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(This section must be signed)

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Thank you for participating,

Gregory Hamilton
President
Aviation Week Network

Acknowledged, agreed, and submitted by

Orli Ivanier
Nominee’s Signature

May 25, 2023
Date

Nominee’s Name (please print): Orli Ivanier _____

Title (please print): Vice President, Elbit America Commercial Aviation Systems _____

Company (please print): Elbit America _____

NOMINATION FORM

Name of Program: EVS-SP _____

Name of Program Leader: Jennifer Zhu _____

Phone Number: 603-886-2436 _____

Email: Jennifer.Zhu@elbitsystems-us.com _____

Postal Address: 200 Daniel Webster Hwy., Merrimack, NH 03054 _____

Customer Approved

- Date: May 25, 2023
- Customer Contact (name/title/organization/phone):
 - Wesley Porter
 - Procurement Specialist
 - 912-433-5863
 - wesley.porter@gulfstream.com

Supplier Approved (if named in this nomination form)

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

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

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?

[LIMIT YOUR NARRATIVE TO THIS PAGE.]

Elbit America's vision for the Enhanced Vision System (EVS) is to bring you home safely and on time even in the worst weather conditions. We are a pioneer in the EVS field, having organically developed the first-ever EVS certified by the Federal Aviation Administration (FAA) in 2001. Since then, we have continued to advance our EVS products, and currently have two newer generations of EVS in production.

Changes in air traffic technology over the last few years provided greater access and flexibility to airports, as well as overall flight safety in low visibility conditions by using Enhanced Flight Vision Systems (EFVS) which combine cameras and visual aids to provide better situation awareness to the pilot. The primary advantage to Elbit America's EVS system is our Electro-Optic (E/O) Infrared (I/R) camera, which can see in low-visibility conditions such as heavy fog, snow, dust, and smoke. The I/R camera can see approach and runway lights, even when the pilot cannot see them with the naked eye. The camera also produces clear images on a Head-Up Display (HUD), and provides necessary visibility for pilots to see vehicles, other aircraft, or any other obstacles (animals and even people) present on runways.

Elbit America's EVS technology is critical for safety and awareness which is most important during takeoff and landing, as most aircraft accidents occur during departures and arrivals. This system replaces the FAA requirement for navigating with the bare eye, as the camera continues to display outside images throughout approach until the aircraft safely touches down. The EVS also reduces the added time and expense of either going around from a missed approach or diverting to a field that is not your destination.

Elbit America's EVS is available on several Gulfstream aircraft, including the GIV, GV, G150, G450, G550, G650, G500, G600, and is optional on the G280. Elbit America's EVS will be factory installed on the new Gulfstream aircraft G700, G800, and as an option on G400.

Elbit America continues to improve subsequent generations of EVS with our third generation Enhanced Vision Systems-Superior Performance (EVS-SP), launched on Gulfstream G500 and G600 models in 2018. Gulfstream chose Elbit America to be its EVS provider for the G700, which was unveiled at the National Business Aviation Association's (NBAA) annual corporate aircraft show in Las Vegas in 2019. The G700 is the industry's newest unmatched flagship.

As part of our vision for this technology, Elbit America is adapting EVS for military aircraft; therefore, further expanding on our promise to bring you home safely.

DIRECTIONS

- **Do not exceed 10 pages in responding to the following four descriptions.**
 - Allocate these 10 pages as you deem appropriate, but it is important that you respond to all four sections.
- **DO NOT REMOVE THE GUIDANCE PROVIDED FOR EACH SECTION.**
- Use 12 pt. Times Roman typeface throughout.
- Include graphics and photos if appropriate; do not change margins.

VALUE CREATION

Value: 15 points

Please respond to the following prompt:

➤ **Clearly define the value of this program/project for the corporation; quantify appropriately**

Twenty years ago, Kollsman, Inc., an Elbit America company, approached the FAA with our new EVS concept and way of thinking about pilot visual performance. Operators cannot fly equipment without FAA approval and compliance with stringent regulations, so Elbit America designed and expanded our EVS technology for commercial aviation application. We developed the technology specifically for this purpose, and worked with the FAA to create new regulations specific to this type of equipment.

Elbit America prides itself in developing technologies that protect and save lives across a range of service sectors. Our EVS solutions are a clear example of our commitment to innovation while remaining true to our corporate values.

➤ **Clearly define the value of this program/project to your customer**

Innovation begins with listening to the customer. We stay ahead of the innovation curve by inventing new technologies even before our customers develop a need. During our initial work on EVS, we researched existing government regulations and helped our customers develop the appropriate updated regulations to certify the new technical concepts. We also worked with our aircraft customer to create a product that enhanced their offerings for a particular market.

Gulfstream is Elbit America's main customer for EVS, and was the first adopter of this technology. Gulfstream was also the first to install and certify an EVS on their aircraft: EVS 1 in 2001. We are proud that Gulfstream has only contracted with Elbit America over the years, and we provide EVS for multiple Gulfstream aircraft models. G700 will be certified soon, followed by certifications for G400 and G800.

Our customers trust Elbit America, and they know we are committed to meeting their needs first. We continuously improve and reinvent our EVS program, we solve customer problems, and our EVS team is easy to work with. Our EVS support and service processes are simple and reliable, which create healthy long-term business relationships.

Our customers appreciate outstanding performance and sensitivity and detection capabilities of our EVS. Elbit America uses a cool I/R, which is the most sensitive sensor. Pilots benefit from our EVS, as it was designed to produce minimal noise and provide much clearer images and pictures from I/R signals.

The EVS program helps keep pilots and passengers safe by minimizing pilot error and landing/take-off accident risks. Pilots appreciate supplemental vision systems, as such systems help them navigate more safely, especially during sub-optimal operational conditions. Our customers also enjoy financial benefits of using our EVS for on-time and complete flights that translate into maximized operations and return on investment.

➤ **Clearly define the value of this program/project to members of your team; quantify if possible**

Elbit America's EVS team experiences the highest job satisfaction when one of our products is certified. This is the ultimate "win" for our team. When we see aircraft with our EVS system, we know we have been a part of something important—creating and implementing a product that saves lives and helps pilots complete their work in a safe and timely manner. The team takes special pride in our rich history of improving flight safety, going all the way back to Jimmy Doolittle's first "Blind Flight" to introducing cutting edge capabilities in aviation.

EVS program members often visit customer labs and factories, and meet with customers at trade shows. Building and fostering these relationships provides our team with a sense of ownership in the program and knowledge that their contributions are a team effort with the customer. Elbit America along with Gulfstream won the Collier Trophy for Innovation in 2004 for the EVS System, and this is proudly on display where all team members can see it.

The EVS program is comprised of many career team members who joined the team at its inception in 2000. Our team members know how much the company trusts their contributions by investing in their ideas and efforts.

➤ **Clearly define the contribution of this program/project to the greater good (society, security, etc.)**

Elbit America's EVS offers unmatched safety, security, and performance and operational credit during low visibility conditions. The EVS program helps keep pilots and passengers safe by minimizing pilot error and landing/take-off accident risks. Aircraft that have our EVS installed are able to land more consistently, saving fuel and emissions. Airlines also benefit by knowing they can safely land cargo and passengers saving time, money, and inconvenience as well.

Figure 1 shows how Elbit America's EVS provides critical information to pilots during all phases of flight for enhanced situational awareness and decision making. Our EVS extends pilot visibility deep into fog, rain, snow, smoke, haze, and total darkness, using state-of-the-art, fully digital, cooled I/R sensor technology.

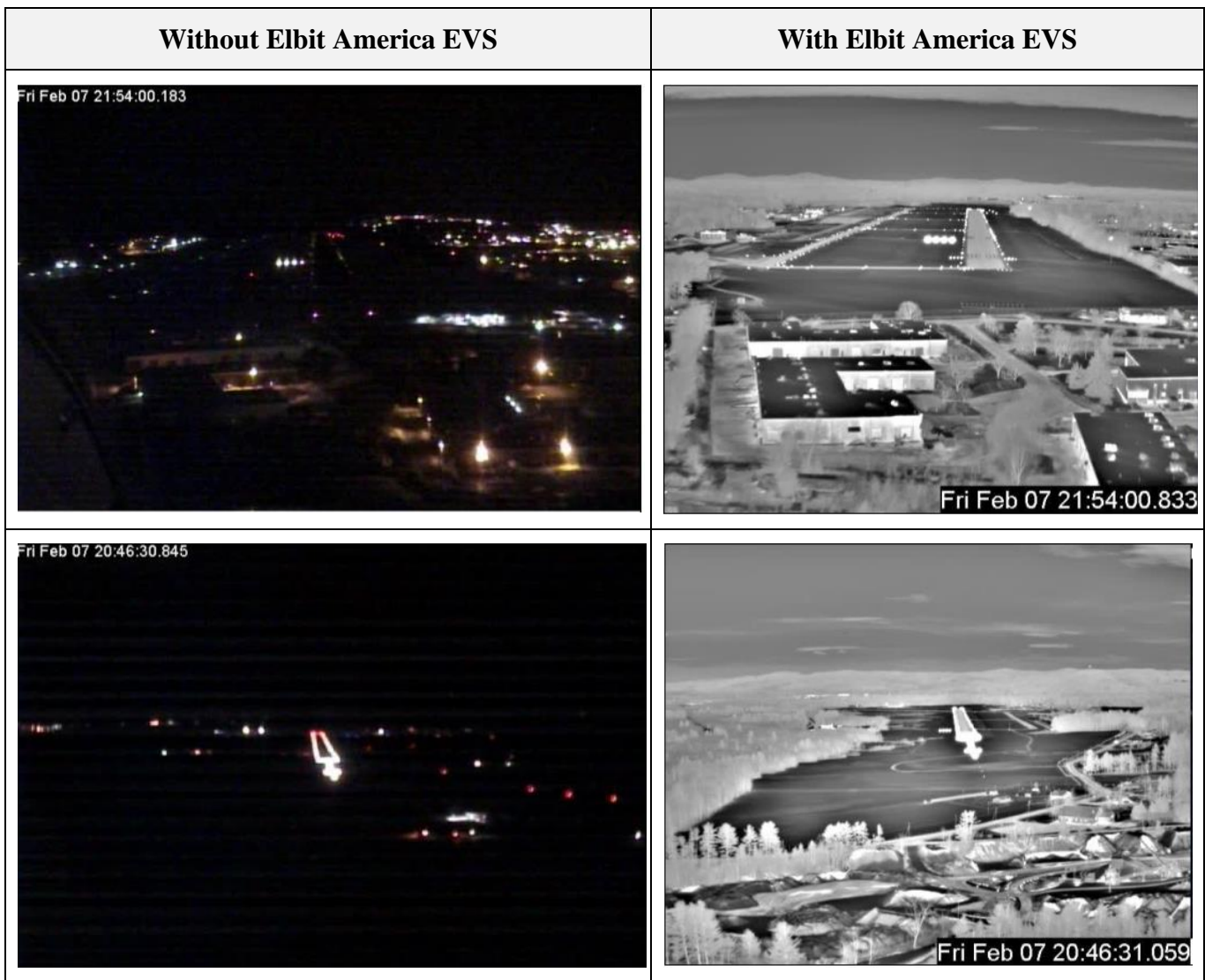


Figure 1: With and Without Elbit America EVS

ORGANIZATIONAL BEST PRACTICES AND TEAM LEADERSHIP

Value: 35 points

Use 12 pt. Times Roman typeface

Please respond to the following prompts:

- **15 points:** Describe the innovative tools and systems used by your team, how they contributed to performance and why

From the beginning, Elbit America understood that an EVS needed to be completely trusted by our customers, so we focused on how we could provide that assurance with a varied and robust testing regimen. For use on an aircraft, the EVS must be rigorously tested and certified to stringent design assurance guidelines for airborne electronic hardware (RTCA DO 254, RTCA DO-160) and software (RTCA DO-178) using certified and approved tools. There must be proof, beyond any doubt, that the EVS operates as required under all operational and environmental conditions, that the system is easily usable by pilots, and that the pilots like using it.

Elbit America completes varying levels of testing—at component/circuit level, sub-assembly level, and system level. One of the ways we verify the design is through specialized tools and lab equipment that simulate affected aircraft interfaces. Using a simulator, we are able to send aircraft control and status signals back and forth between the EVS and simulated cockpit to ensure the system performs as expected.

The company also performs integration testing of the EVS systems at our customer’s facilities. We utilize aircraft-specific Integration and Test Facilities (ITFs), which are lab mockups of planes to test our EVS. These ITFs provide easy access to aircraft interfaces, where real-time troubleshooting may be needed. Our EVS team actively integrates into a variety of cockpit configurations and experiences our simulated system as if we are in the cockpit of real aircraft.

Only after our EVS passes criteria in the lab environment is it integrated on actual aircraft. This step also involves exhaustive test flights. Elbit America has invested in our own aircraft, and maintains certified test pilots to test our EVS. Our EVS program pilots – customer and Elbit America – find this testing regimen exciting because they get to purposefully find the worst possible weather and visibility conditions to test how well our EVS operates in fog, rain, and snow conditions.

The EVS adjusts to current conditions in real time to maintain optimal detection capability for taxi, takeoff, and landing operations in low visibility weather situations. Figure 2 shows Left: without EVS. Right: with EVS

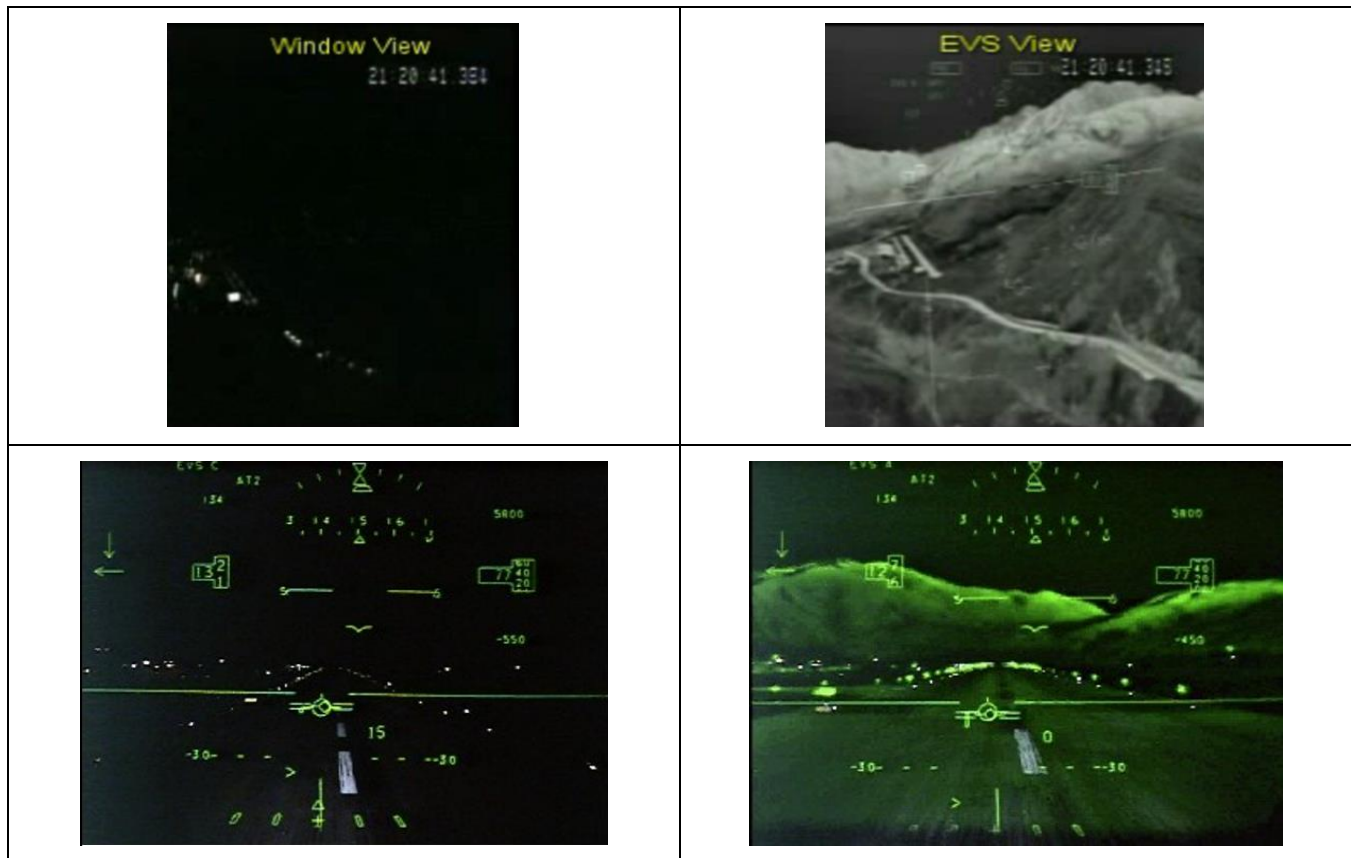


Figure 2: Comparative EVS Scenes.

Elbit America and Gulfstream test pilots also record live video of their approaches and takeoffs so our teams can analyze the data and detection ranges and improve the EVS accordingly.

This comprehensive testing program, through all levels and situations, provides our customers assurance that our system will work as designed in all circumstances.

➤ **10 points: Define the **unique** practices and process you used to develop, lead and manage people?**

Collaboration is the most crucial tool Elbit America teams employ to develop, lead, and manage people on the EVS program. Emerging communication technologies allow our team to connect and communicate remotely when team members are on the road, and when we communicate with customers. For example, the EVS team uses Miro, a visual collaboration platform with outstanding graphical tool capabilities, to show all tasks, personnel assignments, work content, and relationships between work products and people assigned to work.

Elbit America's EVS team engages software development in an Agile environment. The methodology breaks down tasks into realistic pieces, groups them together into sprints, and sets near-term objectives in short timeframes. We see the most measurable progress in real time with this method.

In a world where remote is the norm, our EVS program team members benefit most from in-person meetings. Face-to-face collaboration keeps our meeting times productive, short, and to the point. During critical activity periods, we hold morning "Dailys" to ensure all team members hear the same messages at the same time, alleviating risks associated with potential miscommunications. At these brief meetings, we assign action tasks, status completion of work, then meet the next day to ensure tasks are on track and to identify any barriers to success that need to be addressed.

Our customers have many different collaboration tools, so the Elbit America EVS team members are flexible and learn what our customers prefer for maximized communications and collaboration with them.

Recruitment for EVS program personnel is not a challenge. It is easy to get people excited about what we do in the EVS program. Once new personnel are on board, there is a steep learning curve, and exposure to many distinct aspects of the program—program management, engineering, software, mechanical, optical, electrical, as well as quality, production, and sustainment. We align resource areas with individual strengths and mentor new personnel, so they fully grasp our development, testing, and performance environments.

➤ **10 points: How did you leverage skills and technologies of your suppliers?**

To achieve our market leading position, Elbit America works closely with our two major suppliers that are world leaders in IR technology – SCD and Opgal. SCD is a worldwide leading supplier of infrared detectors. With over forty years of research, development and mass production at SCD, their technologies and infrastructure are core enablers for infrared electro-optical systems. Opgal has established itself as a leading player for IR sensor across multiple and complex industry verticals, including defense, security, industry, and aviation markets.

Excellent EVS design is key to leveraging our suppliers' core competencies. Elbit America uses Kanban, an inventory scheduling system, that allows stocking for necessary components and parts in the production or distribution process to keep inventory levels as low as possible. Kanban has an automatic supply replenishing system and is not proprietary. Many of Elbit America's suppliers signed up to use Kanban, and it has flowed steadily to maintain low inventory. This reduces budget, production, and performance risks for Elbit America and for our customers.

Elbit America takes advantage of contracting vehicles and places suppliers on long-term agreements. This is a great opportunity to lock in pricing. Multiyear contracts and multiyear pricing allow us to manage inventory without placing numerous purchase orders and quotes every time quantities are updated or new contracts are awarded.

Our component engineering team monitors for obsolete components, and Elbit America makes lifetime buys for these parts to mitigate requalification or parts shortages. Our EVS program engineering team provides context to supply issues as well. Feedback from engineers ensures supply risks do not impact accessibility and schedule.

Elbit America's EVS program team has quarterly Program Management Reviews (PMRs) with key suppliers at supplier sites twice a year, and at our site twice a year. This close and ongoing collaboration keeps communications flowing. In addition, Elbit America schedules weekly status calls with suppliers and schedules visits at Elbit America's facility and supplier facilities. These visits keep supplier relationships strong and ensures Elbit America has the latest delivery status.

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

Value: 25 points

Use 12 pt. Times Roman typeface

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.)**

FAA Regulation Changes Regarding Landing Credit. The FAA changed regulations regarding landing credit (part of the EFVS) at the end of 2016. The main purpose of this landing credit change was to allow credit for safe landing through the use of EVS solutions during poor visibility all the way through touchdown. Prior to the change, on pilot approach without an EFVS, the pilot must see approach lighting systems with the naked eye at 200 feet to complete landing or at 100 feet with an EFVS and receive credit for safe landing. If there is low visibility, the pilot may not be able to complete the landing without an EVS. This leads to schedule delays and increased costs and productivity for the customer and their end users.

FAA Regulation Changes Regarding Takeoff Requirements. Another change in FAA regulations addressed specific condition requirements for pilot landing at each airport and each runway depending on airport, weather, and visibility. Prior to the rule change, if forecasts were below the allowance, pilots could not take off. This delay created risks associated with customer performance and schedule quality, leading to increased expenses and budget overruns.

Supply Chain Challenges. Another area of VUCA for the EVS program involved challenges in supply chain for components, particularly electronic components. Typical challenges included:

- Supply lead times moved from three to four weeks to up to 52 weeks
- Purchase orders were issued for a part a supplier previously provided, followed by communications from the supplier that the part was no longer available (usually resulting in a price increase for the part)
- Extraordinarily long timetable of up to two years to redesign an obsolete part, or several months for even slight changes to an existing part
- An additional supply challenge was knowing what quantity of parts to purchase. With a diverse product line and an ever-changing supplier plan, it is often difficult to know how many parts are needed.

- **15 points:** Explain how your team responded to these challenges. What changes did you make, what were the results?

FAA Regulation Changes Regarding Landing Credit.

FAA regulations now allow pilots using an EFVS to complete their approach based on the EVS image displayed on a Head Up Display (HUD) or a wearable display and receive landing credit. However, credit to do that, depends on performance of the camera. Elbit America has successfully proven to the FAA how our EVS performs to obtain landing credit. The EFVS is a system including a real-time sensor (EVS) that allows pilots to see through fog, heavy snow, and other environmental conditions that hide what the naked eye should see under optimal weather and air conditions. Elbit America’s EVS employs a unique wavelength on the approach lighting system so the pilot can see images and complete landings. Optimal results: improved safety, improved situational awareness, and complete flights on time with no delays.

Changes in FAA Regulations Regarding Takeoff Requirements. Moving forward, visibility limits are set by airports, and the FAA certifies who can land and take off, even if visibility limits are lower than required. Again, requirements depend on performance of the EVS camera.

Elbit America was the first EVS contractor to obtain EVS landing credit certification from the FAA. To accomplish this, we engaged the FAA and developed ground base testing to show performance of our system. The FAA joined Elbit America during testing at different airports around the U.S., where we tested our EVS performance in severe weather conditions to help develop an approved method on how to measure performance – also a first.

In addition to Elbit America’s ground-based testing, Gulfstream employs flight testing to demonstrate the EVS visual advantage of seeing runway lighting in severe weather (Figure 3). Elbit America’s EVS program team provided Gulfstream with ground testing results to add to their flight-testing results and subsequently they were able to submit an integrated test report to the FAA.

Visual Advantage Testing



▲ Visual Advantage Data recorded

▲ Test methods

- 2 Truck method utilized: Camera Truck, Landing Lights Truck
- GPS tracking of position, distance, time
- 3 Lamp types tested: PAR 38 approach, Par 56 approach, LED (PAR 38 form factor)
- Lamps arranged per MALSRS specifications on 10’ boom

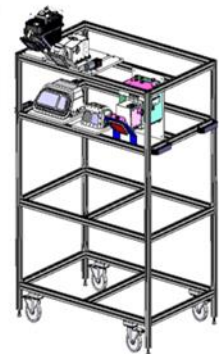


Figure 3. Visual Advantage Testing

Elbit America’s visual advantage data is recorded and shared with Gulfstream to provide more complete results showing how runway lighting is viewed in poor weather conditions.

Supply Chain Challenges. To mitigate risks involving supply chain, Elbit America implemented new procedures to overcome and meet customer requirements. We signed long-term agreements with suppliers, enabling them to buy materials and quantities earlier and with more stability. We also developed new forecasting models and employed a risk management framework and assessment processes to better manage suppliers.

Although supply chain difficulties are common, Elbit America used this opportunity to produce a unique achievement with our customer, Gulfstream. After maintaining 100 percent on-time delivery to Gulfstream for the last five years, Gulfstream awarded Elbit America **Supplier of the Year** for 2020 and 2021.



Figure 4: Kollsman, Inc. (an Elbit America Company) winner of the 2020-2021 Gulfstream Supplier of the Year Award

Their criteria were stringent, and Elbit America met their exacting requirements in these five categories:

- Quality of deliverables
- On time delivery
- Availability
- Engineering, and
- Customer support

Long-term agreements were signed earlier in our relationship with suppliers. In turn, our suppliers were motivated to make our supplies available at more cost-effective pricing. We also began keeping inventory in house and developed processes to verify that we could deliver to customers as required, overcoming delays, reducing costs, and avoiding obsolescence issues.

Elbit America began working on EVS SP development in 2012, and has faced obsolescence issues since that time. Twice a year, Elbit America conducts reviews of full bills of material to create a watch list of obsolete parts. If something comes up, we find a preferred replacement. If there is no form-fit-function

replacement, we perform a last-time buy survey from the Original Equipment Manufacturer (OEM) to estimate what we need, and then purchase extras for sustainment. This method of dealing with obsolescence is more cost effective than redesign.

If this method is not possible, Elbit America engages dealers to find parts. If parts are not from an authorized distributor, Elbit America must test and verify parts. We use third-party labs to verify parts to ensure they are not refurbished or counterfeit.

If all else fails, Elbit America redesigns parts and products. Since the cost of redesigning a certified product is high, we develop and test according to strict FAA requirements. Parts installed on commercial aircraft must follow FAA development requirements, so Elbit America completes required testing and validation and complies with requirements regarding design, coding, and development. The FAA then audits Elbit America's work to verify we followed every required process.

METRICS

Value: 15 points

Use 12 pt. Times Roman typeface

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?**

The metrics Gulfstream employs to create their supplier scorecard is similar to what Elbit America's EVS program uses as predictive metrics. By self-grading the EVS program against Gulfstream criteria, we have a good idea about how to perform at the top of their scorecard.

Our supplier report card from Gulfstream demonstrates our excellent performance and highlights our commitment to a zero-defect culture.

- Graded "A" in Total Value Chain Cost
- Graded "A" for the highest score of 100 in Delivery Production
- Graded "A" for a score of 96 in Customer Support
- Graded "A" for the highest score of 100 in Procurement Returns
- Graded "A" for a score of 90 in Engineering
- Graded "A" for a high score of 2.65 (out of 3.0) in Reliability

Elbit America EVS has internal report cards as well.

- **EVS II and EVS SP – Customer Satisfaction Metrics:** On-Time Delivery, Customer Corrective Actions, Reject on Arrival. Sales order dashboard is validated based on promised on-time delivery contract vs scheduled on-time delivery plan.
- **EVS II and EVS SP – Process Execution Metrics:** Defects per Unit, Rolled Throughput Yield, Supplier OTD, Supplier Quality.
- **EVS II and EVS SP – Continuous Improvement Metrics:** Hours per Unit, Scrap Index Cost, Rework Cost Index, Open MRBs, Open Scars.

➤ **How did you perform against these metrics?**

Customer Satisfaction Metrics

| | On-Time Delivery | Corrective Actions | Rejects on Arrival | Notes |
|--------|-------------------------|---------------------------|---------------------------|---|
| EVS II | 99.67% | None | None | Sales Order Dashboard showed schedule aligned with delivery contract. |
| EVS-SP | 100% | None | None | |

Process Execution Metrics

| | Defects per Unit | Rolled Throughput Yield | Supplier OTD | Supplier Quality |
|--------|-------------------------|--------------------------------|---------------------|-------------------------|
| EVS II | 0.03 | 94.67% | 98.63% | 99.91% |
| EVS-SP | 0.13 | 88.10% | 75.70% | 99.65% |

Continuous Improvement Metrics

| | Hours per Unit | Scrap Cost Index | Rework Cost Index | Open Material Review Boards (MRBs) | Open Supplier Correction Action Request (SCAR) |
|--------|-----------------------|-------------------------|--------------------------|---|---|
| EVS II | 23 | 0.15% | 0.00% | 11 | 1 |
| EVS-SP | 35.23 | 0.03% | 0.41% | 9 | 0 |

➤ **How do your predictive metrics drive action toward program excellence? Please provide examples.**

Elbit America’s EVS programs examine where our shortcomings are (for example, the time it takes to analyze failure and come up with corrective actions.) The goal is three months. If we exceed this, we perform root cause analysis to determine how we can do it better. We identify improvement opportunities based on what the data shows, and we develop action plans on how to address these shortcomings. We have a full Integrated Program Team (IPT) that participates in these analyses to offer corrective actions.

In anticipation of a company-wide move to a new Enterprise Resource Planning system scheduled for January 2023, the team knew they would need to carefully monitor shipping dates during the transition. They conducted in depth planning to ensure all product and customer information was properly prepared to be transferred to the new system. The teamwork approach they use daily to manage the EVS product line has proven valuable in anticipating and planning for all possible contingencies during the transition.

Elbit America’s 3rd generation EVS will soon be certified on the G700 aircraft, with a new software version and improved product reliability. Reliability analysis based on predictive metrics is performed on a monthly and quarterly basis, and our quality analysis process tells us how we perform, how we want systems to perform, and what improvements are needed.