INTELLECTUAL PROPERTY

(This section must be signed)

Individuals **outside your company**, including the companies listed above and other third parties, potentially including your competitors and others in your industry, may receive and/or review award submissions. All information submitted should address the program's management, leadership, and processes in a manner that you are comfortable sharing with third parties freely and without restriction and may not include any classified or proprietary information or materials. Do not include any materials marked Confidential or Proprietary or bearing any similar legend. All responses and other submissions, whether in whole or in part ("Submissions"), shall be deemed not to be confidential, proprietary, and/or nonpublic information of any sort for any purpose.

Without limiting the foregoing, you hereby grant to Aviation Week Network, an Informa business, a perpetual, irrevocable, royalty-free, full paid-up, worldwide license to copy, reproduce, distribute, display, publicly perform, publish, republish, post, transmit, disseminate, edit, modify, and create compilations and/or derivative works of the Submissions (or any portion or excerpt thereof) in connection with its or any of its affiliates' business(es). Aviation Week Network agrees not to edit the Submissions in any way that materially alters their overall substantive meaning. Aviation Week Network may freely assign, license, transfer, and/or otherwise convey any or all of the rights and licenses granted hereunder.

Thank you for participating,

Gregory Hamilton
President
Aviation Week Network

Acknowledged, agreed, and submitted by

_____ _____
Nominee's Signature Date

Nominee's Name (please print): Edward White

Title (please print): MQ-9B Japan COCO

Company (please print): General Atomics Aeronautical Systems, Inc. (GA-ASI)

NOMINATION FORM

Name of Program: GA-ASI's MQ-9B Japan COCO

Name of Program Leader: Edward White

Phone Number: (619) 405-6246

Email: edward.white@ga-asi.com

Postal Address: General Atomics Aeronautical Systems, Inc.14200 Kirkham Way, Poway, CA 92064

Customer Approved

- Date: July 7, 2025
- Customer Contact (name/title/organization/phone): Jun Yoshida/Program Manager/Sojitz Corporation/81-3-6871-5000 (Ext:4386)

Supplier Approved (if named in this nomination form)

- Date: N/A
- Supplier Contact (name/title/organization/phone): N/A

PLEASE REFER TO PROGRAM EXCELLENCE DIRECTIONS AS YOU COMPLETE THIS FORM.

SECTION 1: EXECUTIVE SUMMARY: Make the Case for Excellence
Value: 10 points
Use 12 pt. Times Roman typeface.
What is the vision for this program/project? What unique characteristics and properties qualify this program for consideration?

The Japan MQ-9B Leasing Program, commonly referred to as the Company Owned, Company Operated (COCO) Program from General Atomics Aeronautical Systems, Inc. (GA-ASI) has achieved unprecedented success in the first international fielding of the cutting-edge MQ-9B SeaGuardian® Remotely Piloted Aircraft System (RPAS). The program's vision is to successfully deploy the SeaGuardian in an operational environment, demonstrating its value in order to foster future procurement opportunities within Japan. Developed by GA-ASI, the MQ-9B is the maritime-focused sibling of the revolutionary MQ-9B SkyGuardian designed to fly over the horizon via satellite in all types of weather, enabling the delivery of real-time situational awareness anywhere in the maritime domain—day or night.

GA-ASI's MQ-9B Japan COCO program heretofore referred to as the Japan Program, unites more than 40 stakeholders across GA-ASI, sub-contracted payload and sensor vendors, multiple partnered freight forwarders, and several Japanese entities that collaboratively support both the Japan Maritime Self-Defense Force (JMSDF) and the Japan Coast Guard (JCG). The GA-ASI team that supported the RPAS program for Japan meticulously planned, contracted, integrated, deployed, and sustained one of the most complex programs in GA-ASI's history. Since the program's inaugural flight at Hachinohe Air Base in northern Japan in October 2022 to its current operating location approximately 1,000 miles south in Kitakyushu, Japan, this program completed hundreds of flights and thousands of flight hours using three MQ-9Bs equipped with several state-of-the-art maritime surveillance sensors and a multitude of Ground Control Stations. The collective efforts and unique processes have resulted in multiple acquisition programs with Japan and has enhanced maritime safety and security with one of the United States' most important strategic partners in the Indo-Pacific region.

The Japan Program Management team employed a suite of innovative tools and processes that enabled the success of the program. These included the Urgent Field Support (UFS) Procedure, a GA-ASI-specific process designed to quickly resolve issues beyond the standard engineering scope and the support of Fleet Deployment Services (FDS) and the Rapid Action Team (RATWorks) to fast-track critical component acquisition. The team also leveraged GA-ASI's Business Process System to manage and improve procedural documentation, ensuring alignment with customer and regulatory requirements. Additionally, the Program Management Resource Center provided essential tools for demand management, program control, planning, and Earned Value analysis. Operating within an Agile framework, the team employed scrums, sprints, and close collaboration to address early challenges and successfully deliver a Minimum Viable Product on schedule. These processses enabled a series of historic firsts for the MQ-9B operations team to achieve the MQ-9B's first-ever flight in snow conditions, the first extended flight exceeding 24 hours, the first Instrument Flight Rules (IFR) operations in Japan, and the first FAA Experimental re-certification on an international platform. The historic firsts also extended into the realm of technology and included the first-ever fielding and live demonstrations of numerous maritime sensors and payloads, leading to improved sensor reliability throughout the program. Beyond technological firsts, the engineering team addressed and resolved several critical mechanical challenges, leading to improvements that benefit the global MQ-9B fleet.

The Japan program's accomplishments reflect the dedication and ingenuity of all "Team Japan" stakeholders. Their collective efforts represent the highest standards of operational excellence and make the GA-ASI Japan Program deserving of the 2024 Aviation Week Program Excellence award.

SECTION 2: VALUE CREATION
Value: 15 points
Please respond to the following prompts:

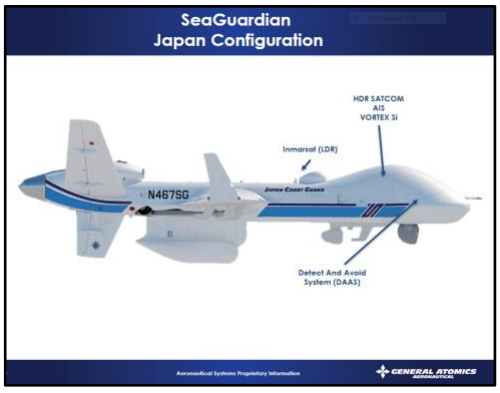
- **Clearly define the value of this program/project for the corporation; quantify appropriately.**
- **Clearly define the value of this program/project to your customer**
- **Clearly define the value of this program/project to members of your team; quantify if possible.**
- **Clearly define the contribution of this program/project to the greater good (society, security, etc.)**

Value to General Atomics:

Advancement of new technology and capabilities: GA-ASI is the world's foremost builder of Unmanned Aircraft Systems. Delivering MQ-9B to Japan as part of GA-ASI's Japan Program Team directly aligns with the company's vision of advancing the world through innovation and empowering global progress with cutting-edge technology. Logging close to 9 million flight hours, the Predator® line of UAS has flown for over 30 years supporting primarily U.S. military customers. With all the success of the Predator, GA-ASI's vision is to be a global leader in integrated technology and advanced situational awareness and services on the international front. GA-ASI's Japan Program embodies this vision by delivering a strategically significant and technologically advanced program that showcases GA-ASI's capabilities on the global stage in the first operational deployment of the MQ-9B in Japan. Advancement of new technology included two major software upgrades: "Drop 3" in December 2023; and "Drop 5" in November 2024 that resolved issues with the High Data Rate system (Data Link), Redundant Control Module system used for receiving reconnaissance sensor imagery, and the Detect and Avoid System (DAAS) that is critical to flight safety, engaging more than 100 engineering personnel. The program also marked the inaugural fielding of a specific maritime radar and ESM system, further reinforcing GA-ASI's role at the forefront of sensor integration and innovation. In addition, the team successfully conducted the first-ever live demonstration of General Atomics' Anti-Submarine Warfare/Sonobuoy Management & Control System (ASW/SMCS) for the Japanese Navy in September 2023, as well as a successful demonstration of the DAAS alongside a Japanese P-3C aircraft in September 2023.

Strengthen our foreign sales and relationships in Pacific Theater: These pioneering efforts and technological achievements not only highlight the program's success but resulted in JMSDF pursuing the acquisition of 23 SeaGuardians starting in 2025 and JCG acquiring five SeaGuardians by the end of 2025. This also positions GA-ASI to support future international partnerships with countries like Canada, India and Taiwan – contributing to global security and progress through innovation.

Validate COCO business model: GA-ASI has been at the forefront of technology development and standardization over the past decade that allows our COCO customer to get familiar with the various aircraft, payload, and ground segment systems prior to procurement. This aircraft provides persistent maritime surveillance using a maritime radar, EO/IR sensor, and other payloads. The multitude of sensors presented a number of challenges that the team overcame to improve the systems for the Japan COCO and future MQ-9B operations at other sites. Furthermore, in keeping with General Atomics' mission of turning surveillance data into actionable intelligence for the Japanese, the site was equipped with a Mission Intelligence Station (MIS) for Command and Control (C2), processing, and displaying Maritime Wide Area Search data for the Japanese Navy and Coast Guard onsite as well as relaying information to



the Japan Coast Guard's leadership in Tokyo. This actionable intelligence continues to be used to protect and ensure maritime safety and security around Japan.

Value to the Japanese customer: Japan is a quintessential maritime nation with the world's sixth longest coastline and the sixth largest exclusive economic zone (EEZ). It depends heavily on foreign resources, foreign food and overseas markets that rely on sea lanes of communication (SLOC) for over 90% of its trade. Growing challenges to sea freedom of navigation, such as unilateral assertions of countries' rights, can be incompatible with the existing international order. Daily maritime patrols and surveillance to protect the safe and free use of oceans as the lifeline of Japan surrounded by the sea is essential. The MQ-9B SeaGuardian fulfills Japan's goals of maintaining sovereign territorial integrity, economical persistent, long range ISR capability, and new technologies that reduce manpower overhead, which is a concern for Japan due to its decreasing national birth rates.

The Japan team flew a multitude of missions consistently in support of Japan's maritime surveillance mission. While JMSDF conducted their own validation plan with the MQ-9B in order to verify partial replacement of manned fixed-wing maritime patrol missions, the JCG routinely used the platform to fill their critical gap in *Persistent Maritime ISR* and *Maritime Domain Awareness* of Japanese EEZ and coastline areas, including anti-poaching and illegal goods overwatch. Since the first flight in Japan, JCG has employed MQ-9B SeaGuardians in support of hundreds of Search and Rescue/Recovery missions.

The year 2024 kicked-off in dramatic and tragic fashion in Japan due to an earthquake in the Sea of Japan and resultant tsunami that struck the northern Japanese coastline in the Ishikawa Region - Noto peninsula. The MQ-9Bs from Hachinohe provided constant coverage during rescue, recovery, and SAR missions following the tragic event and a live feed of SeaGuardian provided imagery.

Value to the team. Substantiating this COCO effort feeds enhanced capabilities and new business opportunities. In addition to the clear financial incentives of success, the proof of concept of a matrixed organization to support the Direct Commercial Sale (DCS) COCO business was crucial. The successes earned in fielding the initial MQ-9B SeaGuardians to Japan have required continuous integration across multiple functional areas: Japan Program Management; Japan Project Engineering; Field Operations; Fleet Deployment Services; International Strategic Development; MQ-9 Internal Research and Development (IRAD) Engineering; Flight Operations; Global Logistics; International Trade Compliance (ITC); Engineering Field Support; Agile Mission Systems; General Atomics Global Corporation; General Atomics System Integration; General Atomics Commonwealth Computer Research; as well as the full collection of functional support areas and GA-ASI Groups such as Legal, Contracts, Manufacturing, Quality Assurance, and Finance & Administration. These teams built confidence in each other in pursuit of the common goal of delivering the aircraft on schedule. Adapting to matrixed organization processes, the disparate teams harmonized to reliably complete assigned project tasks on time and within scope. This validated that the team could keep pace with the aggressive international project schedule.

Fleet Deployment Services (FDS) and the Rapid Action Team (known within GA-ASI as RATWorks) were established to expedite the acquisition of critical components for development programs. Despite ongoing procurement and supply chain hurdles, getting materials on time remained a significant

challenge. Nevertheless, team members demonstrated strong ownership and specialized skills, which were keys to accomplishing their respective roles and advancing the collective mission. This fostered a ripple effect of trust and confidence across the matrixed teams. Similarly, the Global Logistics and ITC groups collaborated effectively to navigate persistent logistical and regulatory complexities, ensuring timely delivery of materials. Ultimately, the **Collaborative Matrix Approach** proved its value through the success it enabled.

Contributing to the greater good of society and security. The MQ-9B's Intelligence, Surveillance and Reconnaissance (ISR) capabilities are a force multiplier for the Japan Navy and Coast Guard to combat nefarious activities of transnational criminal organizations such as piracy, drug smuggling, illegal arms dealing, human trafficking, terrorism and nuclear proliferation. The MQ-9B is also used to combat illegal fishing, spy ships, defecting ships from other countries, ships violating the Security Council Resolution, and illegal oil discharge from vessels. Constraining them not only benefits the U.S., Japan and our allies, but also benefits the safety and security of all on the high seas and contested waters surrounding Japan. Furthermore, by exercising the joint alliance between the United States and Japanese governments, the program fortifies a channel to leverage global security successes and build future partnership capacity. This partnership effort continuously reinforces friendship and accommodates continued harmony between two of the most important nations in the world.

The technological advances realized through cooperation between GA-ASI and Japan continue to lead the way toward the enhancement of aviation safety. DAAS, improved command and control data links, weather avoidance and autonomous software prove that RPAS can safely operate within civil airspace among commercial aircraft. Although these technologies were specifically developed to support military and law enforcement operations, history shows that military advancements often pave the way for civilian application and can be replicated for use by commercial activities. Search and rescue, transportation, scientific exploration, infrastructure inspection, ecological preservation, and disaster mitigation efforts are only a few of the many additional applications for RPAS that use GA-ASI's technologies and practices.

SECTION 3: ORGANIZATIONAL BEST PRACTICES AND TEAM LEADERSHIP

Value: 35 points

- ***15 points:*** **Describe the innovative tools and systems used by your team, how they contributed to performance and why.**
- ***10 points:*** **Define the unique practices and processes you used to develop, lead and manage people?**
- ***10 points:*** **How did you leverage skills and technologies of your suppliers?**

GA-ASI's Japan Program Team for MQ-9B utilized **innovative tools and systems** as well as **unique practices and processes** to ensure the program's success. The team successfully launched the suite of integrated payloads, software applications, and mission systems that enabled real-time situational awareness, long-endurance surveillance, and precision intelligence, surveillance, and reconnaissance (ISR) capabilities for JCG and JMSDF. This involved an immense effort and integration across multiple functional areas. A **Unique Practice** employed by the team was the **Urgent Field Support (UFS)** Procedure—a specialized GA-ASI process designed to quickly address troubleshooting, procedural gaps, repair, rework and anomaly resolution for issues falling outside the standard on-site engineering scope. Over the course of the program, the team generated approximately 200 UFS tickets, playing a critical role in maintaining continuous Full Mission Capable status for the aircraft. A GA-ASI engineer was available 24/7 to provide rapid resolution of any MQ-B platform issue, ensuring minimal operational disruption. Field requests were logged and managed using an **Innovative System** called **Issue Trak**, a centralized tracking system maintained by Emergency Field Support (EFS). The team consistently achieved response times as little as four hours from the time a discrepancy was entered into Issue Trak. To ensure

consistency and accountability, the UFS process included clearly defined exit criteria: the customer had to receive all required information and deliverables to restore the asset to an FMC status. This approach enabled the team to resolve each issue efficiently and effectively.

Certified Ground Control Station

The Japan Program team successfully empowered JCG and JMSDF to integrate advanced ISR capabilities into their maritime operations by leveraging innovative tools, systems, and mission support. Through **close collaboration** and **daily interaction,** we guided operators, analysts, and mission planners in fully utilizing the MQ-9B SeaGuardian's integrated payloads, software applications, and mission systems. This **hands-on support** enabled real-time situational awareness, long-endurance surveillance, and precision ISR, which directly enhanced the customer's maritime domain awareness and operational decision-making. General Atomics' **Agile Mission Systems** group, comprised of engineers, technicians, and program managers played a critical role in enabling and sustaining these capabilities. The Mission Intelligence Station (MIS), deployed alongside the Certified Ground Control Station (CGCS), served as the central operational hub. Our team provided **continuous technical and operational support** to ensure the MIS remained fully mission capable, allowing for centralized mission execution, real-time sensor control, and seamless distribution of SeaGuardian-collected data for the customer. We worked directly with the customer with **weekly Data Dissemination meetings** to establish secure, resilient communication pathways.

Another **Innovative Tool** the Japan Program team utilized is GA ASI's **Business Process System** (BPS), a structured system that controls and manages GA-ASI Business Process Documents (Procedures, Work instructions, etc.) which are used to establish and communicate GA-ASI's policies and objectives, coordinate the organization's activities to meet customer and regulatory requirements and improve its effectiveness and efficiency on a continuous basis. The BPS tool includes the Quality Management System, contract compliance elements and a one-stop shop for departmental processes. By enabling easy on-demand access to these resources the system equipped the Japan team for success in their responsibility to deploy GA-ASI's business systems to meet contract requirements on time and on budget.

The Japan COCO Program Management team also utilized GA-ASI's **Program Management Resource Center**. This center provides quick access to program management support tools used for demand management, development program control support, program planning and control and an Earned Value resource center. It also provides a repository of procedures, templates and tools to support "make or buy" decisions, understand the Rapid Acquisition Process and Program proposal, startup, execution, monitoring and control and program closeout. Other examples of resource tools include:

- **Manufacturing Automation Platform** (MAP): provides improved visibility to specific business conditions by employing data visualization tools.
- **Planning and Estimating Tool** (PET): used to build and share proposal labor estimates.
- **Systems Applications and Products** (SAP): business intelligence reports that allows users to query data, build reports, and analyze information.
- **SAP Resources:** includes SAP and business intelligence job aids, reference materials, Q&As and much more.
- **Smart Tool:** supports building and sharing proposal bill of material.

Agile Program Management Tools: GA-ASI personnel demonstrated extraordinary commitment during the initial setup, testing, and operational ramp-up for the first MQ-9B SeaGuardian in Japan. The team

utilized an **Agile** program management framework utilizing **Scrums, Sprints** and **Collaboration** to tirelessly resolve early challenges and deliver an initial **Minimum Viable Product** to the customer on time with the initial fielding of multiple payloads and sensors. The Agile method enabled the team to divide larger Japan Program projects into smaller, manageable tasks and shorter time segments, continuous software releases, incorporating customer feedback, and adaptability through iterative development. Common issues encountered were payload integration and hardware maturity, payload data forwarding to a common operating picture, and data dissemination from the SeaGuardian Operations Center to the customer's centralized data center. GA-ASI engineers addressed these technical hurdles with agility, speed and professionalism, ensuring seamless operations.

Another **innovative tool** the Japan program management team effectively utilized was GA-ASI's **RATWorks.** RATWorks was created to address emerging and high-priority acquisition needs. It coordinated teams from Manufacturing, Procurement, Quality Engineering, and Functional Engineering to speed up material acquisition without disrupting ongoing resource planning. The small, multidisciplinary team managed expedited part production and material sourcing for the Japan Program. RATWorks, alongside GA-ASI's Agile Mission Systems, refined the system to handle both routine and urgent material requests, from small sub-components to Line Replaceable Units (LRUs) and composite systems. High-priority tasks and filtered items were stored in dedicated data repositories that were monitored daily. Secure networks allowed for sharing proprietary information across domestic and international teams. RATWorks enabled acquisition teams and suppliers to review and update information in real time. Continuous data monitoring and risk identification minimized inefficiencies by reducing the need for frequent coordination meetings. When meetings were needed, preparation and focused task management in advance led to significant operational efficiencies.

These innovative tools and systems directly contributed to outstanding performance in the field. The MQ-9B SeaGuardian provided the JCG and JMSDF with a game-changing capability for persistent maritime surveillance and multi-domain ISR.

Key operational impacts include:

Maritime Domain Awareness and EEZ Surveillance: The integration of numerous systems enables comprehensive tracking of vessel traffic, enhancing Japan's ability to enforce Exclusive Economic Zone (EEZ) sovereignty, deter unauthorized fishing, and monitor high-traffic shipping lanes. The SeaGuardian's extended endurance allows for wide-area surveillance across thousands of nautical miles as depicted in its various routes around Japan.
Search and Rescue (SAR): EO/IR and AIS data correlation accelerates location of distressed vessels, improving response times and mission effectiveness during maritime emergencies. The SeaGuardian played a critical role in ISR support missions during the aftermath of the 2024 Noto Peninsula earthquake.
G7 Summit Security Support: The MQ-9B SeaGuardian provided persistent overwatch during the 2023 G7 Summit in Hiroshima, Japan. Operating continuously throughout the multi-day event, the platform employed its full suite of advanced payloads to maintain high-fidelity surveillance coverage of Hiroshima Bay and the surrounding airspace. The system delivered integrated intelligence by tracking maritime activity, detecting anomalous emissions, and streaming real-time full-motion video to mission operators. This comprehensive situational awareness enhanced the overall security framework and supported both national and international dignitaries attending the summit.
Disaster Monitoring and Response: As previously mentioned, following the 2024 earthquake, the MQ-9B was deployed to assess coastal infrastructure damage, track displaced vessels, and provide Full

Motion Video of affected ports and waterways. This allowed JCG and national emergency agencies to prioritize relief and recovery operations.

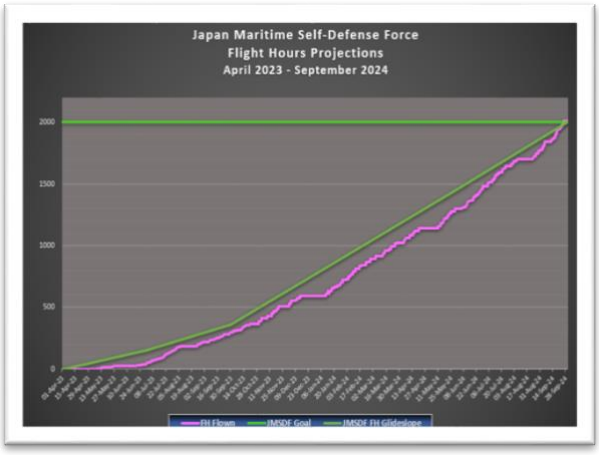
Unique practices and process used to develop, lead and manage people:
The Japan Program utilized numerous unique practices and processes to develop, lead and manage the cross-functional team on a regular basis. The Japan Program Management (PM) and Program Engineering teams utilized **GA-ASI's Joint Operations Exchange** (PMJOE), hosted by GA-ASI's Program Management Resource Center. It's a recurring PM community networking and information exchange event used to strengthen the bench of program management within the company emphasizing PM's needing to look beyond the contract deliverable, think strategically, and engage their customers to shape the future market for GA-ASI, which the team did with the Japanese customer on a routine basis. The team also took advantage of GA-ASI's **Program Management Training Program**, which equips PMs to lead cross-functional teams, think beyond contract execution, and engage strategically with customers. The program emphasizes business leadership, collaboration, and proactive market shaping—skills that were routinely applied in the Japan Program.

GA-ASI's Japan team ensured they had a clear grasp of the organization's purpose, guiding principles, long-term goals, and overall direction. To reinforce this commitment, the team participated in GA-ASI's monthly **Cross-Functional Forums** with participation from more than 125 senior personnel within the company. These sessions promote a unified view of the business landscape and ensure alignment on critical priorities and strategic initiatives. The dynamic nature of the Japan Program thrives within this cultural framework, which encourages flexibility across the organization and supports empowered, decentralized decision-making. The Japan COCO was featured several times in the Cross-Functional Forums that included presentations on the MQ-9B engine truss re-design and starter-generator cable modification initiatives.

The program manager also ensured the entire team was mentored and guided appropriately by establishing an **Integrated Product Team** (IPT) structure that merged several functional areas. The IPT structure was implemented through weekly in-person and virtual meetings; one-on-one mentor sessions with the core team members, as well as several bi-monthly team-building events to ensure a culture of open, honest communication. Not only did the Japan Program team leadership ensure the team was developed and managed internally, but a weekly customer meeting was also held with the Japanese prime contractor as well as the Japanese Coast Guard and Japanese Maritime Self Defense Force.

Promoting Transparency Through an Information Radiator

To enhance communication and promote transparency, the team implemented an **Information Radiator** (see adjacent chart) that tracked and displayed flight hour completion rates. This tool served as a central resource for both internal GA-ASI stakeholders and the Japanese customer, ensuring clear visibility into program performance. The chart was updated and shared on a routine basis with key stakeholders.
The primary benefit of this approach was the cultivation of a culture of accountability and openness, where challenges were acknowledged and addressed proactively, maintaining continuous alignment, building trust, and supporting informed decision-making throughout the program lifecycle.



Leveraging Supplier Skills and Technology

The Japan Program team strategically utilized the expertise and capabilities of its suppliers, particularly in the payload and sensor domains, where several key components were provided by subcontracted vendors. This network of partners delivered ongoing, essential support throughout the program, including the EO/IR sensor and the Maritime Radar (the first fielding of this sensor). The reliability of these supplier-provided payloads improved steadily over the course of the program, thanks to weekly meetings and prompt onsite support when needed. Notably, in May 2024, a supplier dispatched a Field Service Representative (FSR) to perform a comprehensive and successful repair of a system on aircraft BC-22. In June 2024, additional FSRs were onsite to provide hardware and software upgrades, ensuring operational readiness of the Maritime Radar.

SECTION 4: DEALING WITH PROGRAM COMPLEXITY (VOLATILITY, UNCERTAINTY, COMPLEXITY, AMBIGUITY, or VUCA)

Value: 25 points

Please respond to the following prompts:

- ***10 points:*** **Describe UNIQUE areas of VUCA faced by your program and why. (Please avoid the issues surrounding Covid-19 pandemic, which was faced by all programs.)**
- ***15 points:*** **Explain how your team responded to these challenges. What changes did you make, what were the results?**

Aviation Supply Chain Management in a Volatile Environment

Aviation supply chains are inherently volatile, often characterized by shortages and the need for expedited shipments through reactive and unpredictable freight markets. These challenges can lead to delays that directly affect mission performance. In this context, JCG and JMSDF operated separate, but interrelated programs under the prime contractor. These programs involved a complex network of stakeholders, including SOASCO/Sojitz—Japanese service providers to both JCG and JMSDF—the Japan Ministry of Economy, Trade and Industry, as well as key transportation partners KSA (Japan) and SEKO (United States). Coordinating logistics across this intricate ecosystem presented significant challenges.

To address this volatility, the Japan Program's Global Logistics team adopted a proactive and integrated approach. Through continuous communication and collaboration, the team pre-positioned resources and implemented strategies to mitigate fluctuations in supply availability. This approach helped stabilize transit times and enhanced predictability for deliveries to operational sites. The Japan Program team further engaged its internal transportation network to develop and present white papers focused on logistics capabilities within Japan. These documents not only demonstrated regional competencies, but also mapped critical workflows, highlighting how information and materials needed to move efficiently between the site, customers, importers, government ministries, and GA-ASI itself. The Global Logistics team conducted a comprehensive analysis of each stakeholder's role and their specific contributions to the overall supply chain. Each transportation leg was clearly defined in terms of timing, function, and responsibility. Additionally, the team adopted a regionalized strategy by assigning individuals to monitor specific local markets. This allowed the creation of targeted guidance for effective entry and operations in unfamiliar regions. Implementing a standardized shipping process has enhanced predictability, ensuring that each shipment adhered to a consistent five-day transit window in either direction.

Managing Uncertainty in the First Six Months of Operations

The initial six months of operations were marked by significant uncertainty, driven by the use of a single MQ-9B aircraft and ground segment and represented the first time this configuration had been deployed internationally. This Phase 1 period served as an operational introduction for JCG, during which GA-ASI and GA-SI (Systems Integration), Field Service Representatives (FSRs) and support personnel addressed early airworthiness requirements, recordkeeping standards, ground and flight Standard Operating Procedures, and fundamental Crew Resource Management practices. One of the primary objectives during this period was to adopt a "fly-fix-fly" approach, operating short six-hour sorties to validate the integration of new payloads. From late November 2022 to March 2023, site teams—comprised of FSRs, Field Operations, and Emergent Field Support Engineering, developed baseline procedures and operational limitations for flight operations in snowy conditions for the very first time.

Spring 2023 marked the program's most demanding phase, during which the team executed all scheduled flight hours and fulfilled contractual obligations. In April 2023, the team, supported by Field Operations, SeaGuardian IRAD Engineering, Global Logistics, International Trade Compliance, and Field Deployment Support, managed a complex transition: maintaining existing flight operations while simultaneously deploying, building, installing, and testing additional MQ-9B aircraft and associated CGCS and Mission Intelligence Stations (MIS)/Mission Operation Stations (MOS (MIS/MOS) systems to meet Japanese regulatory requirements. The team coordinated the deployment of an FAA Designated Airworthiness Representative (DAR) to recertify an aircraft's annual Experimental Certification, facilitating the Japan Civil Aviation Bureau's issuance of Special Airworthiness Certificates necessary for continued MQ-9B operations within Japanese airspace, which was another groundbreaking initiative on the global stage.

Through adaptability, cross-functional coordination, and sustained focus on mission success, the team overcame early operational uncertainty and successfully met all contractual performance requirements.

Addressing Complexity within Agile Mission Systems

From 2022 through 2024, the Agile Mission System (AMS) Program Management team for Japan superbly managed and overcame several program complexities, navigating significant technical and logistical challenges to deliver mission-critical capabilities under compressed timelines. In summer 2022, AMS successfully built and integrated Prototype Mission Intelligence Stations (MIS) and Mission Operation Stations (MOS), a first-of-its-kind effort for this program. The July through August 2022 period brought numerous complex challenges as AMS built, integrated and tested in the Software Integration Lab (SIL). The compressed schedule required a seamless transition from SIL to an aggressive ground and flight test campaign at GA-ASI's Desert Horizons Test Operations Facility in California.

In October 2022, the team executed a complex pack-up, shipment, and deployment to Hachinohe, Japan, culminating in the build-up of the first CGCS//MIS/MOS and successful support of the inaugural MQ-9B flight for Japan. By April 2023, the team expanded the system's operational footprint, integrating two additional aircraft, CGCS, and additional MIS/MOS, enhancing mission capacity and supporting both JCG and JMSDF customers. AMS has consistently managed the complex task of maintaining dual-CGCS data streams to the customer and supporting numerous payload products. The team conducted multiple

onsite engineering visits to troubleshoot and resolve complex payload and ground segment issues, ensuring continuous mission readiness. In June 2024, AMS successfully supported the Maritime Radar payload upgrade followed by critical aircraft and CGCS software updates in November 2024, all while maintaining uninterrupted flight operations. Finally, in late 2024, AMS led the full teardown, relocation, and re-establishment of the ground segment from Hachinohe to Kitakyushu, ensuring operational continuity during the transition to the new site in 2025.

Navigating Ambiguity in a Japanese Business Environment

One of the most complex aspects of the program involved navigating the nuances of Japanese business culture and overcoming language barriers to ensure alignment between GA-ASI and the Japanese customer. A key challenge stemmed from legal restrictions in Japan, which prohibited GA-ASI from acting as the prime contractor with JCG and JMSDF. As a result, a Japanese prime contractor was required to serve as an intermediary between GA-ASI and the end users, JCG and JMSDF, adding layers of complexity to communication and program execution. To mitigate ambiguity and foster clearer communication, the team brought on a contract administrator fluent in Japanese with direct experience in the local Japanese contracting environment. In addition, the program management team ensured that professional translation services were embedded with the Japanese stakeholders, complemented by bi-monthly site visits by the Japan COCO team to manage onsite customer presence as well as regular visits to GA-ASI by the prime contractor representatives. These proactive measures played an important role in ensuring program success and alignment across all parties.

SECTION 5: METRICS

Value: 15 points

Please respond to the following prompts, where predictive metrics indicate items that provide a view of how yesterday's actions and today's actions will affect the future timeline, cost or other requirement. Provide charts/graphs that illustrate performance to these metrics:

- **What are your predictive metrics?**
- **How did you perform against these metrics?**
- **How do your predictive metrics drive action toward program excellence? Provide examples.**

Establishing Predictive Metrics for MQ-9B Operations in Japan

Prior to the initiation of the program, no predictive metrics existed for MQ-9B operations in Japan, as this marked the first deployment of this aircraft with the specific payloads and sensors in the Indo-Pacific region. During the first year of operations, the team focused on gathering mission completion rate data for flight crew and flight hour planning for years 2 and 3. In the initial phase, weather data from Hachinohe, Japan, and the future operating site, Kitakyushu, Japan, were analyzed to establish preliminary "weather completion rates" for both locations. For Years 2 and 3, the program leveraged mission completion data from Year 1,

Actual Completion Rates (Hach) / Expected Completion Rates (Kitakyushu)													
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
Days	30	31	30	31	31	30	31	30	31	31	28	31	Year Avg
Hachinohe Chance of Clear Skies													
Hachinohe % Precip													
Derived Hachinohe Weather Completion Rate													
Hachinohe Actual COCO Year-2 FH Completion Rate													
Hachinohe Expected Completion Rate													
KitaKyushu Chance of Clear Skies													
KitaKyushu % Precip													
KitaKyushu Weather Completion Rate													
Hach/KitaKyushu Expected Completion Rate (metered down)													

Numbers omitted at request of customer

combined with predictive weather completion rates, to develop accurate projections for mission success at both Hachinohe and the site relocation to Kitakyushu in January 2025. It was found that weather conditions were the primary cause of mission cancellations, while cancellations due to maintenance issues had a minimal impact on planning. As a result, weather data played a central role in the development of predictive metrics for future operations. The program manager utilized the "Weather Spark" website to obtain the "chance of clear skies" by month and "% of precipitation" by month in Hachinohe and Kitakyushu to come up with a "derived weather completion rate" for both sites. (100 – (% Precip)) + Chance of clear skies))/ 2 = derived weather completion rate for the month. He then used this formula – ("Actual Year 2 FH completion rate" + "derived weather completion rate") / 2 = "Hach (April-Dec)/Kitakyushu (Jan-Mar) Expected Completion Rate (metered down)" – to come up with a month by month expected completion rate.

Performance Against Metrics

The performance against the metrics was outstanding. The program manager's predictive metrics for year 3 utilizing year 2's actual flight hours and weather predictive metrics resulted in an average monthly flight hour prediction accuracy of 93.4 percent (located in the bottom right of the adjacent chart),

Yr 3 Modeled Versus Actual Flight Hours

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
Days	30	31	30	31	31	30	31	30	31	31	28	31	Totals
Flight Hours (Attrition-adjusted)													
Actual Expected Flight Hours (Attrition-adjusted, HW Limited)													
Likely Flown FH/day													
Likely #22-Hr Flights/day													
Likely # Actual Flights (e.g., ave sortie length in Japan Oct 23-Mar 24)													
Max Aircrew FH Allowed (FOPS/GOPS)													
Percent of Max Aircrew FH Allowed													
Yr3 Modeled FHs JCG													
Yr3 Modeled FHs JMSDF													
Yr3 Modeled FHs Combined													
Actual Yr3 FHs JCG													
Actual Yr3 FHs JMSDF													
Actual Mo Total													
Difference between modeled v actual FHs JCG													
JMSDF													
Combined													
Mo. Accuracy													93.4%

Numbers omitted at request of customer

Leveraging Predictive Estimates for Successful Program Execution

The implementation of these predictive estimates allowed the program to effectively plan for the optimal manning of five or six aircrews, the scheduling of three aircraft and CGCSs, and the successful completion of over 10,000 flight hours. As a result, the program consistently met contractual requirements and maintained mission completion rates exceeding 90% throughout its duration. This performance not only satisfied the customer but also established the program as a benchmark for future MQ-9B operations.

Japan COCO Mission Completion Rates			
	2022	2023	2024
	100%	93%	95%
2022 - Oct 22 - Mar 23 / **2023** - Apr 23 - Mar 24 **2024** - Apr 24 - Dec 24			
Rates based on Maintenance Cancellations, not Weather Cancellations			