards

Below are recent major contracts awarded to Esterline's **Armtec** in the past several years from the U.S. government (contracts as of press date). Note that the Description section is excerpted directly from U.S. DoD listings. For full details on individual contracts and their associated modifications, visit http://www.defense.gov/contracts and enter the contract number in the "Search Contracts" box.

Date	Award (USD millions)	Contract #	DESCRIPTION
2014			
4/28/14	11.4	W52P1J-09-C-0055	390,800 M206 DECOY COUNTERMEASURE FLARES (389,300 FOR U.S. AIR FORCE & 1,500 FOR U.S. ARMY) FOR PROTECTION OF HELICOPTERS & LOW- ALTITUDE AIRCRAFT.
4/30/14	9.9	W15QKN-14-D-0004	DESIGN, DEVELOP, MAINTAIN & MANUFACTURE SYSTEMS USING COMBUSTIBLE & CONSUMABLE PRODUCTS TECHNOLOGY FOR THE ARMY RESEARCH, DEVELOPMENT & ENGINEERING COMMAND.
5/1/14	29.9	N00104-14-D-K064	MANUFACTURE OF THE SIMULATOR, FLARE, AND SM-875B/ALE. THE SM-875B/ALE IS A TRAINING FLARE THAT CAN BE USED TO FAMILIARIZE PILOTS & ORDNANCE TECHNICIANS WITH OPERATIONAL USE & HANDLING OF DECOY FLARES.
6/12/14	20.9	N00104-14-D-K084	CHAFF CARTRIDGES IN SUPPORT OF AIRBORNE CHAFF COUNTERMEASURES.
11/3/14	9.5	W52P1J-15-C-0005	FMS CONTRACT (SINGAPORE, INDIA, TAIWAN & OMAN) WITH OPTIONS FOR M206, MJU-7 & MJU-10 INFRARED COUNTERMEASURE (IRCM) FLARES.
11/26/14	48.5	N00104-15-D-K026	85,208 MJU-64/B DECOY DEVICES, PROVIDING AIRCRAFT SURVIVABILITY & PROTECTION AGAINST INFRARED THREATS.
2015			
3/30/15	31.0	W15QKN-15-D-0004	M231/M232A1 COMBUSTIBLE CASE ASSEMBLIES.
5/28/15	23.1	W52P1J-15-C-0005	486,600 M206, 34,059 MJU-10/B, AND 57,720 MJU-7A/B COUNTERMEASURE FLARES.
6/23/15	23.3	W15QKN-15-D-0054	M211, MJU-50A/B, AND MJU-51A/B DECOY IRCM FLARES.
2016			
3/1/16	9.1	FA8213-16-C-0027	REPLENISHMENT OF MJU-53/B IRCM FLARES.
6/7/16	25.3	W52P1J-15-C-0005	FMS CONTRACT (PAKISTAN, ROMANIA, UAE, SAUDI ARABIA) FOR IRCM FLARES.
10/16/16	7.4	N00164-13-G-WR02	AIRBORNE EXPENDABLE IRCMs.
12/16/16	47.0	FA8213-17-D-0002	REPLENISHMENT OF BBU-48 A/B IMPULSE CARTRIDGES. FMS TO SAUDI ARABIA, UNITED ARAB EMIRATES, EGYPT, AND NATO.
2017			
6/28/17	23.0	N00104-17-C-K085	MANUFACTURE OF MJU-71/B DECOY FLARES IN SUPPORT OF THE AIR EXPENDABLE COUNTERMEASURES PROGRAM FOR THE ADVANCED TACTICAL AIRCRAFT PROTECTION SYSTEMS PROGRAM OFFICE.
8/8/17	18.0	W52P1J-15-C-0005	PROCUREMENT OF IRCM FLARES (409,400 M206, 42,840 MJU-7A/B & 11,472 MJU-10/B).
11/7/17	12.6	FA8213-16-C-0027	MODIFICATION TO A PREVIOUSLY AWARDED CONTRACT FOR DELIVERABLE MJU-53/B AIRCRAFT COUNTERMEASURE FLARES & FOR THE EXERCISE OF AN OPTION FOR AN ADDITIONAL QUANTITY OF 200,000 UNITS BEING PRODUCED UNDER THE BASIC CONTRACT.
2018			
1/18/18	12.3	N00104-18-D-ND01	CHAFF COUNTERMEASURE RR-196/AL AND/OR CHAFF COUNTERMEASURE TRAINING RR-196 (T-1)/AL, USED IN RADAR COUNTERMEASURES.
6/11/18	33.8	N00104-18-D-NY01	MANUFACTURE OF SIX DIFFERENT CHAFF CARTRIDGES USED IN RADAR COUNTERMEASURES IN SUPPORT OF THE AIRBORNE EXPENDABLE COUNTERMEASURE PROGRAM.

Date	Award (USD millions)	Contract #	DESCRIPTION
6/26/18	9.1	N00164-13-G-WR02	AIRBORNE EXPENDABLE INFRARED
			COUNTERMEASURES.
6/29/18	14.8	W52P1J-15-C-0005	IRCM FLARES.
9/11/18	35.8	W15QKN-15-D-0004	PRODUCTION & DELIVERY OF MODULAR ARTILLERY
			CHARGE SYSTEMS, M231/M232-SERIES
			COMBUSTIBLE CASE CARTRIDGES.
9/14/18	48.6	N00104-18-D-PJ01	MANUFACTURE OF MJU-61 A/B INFRARED
			COUNTERMEASURE FLARES IN SUPPORT OF THE
			AIRBORNE EXPENDABLE COUNTERMEASURE
			PROGRAM WITHIN THE ADVANCED TACTICAL
			AIRCRAFT PROTECTION SYSTEMS PROGRAM
			OFFICE.

* * *