Japan Maritime Self-Defense Force Selects SeaGuardians from GA-ASI

From General Atomics Aeronautical Systems, Inc.

SAN DIEGO – Dec. 3, 2024 – The Japan Maritime Self-Defense Force (JMSDF) has selected the General Atomics Aeronautical Systems, Inc. (GA-ASI) SeaGuardian® Remotely Piloted Aircraft (RPA) systems for its Long Endurance Unmanned Aerial Vehicle program. This follows JMSDF use of SeaGuardian since May 2023 as part of its Medium-Altitude, Long Endurance (MALE) RPA System Trial Operations Project.

SeaGuardian has been used by JMSDF to conduct various tests including whether unmanned aircraft can supplant some of the missions currently accomplished with manned aircraft. SeaGuardian is a MALE RPA system that can fly for 24 hours or more, depending on the configuration.

GA-ASI has strengthened its Maritime Wide Area Surveillance (MWAS) for Japan with Optix+, which gathers information from

the SeaGuardian sensors, as well as other data sources, displaying the full picture of surveillance information for its operator. This functionality makes it easy to task and direct its Intelligence, Surveillance and Reconnaissance (ISR) information in real time. GA-ASI's Optix+ software suite rapidly correlates and exploits collected data into an easily shared common operational picture. Having multi-source correlated data enables automatic detection of anomalous behaviors over waters.

SeaGuardian features two multi-mode maritime surface-search radars with an Inverse Synthetic Aperture Radar (ISAR) imaging mode, an Automatic Identification System (AIS) receiver, and a High-Definition – Full-Motion Video sensor equipped with optical and infrared cameras as well as electronic intelligence receivers. This sensor suite enables real-time detection and identification of surface vessels over thousands of square nautical miles and provides automatic tracking of maritime targets and correlation of AIS transmitters with radar and electronic intelligence tracks.

United States, Canada, and Finland Sign MOU to Build Arctic and Polar Icebreakers

New trilateral arrangement formalizes collaboration on the production of Arctic and polar icebreakers

From the Department of Homeland Security, Nov. 13, 2024

WASHINGTON – Officials representing the Governments of the United States, Canada, and Finland today signed a Memorandum

of Understanding (MOU) to begin working together to develop world-class Arctic and polar icebreakers through the exchange of knowledge, information, and resources in each of our countries. Today's landmark MOU builds off the launch of the Icebreaker Collaboration Effort (ICE) Pact by Prime Minister Trudeau, President Stubb, and President Biden on the margins of the NATO Washington Summit in July.

In signing the ICE Pact MOU, we have embarked on a transformative partnership that strengthens our ability to uphold international rules and maintain security in the Arctic and Antarctic regions. By jointly developing and producing world-class Arctic and polar icebreakers, we are laying the foundation for a resilient and competitive shipbuilding industry, capable of meeting both national and global demand for these critical assets. This arrangement underscores our collective commitment to peace, stability, and prosperity in the Arctic and polar regions, and is a testament to the strength of allied cooperation in addressing strategic challenges.

Each of our nations recognizes the need to enhance our Arctic and polar icebreaking capabilities to assert our collective presence in the Arctic and Antarctic regions. Building these specialized vessels at a faster pace, on a larger scale, and at competitive costs is a shared priority as we uphold safety and security in these strategically important areas.

The ICE Pact includes four components: 1) enhanced information exchange between the United States, Canada, and Finland; 2) workforce development collaboration; 3) engagement with allies and partners, and; 4) research and development. Given the high costs of shipbuilding, long-term orders are essential for shipyard success in each of our countries. The collective investment in our domestic shipyards has the potential to scale production and reduce the cost of Arctic and polar icebreakers for our own use and for our allies and partners.

By leveraging our collective expertise and resources, the MOU will facilitate knowledge, information, and resource sharing with shipyards, with the potential to create high-quality manufacturing jobs in the maritime infrastructure industry. ICE Pact will help provide the stability necessary to support the production of Arctic and polar icebreakers and strengthen our shipbuilding industries.

EP-3E Aries II Completes Final Flight in U.S. 5th Fleet Area of Operations

Photo By Petty Officer 1st Class Macadam Weissman
From Commander, Naval Air Forces, Oct. 29, 2024

U.S. 5TH FLEET AREA OF OPERATIONS – After nearly six decades of service, the EP-3E Aries II, a multi-intelligence reconnaissance aircraft, completed its final flight in the U.S. 5th Fleet area of operations, Oct. 29.

A detachment from the "World Watchers" of Fleet Air Reconnaissance Squadron (VQ) 1 completed their final mission with their EP-3E ahead of their redeployment from the region.

The EP-3E Aries II served as a key intelligence, surveillance and reconnaissance (ISR) asset in the maritime patrol and reconnaissance force (MPRF). The aircraft provided fleet and theater commanders near real-time tactical signals intelligence and full-motion video intelligence. The crew fused the collected intelligence along with other information for a variety of uses, including indications and warnings, information dominance, battle-space situational awareness, suppression of enemy air defenses, destruction of enemy air-defense, anti-air warfare and anti-submarine warfare applications.

"It's amazing to think of the number of folks who have been part of the EP-3 heritage over the last 55 years," said Lt. Cmdr. Justin "Gump" Roberts, the VQ-1 detachment officer-in-charge. "Success in this platform has solely been because of our hard-working maintenance team while on deck and our aircrew's superior ISR while on station. It's an honor to be part of a legacy that's bigger than sum of its parts."

Lt. Bradford "Chad" Holcombe, the aircraft commander, said VQ-1's history speaks for itself and that he is "tremendously grateful" to be part of that history.

"From my first day at VQ-1, it's been obvious to see the pride each member has in the platform, the mission, and most importantly the effort it takes to execute wherever and whenever we're asked," he said. "Flying the last mission

flight is a privilege.”

Capt. Dennis “Rudy” Jensen, Commodore of Task Force 57, has been around the P-3 since 1979.

“My father was a P-3 pilot during the Cold War, and I’ve flown the variants of the same aircraft since 2002. Few other airplanes are as ‘time-tested & mother approved’ as the P-3,” Jensen said. “Its longevity and ability to operate from remote locations in austere environments for over half a century is a testament to those who designed, built, maintained and operated it. Much like the ever changing platforms onboard the flight deck of an aircraft carrier, the mission systems inside the EP-3E have evolved over time. The ability to evolve has enabled the EP-3E to remain viable and effective through today.”

The transition from the EP-3E to the P-8A Poseidon and MQ-4C Triton platforms has been carefully planned to avoid capability gaps. These platforms offer enhanced intelligence, surveillance and reconnaissance capabilities, with greater range, endurance and the ability to operate in more complex environments.

The U.S. 5th Fleet area of operations encompasses approximately 2.5 million square miles of water space and includes the Arabian gulf, Gulf of Oman, Red Sea, parts of the Indian Ocean, and three critical choke points at the Strait of Hormuz, Suez Canal, and the Strait of Bab al-Mandeb.

Northrop Grumman Awarded JCREW/DRAKE Full Rate Production Follow-on Contract

Master-at-Arms 1st Class Everest Austerman operates a Drone Restricted Access Using Known Electromagnetic Warfare (DRAKE) anti-drone system during a simulated straits transit aboard the Arleigh Burke-class guided-missile destroyer USS Porter (DDG 78). (Photo Credit: U.S. Navy)

Intelligent electronic countermeasure systems designed to increase protection from ship-to-shore

SAN DIEGO – Sept. 26, 2024 – Northrop Grumman Corporation (NYSE: NOC) was awarded a follow-on production contract as part of a larger contract, which is now valued at over $161 million, by the U.S. Navy for the next generation JCREW/DRAKE 2.0 systems.

- The award includes production and delivery of the JCREW/DRAKE 2.0 dismounted and mounted systems.

- As the recommended counter-improvised explosive device (IED) and counter-unmanned aircraft system (UAS) solution, JCREW/DRAKE 2.0 will feature increased signal processing and frequency range, instantaneous bandwidth and a more capable user interface.

Expert:

Gordie Russell, vice president, communications solutions, Northrop Grumman: “JCREW/DRAKE continues to prove itself as a critical component in protecting our warfighters while maintaining the strategic advantage needed to succeed across the modern battlefield. These systems are designed with an open and integrated architecture to support rapid upgrades and mission agility from ship-to-shore – capabilities that are critical for quick decision making.”

Additional Details:

JCREW/DRAKE 2.0 provides 360 degrees of protection to the warfighter afloat, ashore and on-the-move by using intelligent jamming to selectively defeat threats without interruption to friendly communications.

The system can operate independently or can integrate with other Command and Control (C2) systems such as Northrop Grumman’s FAAD C2 system, delivering a layered defense and technological advantage for the warfighter.

JCREW, the system’s counter-IED capability, is a TRL 9 system with Full Rate Production and is a Program of Record with Naval Sea Systems Command. It achieved Full Operational Capability ahead of schedule in July 2023 and is currently employed by the U.S. Navy, U.S. Air Force, Australia and New

Zealand.

DRAKE, the system's counter-UAS capability, was added to the Army's Joint Counter-small Unmanned Aircraft Systems (C-sUAS) Office list of recommended C-sUAS Detection and Defeat Systems in May 2023 and recently became its own Navy Program of Record under Program Executive Office Unmanned and Small Combatants, Expeditionary Missions Program Office in April 2024.

Fairbanks Morse Defense to Acquire Rolls-Royce Naval Propulsors & Handling Business

A rendering of a marine handling system from Rolls-Royce's Naval Propulsors and Handling business, which will be acquired

by Fairbanks Morse Defense. *Fairbanks Morse Defense*
BELOIT, Wisconsin – Fairbanks Morse Defense, a portfolio company of Arcline Investment Management, has entered into an agreement with Rolls-Royce to acquire its Naval Propulsors and Handling business. The acquisition will include a range of propellers and waterjets for naval applications, as well as marine handling systems, which enable the deployment and recovery of manned and unmanned craft, and other cargo, from naval vessels.

"When you look at the 150-year history of Fairbanks Morse Defense, you will find a handful of distinctive moments that completely transformed this company. We believe the acquisition of Rolls-Royce naval propulsors and handling businesses will become one of those moments," said George Whittier, CEO of Fairbanks Morse Defense. "The way that our products and services complement each other is unmatched in the defense industrial base. Combining our capabilities allows Fairbanks Morse Defense to substantially increase what we offer to our U.S. maritime defense customers while also offering our systems and components solutions to Rolls-Royce's global customer base."

The acquisition will add the following to the Fairbanks Morse Defense portfolio:

- Rolls-Royce Pascagoula, Mississippi Facility – Pascagoula is a fully integrated marine propeller and waterjet manufacturing campus that is responsible for producing controllable pitch propeller blades and hub body castings, large fixed-pitch propellers, and waterjets for the U.S. Navy. It is the country's only privately owned foundry that is qualified to cast propellers for the U.S. Navy's surface and submarine fleet, making it a United States National Asset.

- Rolls-Royce Walpole, Massachusetts Facility – For over 50 years, the Rolls-Royce Walpole campus has delivered critical ship propulsor systems and aftermarket services for the U.S. Navy and Coast Guard and other international navies, including controllable pitch propellers, fixed propellers, and waterjets.

- Rolls-Royce Peterborough, Ontario Canada Facility – The Centre of Excellence for Naval Handling in Peterborough, Ontario supports the design and manufacture of handling systems, launch and recovery systems, and undersea sensors and systems for navies across the globe. Its products include the next-generation Mission Bay Handling System for the Global Combat Ship program, a frigate program for the UK Royal Navy, Royal Canadian Navy, and Royal Australian Navy.

Rolls-Royce Naval-Marine propellers can be found on all the U.S. aircraft carriers currently in service. They are also used on U.S. Navy fleet supports, amphibious ships, surface combatants, submarines and more, as well as on U.S. Coast Guard vessels. Rolls-Royce handling systems are found on many of the U.S. Navy's surface combatants.

"Rolls-Royce Naval Propulsors & Handling is an industry leader and trusted supplier to navies around the world. We are pleased to collaborate with Fairbanks Morse Defense, who recognizes the value of this business and the outstanding opportunities for its strong future," said Adam Riddle, president – Defense and chairman and CEO of Rolls-Royce North America. "We believe this transaction represents the best outcome for the business, its people, and the military customers they serve."

Fairbanks Morse Defense has built a diverse portfolio that now includes engines, electrical hardware, motors, valves, cranes,

davit systems, fans, fittings, and water treatment solutions. The company has also advanced its technology offerings with AI, digital defense, telerobotics, additive manufacturing, smart engineering, uncrewed mission management, extended reality, and remote collaboration tools.

Hughes and Boost Mobile Demonstrate Automated, Multi-Transport Network Management for Resiliency at the Tactical Edge

From Hughes Network Systems, Aug. 27, 2024

Standalone 5G Network with enterprise management and control ensure Primary Alternate Contingency Emergency (PACE) planning for warfighter communications

GERMANTOWN, Md., Aug, 27, 2024 –Hughes Network Systems and Boost Mobile, EchoStar (Nasdaq: SATS) companies, successfully demonstrated optimized, multi-transport network management for the U.S. Navy. The demonstration, which took place earlier this year, tested remote network orchestration, wide area network (WAN) resiliency, and secure Radio Access Network (RAN) sharing between standalone Private 5G networks operating at the U.S. Navy Air Station, Whidbey Island, Washington, and a base in Hawaii.

Hughes collaborated with Boost Mobile, both of which are part of the EchoStar family of companies. Boost Mobile's innovative

Open-RAN-based 5G networking technologies for US-wide public network deployment experience provided a rich heritage for the standalone, secure 5G networks on each base. In addition, Hughes implemented its intelligent network orchestration capabilities, Smart Network Edge (SNE) mission-planning technology, and Network Management System (NMS). Together, these technologies maintained communications in contested and congested environments.

“The combined team successfully demonstrated a flexible and resilient mission network that dynamically switched communications paths to ensure uninterrupted situational awareness,” said Dr. Rajeev Gopal, vice president of Advanced Programs for the Defense Division at Hughes. “We are ready to implement smart network orchestration and secure Private 5G networks, for the U.S. Department of Defense to ensure that users have critical command and control information when they need it most, even in disrupted, occasionally disconnected, and low-bandwidth conditions.”

The network supported Automated PACE planning, leveraging the powerful Hughes NMS and SNE technologies that dynamically utilize multiple transport paths to deliver situational awareness. These advanced automation techniques optimize capacity, QoS, and various time/space-based resource commitments to speed up changes and access to SATCOM resources. With command-in-the-loop, the Hughes technology can process new service requests in less than 5 seconds to accommodate new threats in the theatre and automatically distribute information across paths orchestrated by Hughes SNE. The NMS and SNE are critical enablers for state-of-the-art resilient communications utilizing multiple diverse transports, including GEO, MEO, LEO, and 5G systems.

The demonstration confirmed that the EchoStar Private 5G ORAN network can maintain secure connectivity for devices and applications when users travel outside the naval base. This capability supports a concept of operations where a device

running on the Whidbey Island NAS 5G network can travel to another location and still securely access applications that reside at Whidbey Island. The Navy can use this secure internet access for missions requiring a user to relocate from one base to another.

BAE Systems to Upgrade Flight Control Computers for FA-18E/F and F-15EX Fighters

Technology refresh increases processing power to enhance aircraft performance, capabilities, and readiness

ENDICOTT, N.Y. – August 20, 2024 – BAE Systems has been selected by Boeing to upgrade the fly-by-wire (FBW) flight

control computers (FCC) for the F-15EX Eagle II and F/A-18E/F Super Hornet fighter aircraft. The FCCs feature common core electronics that support the quad-redundant FBW flight control systems (FCS), providing the safety, reliability, robustness, and performance needed for the missions of these advanced platforms.

As the original manufacturer of the FCCs for both aircraft, BAE Systems will modernize the FCC electronics hardware and software to increase processing power, enhance cyber and product security, address obsolescence issues, and support sustainment well into the future. The upgraded FCC will leverage the company's high-integrity flight control product roadmap, built upon technology investments, and used across multiple recent military airborne platform flight control upgrades. The F/A-18E/F FCC will also receive an additional processor to enable future capabilities for the fleet.

"BAE Systems is a leader in high-integrity controls and this upgrade reflects our commitment to providing our customers with next-generation solutions," said Corin Beck, senior director of Military Aircraft Systems for Controls and Avionics Solutions at BAE Systems. "Our advanced flight-critical solution ensures that these platforms will maintain fleet readiness now, and in the future, as well as provisions the aircraft to support the integration of new functions."

These computers efficiently manage aircraft flight by processing pilot inputs, monitoring real-time aircraft movement conditions via on-board sensors, and transmitting commands to actuators that move the control surfaces. The redundant FCS, along with the flight control laws, enables the pilot to maintain controlled operation across the demanding flight regime and multiple loadout configurations. Additionally, the FCS can reconfigure how it controls the aircraft in case of a failure or battle damage by mixing the remaining control surfaces differently. The advanced FBW FCS allows the pilot to focus more on the mission and less on

flying the aircraft.

BAE Systems has more than 40 years of experience developing and integrating flight control technology for military and commercial platforms. This flight control upgrade will be conducted at the company’s state-of-the-art engineering and manufacturing facility in Endicott, New York.

Saildrone Completes Autonomous Survey of Gulf of Maine to Identify Potential Deep-sea Coral Habitat

Saildrone has surveyed 1,500 sq. nm in the Jordan and Georges

Basins that had never before been mapped in high resolution.

From Saildrone, August 20, 2024

PORTLAND, Maine – Saildrone has mapped 1,500 square nautical miles in the north-central Gulf of Maine in support of the National Oceanic and Atmospheric Administration (NOAA)'s efforts to survey deep-sea coral habitat. The Gulf of Maine is a productive and dynamic marine environment, with a diverse array of marine life, productive fisheries, unique underwater habitats, and a complex topography of deep basins, shallow banks, and steep slopes. However, there is extremely limited mapping data available, especially in deeper waters.

Two Saildrone Voyager uncrewed surface vehicles (USVs) gathered data at depths up to 300 meters around the Jordan and Georges Basins. The data has revealed a complex and varied underwater landscape, reflecting its glacial history and dynamic oceanographic processes.

"The Saildrone Voyagers are filling in a substantial gap in seafloor data in the Gulf of Maine. NOAA and partners are very interested in better understanding habitats in the region that may support fish production. These high-resolution seafloor maps will inform future surveying and modeling efforts, as well as aid in the New England Fishery Management Council's fishery management decisions," said Heather Coleman, a researcher with the NOAA Fisheries Office of Habitat Conservation's Deep Sea Coral Research and Technology Program.

These high-resolution maps will guide visual surveys of coral and sponge habitats using remotely operated vehicles for multiple NOAA cruises in 2024 and 2025. The data will also inform new species distribution models in the Gulf of Maine, which until now was not possible because of the lack of high-resolution seafloor information.

"This is the first successful demonstration of Saildrone

Voyager mapping capabilities, pushing the envelope of what is possible using autonomous systems for shallow to mid-depth EEZ mapping. Its state-of-the-art Norbit multibeam echo sounder combined with near-silent operations and classification from the American Bureau of Shipping, make Saildrone's Voyager the USV of choice for near-shore mapping. These capabilities can be applied for any number of missions, from habitat exploration to safety of navigation to site characterization for offshore wind," said Brian Connon, Saildrone's VP of Ocean Mapping.

Saildrone has been operating autonomous data collection missions for ocean research, seafloor mapping, and maritime security since 2015. To date, Saildrone has built more than 140 USVs across the three Explorer, Voyager, and Surveyor classes. The Saildrone fleet has already spent more than 42,000 days at sea and sailed more than 1,300,000 nautical miles from the High North to the Southern Ocean.

Northrop Grumman, Genohco to Team on Korean Mine Countermeasures

Northrop Grumman's self-contained design allows ALMDS to be installed on several aircraft types. (Photo Credit: US Navy)

MELBOURNE, Fla. – Aug. 8, 2024 – Northrop Grumman Corporation (NYSE: NOC) and Genohco have signed a Memorandum of Understanding (MOU) in connection with the Republic of Korea's Mine Countermeasures Helicopter (KMCH) program. The agreement supports Northrop Grumman's longstanding industrial cooperation with the Republic of Korea's Defense Acquisition Program Administration and defines the work that Genohco will perform as a supplier.

This MOU follows Korea Aerospace Industries' (KAI) 2023 contract for Northrop Grumman to provide Airborne Laser Mine Detection System (ALMDS) solutions and technical support for the Engineering, Manufacturing and Design phase of the Republic of Korea's KMCH program.

Under the agreement, Genohco will support the manufacturing of ALMDS hardware components.

To date, Northrop Grumman has delivered 24 ALMDS units to the U.S. Navy and four units to the Japan Maritime Self-Defense Force (JMSDF).

Northrop Grumman and Genohco sign a Memorandum of Understanding to collaborate on the Republic of Korea’s Mine Countermeasures Program. (Photo Credit: Northrop Grumman)

Experts:

Janice Zilch, vice president, multi-domain command and control programs, Northrop Grumman: “Industry collaborations with companies such as Genohco and KAI are key to Northrop Grumman’s approach to technology development across the globe. Our team is committed to delivering advanced solutions to meet the security needs of the Republic of Korea’s Ministry of National Defense.”

Richard D. Yoo, senior director of business development, Genohco: “We are honored to be working with Northrop Grumman, a world leader in the defense industry. Projects like the KMCH program allow global contractors to collaborate with Korean industry. Being part of Northrop Grumman’s supply chain network, we look forward to providing innovative solutions together in the global market.”

Details:

Northrop Grumman’s AN/AES-1 ALMDS detects, classifies and locates floating and near-surface moored mines. Mounted onto a variety of helicopter platforms, the system is capable of untethered day or night operations, which allow it to attain high area search rates. ALMDS also provides accurate target geo-location to support follow-on neutralization of the detected mines. Northrop Grumman’s support of the KMCH program leverages the company’s extensive systems integration and digital engineering expertise.

General Dynamics Announces Rayha to Succeed Graney as President of Electric Boat

From General Dynamics, August 1, 2024

RESTON, Va. – General Dynamics (NYSE:GD) announced today that Kevin Graney, who currently serves as president of Electric Boat, has informed the company that he will retire at the end of the year. He will be succeeded by Mark Rayha, who currently serves as senior vice president and chief operating officer of Electric Boat, effective December 1.

“Kevin has served General Dynamics with distinction for nearly 30 years, including tenures as president of both NASSCO and Electric Boat. His shipbuilding expertise and strong leadership have been instrumental to the performance and continuous improvement of both NASSCO and Electric Boat,” said Phebe Novakovic, chairman and chief executive officer. “Mark is a 35-year veteran of General Dynamics and is a proven and capable leader. His experience as CFO and COO of Electric Boat will ensure that we continue to grow to support our nation’s need for submarines.”

Graney joined General Dynamics in 1995 and served in a variety of leadership roles at Electric Boat and NASSCO before becoming a general manager and then president of NASSCO from 2013 to 2019 and president of Electric Boat in 2019.

Rayha joined General Dynamics in 1989 at Land Systems. He became CFO of General Dynamics Mission Systems in 2015. He joined Electric Boat in 2020 and served as CFO from 2021 to 2023. He became chief operating officer in 2023.

General Dynamics is a global aerospace and defense company that offers a broad portfolio of products and services in business aviation; ship construction and repair; land combat vehicles, weapons systems and munitions; and technology products and services. General Dynamics employs more than 100,000 people across 65 countries worldwide and generated $42.3 billion in revenue in 2023. More information about General Dynamics is available at www.gd.com.