Advanced Arresting Gear System Completes Performance Testing for Turboprop Aircraft

SAN DIEGO – General Atomics Electromagnetic Systems (GA-EMS)'s Advanced Arresting Gear (AAG) performance testing has been successfully completed for the C-2A Greyhound, E-2C+ Hawkeye and E-2D Advanced Hawkeye aircraft, the company announced in an Oct. 2 release.

The testing supports the Navy's development of a propeller Aircraft Recovery Bulletin (ARB), which is a prerequisite for arresting propeller aircraft aboard USS Gerald R. Ford (CVN 78). The Navy completed the performance testing of the GA-EMS system on the Runway Arrested Landing Site (RALS) at Joint Base McGuire-Dix-Lakehurst in New Jersey.

"The AAG system is designed to arrest a broader range of aircraft and provide higher reliability and safety margins for the U.S. Navy's Ford-class of aircraft carriers," said Rolf Ziesing, vice president of programs at GA-EMS. "As each aircraft is brought in for testing, AAG continues to perform reliably, arrestment after arrestment. The successful turboprop arrestments at RALS mark another significant milestone that moves the Navy closer to initiating recovery testing for these aircraft aboard CVN 78."

The AAG system has been exercised extensively, with more than 800 total roll-in and fly-in aircraft arrestments successfully performed at RALS. In addition, nearly double the approximately 400 planned at-sea F/A-18 E/F Super Hornet recoveries during sea trials and shakedown have been completed aboard CVN 78. GA-EMS continues to collaborate closely with

the Naval Air Systems Command and the shipbuilder to optimize the AAG system and the Electromagnetic Aircraft Launch System (EMALS), and support upgrades during the CVN 78 Post Shakedown Availability (PSA).

“We continue to stress the system, analyze results, and tune the system to ensure maximum performance,” said Dean Key, senior director of EMALS/AAG programs at GA-EMS. “We are on target to be ready for fleet operations when CVN 78 completes its PSA in 2019. We are pleased with AAG’s performance and remain focused on optimizing the system’s capabilities to meet the daily operations and mission requirements for CVN 78 and the next two Ford-class carriers currently under construction.”

AAG is a turbo-electric system designed for controlled deceleration of aircraft. AAG is installed aboard CVN 78 along with EMALS, which uses electromagnetic technology to launch aircraft from the deck of naval aircraft carriers. Both systems have been successfully tested during at-sea periods aboard CVN 78 and are currently in production for the future John F. Kennedy (CVN 79) and Enterprise (CVN 80) aircraft carriers.

Viasat Releases New Security Capabilities for Global Naval Forces

HALIFAX, Nova Scotia – Viasat Inc., a global communications company, has made new security capabilities available for U.S. and international Five Eyes (FVEY) naval forces, the company said in an Oct. 2 release.

Viasat introduced its integrated Mobile Dynamic Defense (MDD) cybersecurity software for use at sea to securely capture and distribute sensitive data to onshore counterparts and defend against rapidly evolving cyber threats during a maritime mission.

MDD is highly valuable for maritime platforms because of its ability to provide the necessary policy enforcement and in-mission configuration flexibility without a connection to a remote management system by using the information assurance "Defense in Depth" model, which weaves together multiple layers of security controls and countermeasures. This model enables the Viasat MDD platform to ensure sensitive information hosted on the end user device (EUD) is continually checked and protected from compromise – even if the EUD is disconnected from the military operations center.

"Hackers are increasingly looking to compromise mobile devices as a way to gain access to classified government and military data," said Ken Peterman, president, Government Systems, Viasat. "By providing Viasat's MDD software, naval personnel now have the ability to provision and configure devices as a mission changes – which can help secure highly-sensitive mission information and defend against emerging cyber threats – even at sea."

MDD software is an integral component of Viasat's comprehensive cybersecurity platform, which analyzes terabits of data across commercial and government networks on a daily basis to defend against some of the world's most sophisticated cyber threats. Viasat currently offers secure, high-speed and resilient satellite communications-enabled services via its Hybrid Adaptive Network concept for a range of U.S. and FVEY military operations.

Viasat's MDD security capabilities are now authorized for purchase by naval and maritime customers in the Five Eyes countries: United States, Canada, the United Kingdom,

Australia and New Zealand.

EMCORE Awarded Inertial Navigation Systems Contract for Maritime Systems Application

ALHAMBRA, Calif. – EMCORE Corp., a provider of advanced mixed-signal optics products that provide the foundation for today's high-speed communication network infrastructures and leading-edge defense systems, has been awarded a contract valued at over $4 million to design and manufacture navigational grade Inertial Navigation Systems (INS) for a maritime systems application, the company said in an Oct. 1 release.

This new INS will be based on the EMCORE-Orion series of navigators which incorporate EMCORE's latest generation fiber-optic gyroscope (FOG) technology. It is designed to be a form, fit and function replacement for legacy LN-100 units used in this application. As part of the contract, EMCORE expects to deliver initial production units that will be used for qualification.

"We are extremely pleased to be selected for this program to develop a navigator for this application," said David Faulkner, EMCORE's vice president and general manager of Aerospace & Defense. "EMCORE demonstrated the advantages of its low-risk production FOG technology and recently developed EMCORE-Orion series INS technology, which were key reasons for being selected for this program."

“This latest contract award results from the innovative fiber optic gyro and inertial sensing technology being developed by our Navigation Systems group,” said Jeffrey Rittichier, EMCORE’s president and CEO. “The investments we are making in this business segment are enabling us to compete and win significant contracts. We look forward to delivering the highest quality product for this program.”

F-35s Join Forces with British Aircraft Carrier to Make History

LONDON – The first F-35 Lightning fighter jets have landed on the deck of the United Kingdom’s new aircraft carrier, making history and marking the beginning of more than half-a-century of “Carrier Strike” operations, the U.K. Ministry of Defence in a Sept. 28 release.

Royal Navy Commodore Nathan Gray and Royal Air Force Squadron Leader Andy Edgell were the first pilots to land their F-35s on board the carrier, demonstrating the formidable force HMS Queen Elizabeth and its fleet of jets will be.

The first landings and takeoffs from HMS Queen Elizabeth are the culmination of a national endeavor lasting more than a decade to bring an aircraft carrier back to the U.K.’s arsenal. Able to embark up to 24 of the supersonic jets, the carrier provides the Royal Navy with a capability possessed by few others.

“The largest warship in British history is joining forces with the most advanced fighter jets on the planet. This marks a

rebirth of our power to strike decisively from the seas anywhere in the world," said Defence Secretary Gavin Williamson. "The historic first landing on the deck of HMS Queen Elizabeth is a monumental moment in our country's proud military history. It is also a statement of Britain's determination to promote peace and prevent war."

The landings mark the start of more than 500 takeoffs and touch-downs set to take place from the mammoth warship during the next 11 weeks, with the jets being put through their paces in a range of weather conditions.

The return of "Carrier Strike" to the United Kingdom comes eight years after a fighter jet last landed on a British carrier.

"I am quite emotional to be here in HMS Queen Elizabeth seeing the return of fixed-wing aviation, having been the captain of the aircraft carrier which launched the last Harrier at sea nearly eight years ago," said the ship's commanding officer, Capt. Jerry Kyd, who was also the captain of HMS Ark Royal when the last Harrier took off from a carrier. "The regeneration of big-deck carriers able to operate globally, as we are proving here on this deployment, is a major step forward for the United Kingdom's defense and our ability to match the increasing pace of our adversaries. The first touch-downs of these impressive stealth jets shows how the United Kingdom will continue to be world leaders at sea for generations to come."

"The Queen Elizabeth-class carriers have been specifically designed and built to operate the F-35 Lightning, offering an immensely flexible and potent combination to deliver military effect around the world," said Cmdr. Andrew Betton, commander U.K. Carrier Strike Group. "Conducting these trials is a critical and exciting step on this journey and I applaud the many thousands of civilian and military personnel who have played a part in bringing the strategic ambition to reality."

While the HMS Queen Elizabeth Class carriers will be able to project British military power across the globe for the next half-century, they can also provide humanitarian relief, deepen defense relationships with key allies and provide critical support to our forces as they are deployed across the world.

Royal Netherlands Navy Successfully Integrates SeeByte's Neptune into Remus 100

EDINBURGH, Scotland – The Royal Netherlands Navy (RNLN) has successfully integrated SeeByte's Neptune into its New Generation Remus 100 fleet, the company announced in a Sept. 28 release.

The vehicles are equipped with SeeByte's goal-based mission planning and autonomy engine software to expedite and optimize single and multivehicle operations.

"We are privileged to be in a position to continue working with The Royal Netherlands Navy and assist in their goal to achieve security at and from the sea," said Alastair Cormack, SeeByte's technical client manager. "With the U.S., U.K. and Canadian navies currently using Neptune software, it is fantastic that the RNLN will now have access to the advanced capabilities we offer."

Neptune can be used to coordinate fleets of unmanned assets for mine countermeasures missions enabling operators to easily

coordinate various assets to search, classify and map, reacquire and identify operations as part of a single mission. By combining all the mission plans and monitoring in a single work station and user interface, teams are able to manage larger fleets of unmanned assets without putting additional strain on the operators.

NAVSEA Assumes Maintenance Functions for SRF-JRMC

WASHINGTON – Commander, Naval Sea Systems Command (NAVSEA), formally assumed responsibility for ship maintenance availabilities at U.S. Naval Ship Repair Facility and Japan Regional Maintenance Center (SRF-JRMC) from commander, U.S. Pacific Fleet (USPACFLT), Oct. 1, NAVSEA said in a release.

NAVSEA's responsibilities include the oversight of all ship maintenance and repair operations, industrial processes and procedures, and repair-related programs. USPACFLT will retain administrative control and budget authority for SRF-JRMC.

"This is a tremendous opportunity for the Navy to implement best practices across all ship maintenance facilities," said NAVSEA Commander, Vice Adm. Tom Moore. "The added synergy will allow us to deliver ships out of maintenance on time and within cost. SRF-JRMC is an outstanding command with a proud and rich history of ensuring the readiness of our forward deployed ships.

"We are thrilled to have them join the One NAVSEA Team. This change will help ensure that the exceptional workforce of SRF-JRMC can benefit from the maintenance expertise NAVSEA brings, putting into practice lessons learned to ensure a streamlined

approach to ship maintenance across the fleet."

Following the 2017 Comprehensive Review and Strategic Readiness Review, the Navy determined that NAVSEA's technical expertise and proven maintenance processes could be harnessed to ensure the delivery of materially-ready ships to USPACFLT.

"NAVSEA is looking forward to directly supporting USPACFLT and providing a smooth transition to ensure alignment of maintenance industrial operations for SRF-JRMC," Moore said. "As the Force Behind the Fleet, NAVSEA is dedicated to delivering deployable ships to the fleet on time and on budget."

In addition to SRF-JRMC, NAVSEA oversees ship maintenance at the Navy's four public shipyards and seven regional maintenance centers.

HII Awarded Advance Procurement Contract for 11th NSC

PASCAGOULA, Miss. – Huntington Ingalls Industries' (HII's) Ingalls Shipbuilding division received a $97 million fixed-price contract from the U.S. Coast Guard on Sept. 28 to purchase long-lead materials for an 11th national security cutter (NSC).

"Every National Security Cutter built at Ingalls Shipbuilding is an immediate and important defender of America's shores when it joins the fleet," said Ingalls Shipbuilding President Brian Cuccias. "This long-lead material award is critical to

the efficient production of these platforms and to the health of our 422 suppliers in 40 states. We look forward to building and delivering another quality ship for the Coast Guard.”

The advance procurement funds will be used to purchase major components for NSC 11, such as steel, the main propulsion systems, generators, electrical switchboards and major castings.

Ingalls has delivered seven NSCs, the flagship of the Coast Guard’s cutter fleet, designed to replace the 12 Hamilton-class high-endurance cutters that entered service in the 1960s.

Marine Corps Awards Contract for Lighter Body Armor System

MARINE CORPS BASE QUANTICO, Va.– Marine Corps Systems Command (MCSC) has awarded a contract to produce Plate Carrier Generation IIIs (PC Gen IIIs) – a move that will help Marines increase their mobility and keep them safe through training and deployments.

Vertical Protective Apparel, LLC, of Shrewsbury, New Jersey, was awarded a $62.6 million firm-fixed-price, indefinite-delivery/indefinite-quantity contract to produce and deliver the PC Gen IIIs. A maximum quantity of 225,886 will be delivered, and the work will be completed by September 2023.

The PC Gen III is a body armor system that provides increased mobility, improved fit, lighter weight and additional modularity to support various types of missions. Compared to the legacy system, the PC Gen III offers increased ballistic

protection and will be available in eight sizes to allow for a more customized fit across the Marine Corps.

“The legacy carrier fit the span of the Marine Corps, but this new system is more tailorable to fit Marines of various sizes with three new smaller-stature options,” said Flora “Mackie” Jordan, body armor engineer for the Infantry Combat Equipment Team at MCSC. “We wanted to give as much mobility back to Marines as possible by reducing the weight and bulk of the vest without decreasing ballistic protection. We were able to reduce the weight of the vest by 25 percent.”

The goal was to lighten the load Marines carry to reduce fatigue and improve their operational capability in the field. A few new features of the PC Gen III contributed to the weight reduction.

Excess material was removed from the shoulders and about an inch-and-a-half was taken from the bottom, which provides better integration with the USMC Pack. The team also chose a laminated laser cut material that only absorbs seven percent of water compared to 70 percent with the legacy system.

“We made sure to get the best system for our Marines, which included choosing the best lightweight soft armor and the best quality when it comes to the cut and sew of the carrier,” said Mackie.

While conducting research, MCSC discovered Marines are eight percent faster when the PC Gen III systems were combined with prototype lightweight plates, compared to the Enhanced Small Arms Protective Inserts. They also found Marines could remove and reassemble the vest in less than three seconds.

“With the old system, it took about seven seconds to take it off, and 10 minutes to reassemble,” said project officer Capt. Frank Coppola, who helped test the vests. “The new quick release works a hundred times better. It has a vastly improved quick detach system for Marines to act fast while on

missions.”

The PC Gen III is less bulky and easier for Marines to move in, especially when working in tight spaces. An inner vest was also added to increase modularity of the system. Marines can adjust it to meet the requirements and environment of their particular mission.

“Our vests have come a long way over the past 15 years, and the reduced weight and increased mobility is huge,” Coppola said. “The fact that we can decrease the size of the vest and still be protected is the key.”

Infantry, school house, and Reconnaissance Marines, along with vehicle crewmen and combat engineers will receive the vests when fielding begins in the third quarter of fiscal year 2019.

HII Lands New Radar Tower on USS George Washington

NEWPORT NEWS, Va. – Huntington Ingalls Industries’ (HII’s) Newport News Shipbuilding division has completed approximately 25 percent of the refueling and complex overhaul (RCOH) work aboard the nuclear-powered aircraft carrier USS George Washington following the recent landing of its modernized radar tower, the company said in a Sept. 21 release.

USS George Washington is the sixth Nimitz-class ship to undergo this major lifecycle milestone and the first to have its new radar tower installed as one complete structure instead of two individual units.

“This is a significant engineering, planning and construction

improvement," said Chris Miner, Newport News' vice president, in-service aircraft carrier programs. "This lift was the result of our digital shipbuilding efforts to harness the use of technology, including visual work instructions that allowed us to increase efficiency and productivity. We look forward to continuing to work with our Navy customers to improve our RCOH processes."

The RCOH began under a planning contract in August 2017 and includes the refueling of the ship's reactors as well as extensive modernization to more than 2,300 compartments, 600 tanks and hundreds of systems. In addition to the radar tower structure, major upgrades will be made to the island house, flight deck, catapults, combat systems and the island.

The overhaul is expected to be completed in late 2021.

ONR Delivers Capability to Navy Divers

ARLINGTON, Va. – For U.S. Navy deep-sea divers, time is of the essence. While operating 100 feet down, with little to no natural light – often in frigid temperatures and limited oxygen – time is everything.

But for divers, time remains a precious commodity on the surface as well.

For years, military divers have had to manually write and log information from dives while at sea into a system known as the Dive/Jump Reporting System (DJRS). Manually entering entries can be time-consuming and allow human error.

Enter the Office of Naval Research (ONR) Global TechSolutions program – a rapid-response science and technology program focused on solutions to problems submitted by Sailors and Marines.

ONR TechSolutions and industry partners have created a new tool called the Scuba Binary Dive Application (SBDA) 100 to digitally plan, record and report dive-profile information to DJRS. The application will accelerate the process of logging and uploading dive information, and will help eliminate potential data-entry mistakes, ONR reported in a Sept. 19 release.

The idea originated from Force Master Diver Scott Brodeur, Naval Expeditionary Combat Command.

“Scott has completed over a thousand dives during his career and he recognized the need to make the logging and reporting process more efficient for his peers,” said Jason Payne, TechSolutions acting program manager.

The SBDA 100 is a software application on a ruggedized tablet used to log, compute and accurately compile dive-profile data.

The data – collected from a wrist watch that divers wear during operations called a Navy Diver Computer – includes dive site conditions, equipment used by the divers, dive events (such as when a diver left the surface or left the bottom of the ocean floor) and if the dive required decompression stops. SBDA 100 syncs this information and automatically uploads it to DJRS.

“For years, I witnessed how many hours it takes to manually log dives – watching the young guys that have to – at the end of a long 12- to 14-hour day – come back and manually go through the dive logs and write everything down, and double check it and triple check it,” said Brodeur.

During a recent training exercise in the Gulf of Mexico,

Brodeur, the Naval Experimental Dive Unit and other U.S. Navy divers stationed around the globe had the opportunity to test the technology for the first time.

“The designers gave me a crash course on how to operate the technology,” said Chief Navy Diver Marshall Goble, ship repair facility, Yokosuka, Japan. “I used the device as a primary but still used the ‘old school’ way and wrote down the information as well. Both calculations came out 100-percent accurate. I found the tablet easier to use, and I have no doubt it’s going to streamline efficiency.”

Throughout the process of the development of the SBDA 100, ONR TechSolutions has worked in conjunction with Space and Naval Warfare Systems Command (SPAWAR) Atlantic; industry partner Intelligent Automation Inc.; and Naval Surface Warfare Center (NSWC) Panama City, which is the home of the U.S. Naval Diving and Salvage Training Center. SPAWAR served as the principal investigator and NSWC Panama City provided technical support and hosted the training and demonstration of the SBDA 100 at sea.

“The technology has tested very well,” said Brodeur. “It’s a testament to the value of the ONR TechSolutions program and everyone who worked on this project. Witnessing this idea come to fruition and have it be built, demonstrated, designed and ready for use is pretty exciting.”