BAE Systems Ramps F-35 Electronic Warfare System Production

An F-35C Lightning II carrier variant joint strike fighter launches from the flight deck of the aircraft carrier USS Nimitz (CVN 68). *U.S. NAVY / Mass Communication Specialist Seaman Shauna C. Sowersby*

NASHUA, N.H. – BAE Systems Inc. is providing Lockheed Martin with additional electronic warfare (EW) systems, retrofit kits, and spares for the F-35 Lightning II aircraft, BAE said in a June 28 release. The contract builds on BAE Systems' on-time delivery of more than 800 state-of-the-art AN/ASQ-239 electronic warfare/countermeasure systems to date, providing F-35 jets with critical situational awareness and survivability capabilities.

"We've delivered cutting-edge electronic warfare systems for every F-35 fighter," said Deb Norton, vice president of F-35 Solutions at BAE Systems. "Our team is focused on manufacturing excellence and execution, providing agile, adaptable systems to outpace the current and future threat."

This Lot 16 award comes as BAE Systems delivers Lot 14 systems and executes material orders for Lot 15. The company is currently producing 18 shipsets a month as it ramps production to more than 20 shipsets a month in 2022 to match F-35 aircraft Low-Rate Initial Production.

The AN/ASQ-239 EW system provides advanced offensive and defensive capabilities that enable the F-35 to engage complex and highly capable threats. The innovative system is designed for performance, manufacturability, sustainability, and future upgradability.

BAE Systems is a leader in system affordability, having reduced the cost of the F-35 EW system by 77% since it was first produced and achieving all affordability targets since the inception of the program. The company is also among Lockheed Martin's highest-rated suppliers for both quality and on-time delivery.

BAE Systems also is a leader in EW – designing, manufacturing, and sustaining some of the most advanced systems in the world. The company is focused on agile engineering, manufacturing, and sustainment solutions to accelerate the transition of laboratory innovations to the field. The company's expertise in performance-based logistics has yielded a 60% improvement in F-35 EW system availability.

The AN/ASQ-239 system is manufactured at the BAE Systems state-of-the-art EW production facility in Nashua, N.H.

NGC to Build More Large Aircraft Infrared Countermeasure Systems

Crucial to keeping aircrews safe, LAIRCM automatically detects emerging missile threats and uses a high-intensity, laser-based countermeasure system to track and defeat missiles. *NORTHROP GRUMMAN*

ROLLING MEADOWS, Ill. – Northrop Grumman Corp. will install more life-saving Large Aircraft Infrared Countermeasure (LAIRCM) systems on U.S. and international fixed-wing and rotary wing aircraft under a $146 million order from the U.S. Air Force, the company said in a June 25 release.

The award is part of an existing indefinite delivery, indefinite quantity contract to Northrop Grumman for LAIRCM upgrades, modifications and installations on a wide range of Air Force, Navy and Marine Corps aircraft, including the C-17, C-5, C-130J, P-8, CH-53K, KC-46 and platforms operated by international customers.

“Northrop Grumman has been protecting U.S. Air Force platforms from missile threats for more than 25 years,” said Bob Gough, vice president, navigation, targeting and survivability at Northrop Grumman. “We remain steadfast in our commitment to delivering advanced aircraft survivability systems that help ensure aircrews make it home safely.”

Northrop Grumman’s family of countermeasure systems such as LAIRCM and the new Common Infrared Countermeasure system are installed on more than 1,500 aircraft of 85 different types, providing spherical protection by detecting, tracking and jamming incoming infrared threats. The most advanced aircraft survivability equipment available, it defeats threats by directing a high-intensity laser beam into the eye of the fast-moving missile’s infrared seeker.

DoD Data Assistance Teams Going to Combatant Commanders in New AI Initiative

The Naval Surface Warfare Center Dahlgren Division’s Sly Fox Mission 23 team demonstrates autonomous remote tactical engagement multi-domain intelligence swarm capabilities, in Dahlgren, Virginia, Aug. 7, 2018. *U.S. NAVY / John Joyce*

ARLINGTON, Va. — U.S. combatant commanders around the globe will be the first to get data handling assistance from the Pentagon's new artificial intelligence (AI) initiative, because they work in the toughest decision-making environments, the head of the Joint Artificial Intelligence Center says.

"The hard work of creating successful environments and implementing AI in the dirty, dangerous, challenged warfighting environments right at the edge is what really matters," Marine Corps Lt. Gen. Michael Groen told reporters at a Pentagon press briefing June 24.

Transforming the Defense Department (DoD) from a platform-centric organization, where each military service has its own technology silo, into one integrating AI, machine learning and other technologies at scale to stay ahead of peer competitors "is truly the challenge of a generation," said Groen, director of the Joint Artificial Intelligence Center (JAIC).

To accelerate progress on the Joint All-Domain Command and Control (JADC2) strategy DoD launched an AI and Data Acceleration (ADA) Initiative, Deputy Defense Secretary Kathleen Hicks announced June 21 at the DoD Artificial Intelligence Symposium and Tech Exchange.

JADC2 aims to connect sensors from all of the services into a single network, sharing intelligence, surveillance and reconnaissance data to enable faster decision making. The change is needed because in a digital-driven world, decisions in future conflicts with degraded environments will have to be made swiftly, perhaps within seconds, say Pentagon officials.

In a supporting memo, Hicks stated the ADA Initiative will support Combatant Commands in "integrating and scaling ongoing and proven capabilities used in real-world operations, simulations, experiments and demonstrations." The goal is to rapidly advance data and AI-dependent concepts, like JADC2, to

the ADA initiative and generate capabilities through a series of experiments and exercises – each one advancing l learning a step further.

“A key part of an AI-ready department is a strong data foundation,” Hicks told the symposium in a virtual appearance. “Data enables the creation of algorithmic models, and, with the right data, we are able to take concepts and ideas and turn them into reality,” she added.

The initiative is creating operational data teams that will be forward-deployed within 30 days to the data office at all 11 combatant commands. The teams will catalog, manage and automate data feeds to assist warfighters in making their data visible, accessible, understandable, linked, trustworthy, interoperable and secure.

DoD will build on that with additional “flyaway teams of technical experts” to help combatant commands streamline and automate workflows through the integration of AI. The expert teams, expected to be dispatched within 60 to 90 days, will support continuous experimentation to improve commanders’ ability to act with speed and precision.

The combatant commanders are getting the operational data teams “because they have their own exercise environments, but they [also] have real decision environments, really the toughest decision environments of anybody, and yet they don’t often have a lot of tools to deal with those kinds of things,” Groen said.

Kongsberg, Javelin JV Demonstrate Future Lethality During Live Fire Exercise

The RCV-L can be equipped with a Tethered Unmanned Aerial System, a small drone that can be deployed to conduct aerial reconnaissance while the vehicle is at a safe distance. Other equipment to be tested on the RCV-L experimental prototype includes the M153 Common Remotely Operated Weapons Station II (CROWS II), the .50 caliber M2 machine gun, and the 40mm MK19 Mod 3 automatic grenade launcher. *MICHIGAN NATIONAL GUARD / Bruce Huffman*

JOHNSTOWN, PENN., June 25, 2021 – In collaboration with the U.S. Army, Kongsberg Defence and Aerospace and the Javelin Joint Venture (JJV) conducted a four-shot, multi-platform Javelin demonstration at the U.S. Army Redstone Test Center in Alabama on May 25, 2021. Three different vehicles were each equipped with different configurations of the Kongsberg Common Remotely Operated Weapon Station-Javelin (CROWS-J) and Protector RS6 Remote Weapon Station (RWS).

“Kongsberg has solidified its position as the remote weapon station of choice for Javelin deployment across a broad range of platforms. Our remote weapon stations are powerful force multipliers, especially given that we’re delivering a Multi-User Multi-Station [MUMS] capability to facilitate advanced target sharing and cooperative engagement,” said Jason Toepfer, director for Army Business Development (U.S.) at Kongsberg Defence and Aerospace. “Our continued investments in the architecture and platforms overall maximize the U.S. military’s current inventory, training and provisioning while providing groundbreaking advancements in capability.”

During the demonstration, three different Kongsberg remote weapon station configurations on three unique ground platforms

fired Javelin, successfully engaging targets each time. Using QinetiQ North America's Robotic Combat Vehicle-Light (RCV-L), Kongsberg executed a fully remote firing of Javelin using CROWS Tech Refresh control components. This was a first for the Army's official RCV-L platform and demonstrated Tech Refresh's backwards compatibility with legacy CROWS systems.

Another firing demonstrated Kongsberg's capability to fire Javelin on a 4×4 platform from a previously qualified and fielded system within the inventory on an 8×8 platform – the same Kongsberg RWS that is currently fielded with Stryker brigades in Germany.

Finally, Kongsberg continued to showcase its Protector RS6 (30x113mm) platform by successfully firing javelin from a lightweight, Ground Mobility Vehicle. The RS6 RWS is the system selected by the U.S. Marine Corps for the Marine Air Defense Integrated System program. This Javelin firing is one of several conducted from this station and further demonstrates the inherent flexibility of the RS6 design, allowing users to address a broad range of threats and operational needs – C-UAS, SHORAD, ATGM, Maneuver Support, Manned/Unmanned Teaming – from a single system.

With more than 20,000 systems delivered worldwide and 14 years of CROWS experience, Kongsberg will continue to support Soldiers with new systems, capabilities and features meeting tomorrow's requirements while maintaining, supporting and keeping up to date a wide range of CROWS variants and support equipment. All CROWS and RWS systems are produced in the Kongsberg Johnstown, Pennsylvania, facility. Continuing the execution of this contract secures more than 3,000 jobs, both directly and through the Kongsberg U.S. supply chain. With systems sold to 26 nations, Kongsberg is the world-leading provider of remote weapon stations.

Leonardo DRS Awarded Contract for 150+ P5 Combat Training Systems for F-35

Leonardo DRS' Airborne & Intelligence Systems business will provide additional P5 Combat Training Systems for the F-35 Lightning II under a new contract. *LEONARDO DRS*

ARLINGTON, Va. – Leonardo DRS Inc.'s Airborne & Intelligence Systems business division was awarded a contract from Cubic Mission and Performance Solutions (CMPS), a division of Cubic Corporation, to deliver additional P5 Combat Training Systems (P5CTS) for the F-35 Lightning II, Leonardo announced in a June 24 release.

Under the contract Leonardo DRS will deliver two more production lots of its P5CTS internal subsystems for Lockheed Martin's F-35 Air Combat Maneuvering Instrumentation (ACMI) system.

"We are honored to provide our advanced and high-performing air combat training technologies to the U.S. military services and air forces of allied countries so their pilots can effectively train to achieve the highest levels of proficiency in air combat," said Larry Ezell, vice president and general manager of the Leonardo DRS Airborne & Intelligence Systems business unit.

Military services are increasingly moving toward multi-domain operations, and since 2013, Leonardo DRS has delivered more than 779 of its P5CTS internal subsystems for the F-35 to provide training to counter and keep ahead of growing global adversarial threats.

The P5CTS internal subsystem is unlike traditional external training pods used on legacy 4th generation fighter aircraft. The internal subsystem supports 5th generation and 4th generation combat training operations.

“Leonardo DRS’ unmatched ability to integrate ACMI systems onto fighter aircraft, either externally in pods, or internally in the F-35 continues to provide the warfighter the information they need to maximize the value of their training for current and future combat,” said Ezell. “Through disciplined engineering and manufacturing processes, along with in-depth understanding of the conditions ACMI systems are required to perform under, we are able deliver the vital training systems to the F-35 for these production lots, as well as future F-35 requirements.”

The air combat systems are being delivered to the U.S. Air Force, U.S. Navy and international partner nations.

These training systems are designed to address emerging needs for customers as global threats evolve. The P5CTS is part of the Leonardo DRS advanced sensor technology portfolio which has an extensive installed–base across the U.S. military.

Crane Ships, Heavy Lift Ships, Tanker Retired from Sealift Fleet

Landing Craft Air Cushion 33 exits from the elevator of SS Cape Mohican (T-AKR 5065) during Exercise Brilliant Zenith 2015. Cape Mohican has now been retired. *U.S. NAVY / Mass*

Communication Specialist 3rd Class Eric Chan
ARLINGTON, Va. – Five sealift ships are now in various stages of recycling now that they have been retired from the Ready Reserve Force (RRF), which provides sealift ships when mobilized in support of the Navy's Military Sealift Command, a component of U.S. Transportation Command (USTRANSCOM).

The RRF, administered by the Department of Transportation's Maritime Administration (MARAD), now keeps 41 ships – down from 46 – in a reduced operating status available for activation within five days for national emergencies or other mission assignments.

"Five ships have been removed from the RRF, following a determination from DoD/USTRANSCOM/Navy that there no longer existed a requirement for these ships," said a DoT Spokesperson. "This is a fairly common occurrence. For example, in 1993 we had 102 ships in the RRF, today there are 41. As to the vessel disposition, they will all eventually be relocated to one of MARAD's reserve fleet sites and later recycled.

Two auxiliary crane ships – SS Flickertail State on the East Coast and SS Grand Canyon State on the West Coast – have been withdrawn from service, leaving two crane ships available on each coast.

The RRF's only two heavy lift ships – SS Cape May on the East Coast and SS Cape Mohican on the West Coast – have been retired.

Also retired on the West Coast was the SS Petersburg, an offshore petroleum distribution system tanker.

HII Announces First International Order for REMUS 300 UUVs

Four of Huntington Ingalls Industries' REMUS 300 unmanned underwater vehicles have been ordered by the Royal New Zealand Navy for use in mine countermeasure and survey operations. *HUNTINGTON INGALLS INDUSTRIES*

NEWPORT NEWS, Va. – The Royal New Zealand Navy has placed the first international order for four REMUS 300 unmanned underwater vehicles (UUVs), Huntington Ingalls Industries announced in a June 21 release.

"We are pleased New Zealand is upgrading their fleet with new REMUS 300 UUVs," said Duane Fotheringham, president of the Unmanned Systems business group in HII's Technical Solutions division. "Technology has progressed significantly over the past few years, and the REMUS 300 represents one of the most advanced man-portable UUVs on the market today. We look forward to continuing our long-standing relationship with the Royal New Zealand Navy."

New Zealand has a fleet of six REMUS 100 UUVs that are used for mine countermeasures and underwater survey operations. The Royal New Zealand Navy has also used its REMUS vehicles for search and recovery, including locating the wreck of the Princess Ashika ferry in 2009 and assisting with the White Island volcano search effort in 2019.

"We have a fleet of six REMUS 100 UUVs we have been using consistently for the past 14 years," said Captain Garin Golding, Royal New Zealand Navy. "The flexibility and modularity of the REMUS 300 will allow us to tailor the vehicles to specific missions, further augmenting our capabilities."

Designed for modularity and portability, the REMUS 300 can be reconfigured with a range of sensors and payloads to meet mission requirements. In addition to the four vehicles, New Zealand acquired high-definition camera modules and additional swappable battery modules. The sale was facilitated through New Zealand Ocean Technology, HII's REMUS sales and in-country support partner. Delivery of the four REMUS 300s is expected by summer 2022.

MBDA Tapped to Provide Sea Ceptor Missile to Brazilian Navy

MBDA will provide its Sea Ceptor air defense missile to Brazil's navy under a new contract. *MBDA*

MBDA has been awarded a contract to equip the Brazilian navy's new Tamandaré-class frigates with the Sea Ceptor air defense missile system, the company announced June 17.

Sea Ceptor is a smart weapon control system that, together with the fully-active Common Anti-air Modular Missile (CAMM), provides comprehensive self-defense and local area air defense.

This will enable Brazil's Tamandaré-class frigates to protect themselves, consorts and fixed infrastructure against the full range of threat types at sea or in harbor, and in the most stressing operational scenarios. Sea Ceptor is in operational service with the Royal Navy's Type 23 frigates, and has been selected for the new Type 26 and Type 31 frigates.

Brazil joins Chile, New Zealand and Canada in a growing list of international Sea Ceptor users. The CAMM missile has also been delivered to the British Army in the ground-based air defense role.

Boeing, ESG, Lufthansa Technik Partner for Potential German P-8A Poseidon Fleet Support

Boeing signed agreements with ESG and Lufthansa Technik that outline joint efforts to explore potential areas of collaboration in systems integration, training, support and sustainment work in anticipation of Germany selecting the P-8A as its next maritime surveillance aircraft. *BOEING*

BERLIN – Boeing signed agreements June 17 with ESG (Elektroniksystem-und Logistik-GmbH) and Lufthansa Technik that outline joint efforts to explore potential areas of collaboration in systems integration, training, support and sustainment work, Boeing said in a release. The signed memorandum of understanding may lead to more definitive agreements should Germany select the P-8A Poseidon as its next maritime surveillance aircraft.

“Together with ESG and Lufthansa Technik, we will offer indigenous and cost-effective support, training and maintenance solutions that will bring the highest operational availability to the German Navy to fulfill their missions,” said Dr. Michael Haidinger, president of Boeing Germany, Central & Eastern Europe, Benelux & Nordics. “Our partnership

with ESG and Lufthansa Technik is another testimony to who we are and how we operate in Germany. We are shaping meaningful and long-term industry partnerships that impact the local economy."

Boeing, ESG and Lufthansa Technik have identified opportunities to collaborate in a number of areas and will explore these in more detail, including training and simulation, cyber security, systems integration, certification, environmental compliance, communications systems, electronic attack and electronic protect systems, aircraft and engine sustainment, component support services, predictive maintenance analysis and logistics services.

"This cooperation agreement underlines once again that we take our responsibility seriously when it comes to ensuring urgently needed capabilities," said Christoph Otten, CEO of ESG. "As Boeing's strategic partner for the P-8A Poseidon fleet, we are pleased to be able to make the Bundeswehr a viable offer characterized by effectiveness, efficiency and the reliable delivery of services. As a long-standing partner of the German Bundeswehr and Navy aviators, ESG stands ready with its proven core competencies, solutions, services and products, particularly in the areas of systems integration, aviation certification and secure communication systems."

Lufthansa Technik has a long history in technical support of Boeing airplanes around the world. In addition, under Boeing's Performance-Based Logistics program, Lufthansa Technik also provides hardware support to the Italian fleet of Boeing KC-767A tankers and has facilitated outstanding aircraft availability for the Italian air force.

"Lufthansa and Lufthansa Technik are partners with Boeing for more than 60 years. The companies know and value each other. This partnership is an excellent starting point for us to provide technical support at the highest level for this new aircraft, should our long-standing customer, the German

Bundeswehr, procure P-8A," said Michael von Puttkamer, Head of Special Aircraft Services, Lufthansa Technik.

The P-8A Poseidon offers unique multimission aircraft capability and is the only aircraft in service and in production able to meet the full range of maritime challenges faced by European nations. With the P-8A, Germany will be able to leverage full integration and interoperability with NATO nations in the region. Additionally, the P-8A offers significant capability to meet Germany's collective defense obligations as part of Germany's NATO membership and commitment to EU defense and security, including the maritime domain.

Other German companies that already supply components to the P-8A Poseidon include Aljo Aluminium-Bau Jonuscheit GmbH and Nord-Micro GmbH.

Metaspectral to Provide Canadian Defence with AI/ML Technology to Help Lookouts

A crew member onboard Her Majesty's Canadian Ship (HMCS) St. John's performs lookout duty on the bridge during Exercise Joint Warrior, taking place off the coast of Scotland during Operation Reassurance, April 24, 2018. *FORMATION IMAGING SERVICES / Cpl. Tony Chand*

VANCOUVER, B.C. – Metaspectral, a company offering technology that makes it possible to derive real-time insights from AI using ultra-high-resolution, visible-to-infrared (hyperspectral) imagery, was one of a select few

companies awarded up to $200,000 as the first funding component of the Department of National Defence's Innovation for Defence Excellence and Security (IDEaS) program for the Better Than Meets the Eye challenge.

The Department of National Defence and the Canadian Armed Forces (DND/CAF) were seeking innovative solutions to assist maritime lookouts in detecting, characterizing, and tracking objects of interest to improve the efficiency and safety of maritime operations.

"The role of the maritime lookout is crucial. They are often the first to observe danger at sea, and the safety of ships depends on them. A lookout must spot and quickly identify navigational hazards or other threats," said, Migel Tissera, Metaspectral chief technology officer. "But we cannot ignore the fact that after long hours, lookouts may become fatigued and are more likely to be prone to human error. This is further compounded by fog and other weather conditions that can reduce visibility."

The Navy will continue to rely on human lookouts but is also seeking innovative solutions to augment and support a lookout's ability to see, accurately characterize, and track all items of interest within the range of vision, especially in conditions of low visibility.

"We are designing technology that will use machine learning to enhance the capabilities of marine lookouts. Our technology has the ability to collect and process unprecedented quantities of data from across the electromagnetic spectrum, creating ultra-high-definition images," added Tissera. "Because we can compress data without losing quality, our technology retains more of the original images than has been previously possible. This will make it easier to spot items of interest in high detail."

AI analysis requires high-quality data, the more data that can

be efficiently processed, the better the result.

A prototype by Metaspectral is expected to be ready by the end of the year.

“Metaspectral is proud to be supporting the important safety and security operations of our brave Canadian armed forces,” added Tissera. “This is just one of many practical real-world uses of our proprietary technology. We’re grateful for the opportunity to demonstrate our talents and abilities in this portion of military research and development.”