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.

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Thank you for participating,

Gregory Hamilton
President
Aviation Week Network

Acknowledged, agreed, and submitted by

________________________________ 6/6/2023__________

Nominee's Signature Date

Nominee's Name (please print): Matt Mason

Title (please print): Program Manager

Company (please print): Elbit America

NOMINATION FORM

Name of Program: Vertical Lift Test Bed (VLTB)

Name of Program Leader: Matt Mason, Paul Rotsch

Phone Number: 682-286-2437 (Matt Mason)

Email: Matthew.Mason@elbitsystems-us.com, Paul.Rotsch@elbitsystems-us.com

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- ☐ Customer Approved (Not required)
  - Date: ______________________
  - Customer Contact (name/title/organization/phone): ______________________
- ☐ 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?

Elbit America's Vertical Lift Test Bed is an internally funded development program intended to provide a platform to test and demonstrate new technologies for our vertical lift business at company and customer facilities. Issues that have prevented rotary wing Original Equipment Manufacturers (OEMs) and government stakeholders from experiencing these technologies have been impacted by the lack of availability in simulators and aircraft. By designing and assembling the Vertical Lift Test Bed (VLTB), these issues have been overcome, and dozens of Elbit America technology demonstrations have been provided to these stakeholders. By showcasing next generation Helmet Mounted Display (HMD) systems and advanced processing Situational Awareness algorithms in a real aircraft environment, the team has built a foundation for meaningful customer engagements.

When Elbit America determined that a flying test bed was both beneficial and necessary, the team set out to find a suitable aircraft for that role. In identifying an AS-355 Twinstar helicopter, the team immediately embarked on a challenging journey to bring the aircraft into flyable condition. This effort was complicated by several OEM changes on the aircraft side as well as what turned out to be a unique configuration for the specific aircraft we purchased. That unique configuration meant locating necessary documentation and replacement parts was often an exercise in perseverance. Once the aircraft was finally in flyable condition, the team then had to focus on certifying the aircraft as experimental which allowed installation of unique technologies for demonstration to our customers. Finally, Elbit America engineers took an extensive Israeli sensor suite design made for a Bell 409 helicopter and reconfigured it to work on the Twinstar. The mechanical, electrical and overall size, weight and power requirements were significantly different between the two aircraft, so a complete re-design was required to install it on the VLTB. The team then focused on executing the installation and checkout of those systems and gaining clearance to fly in an experimental configuration. The end result was a testbed capable of a comprehensive demonstration of the operational concept we wanted to showcase.

During the 2022 Vertical Lift Society event in Fort Worth, we not only brought the VLTB to the show floor but also safely powered on our sensors and displayed our advanced HMD to hundreds of aerospace industry experts. During the first ever Advanced Air Mobility Forum held in Springfield, OH in Aug 2022, we demonstrated dual use technologies to support safety and effectiveness for both military helicopters and the emerging civil air mobility market. Not limited to vertical lift customers, the VLTB team successfully integrated and demonstrated a communications system for a new potential customer clearly showing how the communications system would work in the field. By showcasing new technologies in a real aircraft environment, the customer can quickly visualize how the technology can be applied and the Elbit America vertical lift team has received valuable direct customer feedback allowing us to enhance our products for our US customers.

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**

Prior to this testbed effort, our team did not have an effective way to consistently demonstrate our technology solutions to potential external customers outside of staid presentations. Building and maturing the Vertical Lift Test Bed (VLTB) required a level of focus from our engineering team that provided excellent experience in designing, integrating and testing new technologies in a real-world environment (see Figure 1). Focusing the technologies around an operational mission set also gave the VLTB team a clear vision for how to showcase each capability. These demos, followed by discussions with current and former helicopter pilots, helped us to further our understanding of the enduring fleet and Future Vertical Lift (FVL) mission set. We listened to the government's recommendations and have made strategic alignments with other sensor providers and mission processor developers to further advance our product lines and solutions that will fill a US warfighter need. These discussions and planned future demonstrations have led to additional knowledge of the vertical lift space and will improve our market positioning and increase win probabilities.

Figure 1: ESA's VLTB demonstrates new operationally relevant technology

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

This effort had a major effect on direct interactions with our military customers. By demonstrating the Helmet Mounted Display (HMD), Degraded Visual Environment (DVE), and Situational Awareness systems to key Army Program Executive Officers and Program Office staffs on numerous occasions, we have better aligned our products to the customers' needs. By setting up multiple demos specifically for the Army FVL Cross Functional Team (CFT) in Fort Worth and flying the VLTB to Huntsville twice, we have shown our commitment to potential military users and focused our efforts on increasing our value to the vertical lift mission area (see Figure 2). We also continue to expand our HMD and DVE product lines to add capabilities which both enhance mission effectiveness and safety.

Figure 2: Helicopter pilot experiencing our HMD system

Outside our pilot focused solutions, we also were able to showcase how our new communication system could provide connection between an aircraft and related ground forces. Using the VLTB combined with an operationally relevant scenario, we were able to directly demonstrate how a user would interact with the system. For many civilians on the Air Force government team, this was their first opportunity to see the system in action and really understand the various components. In addition to our government customer, we also work with our industry partners to develop synergy and find complementary capabilities that highlight each partner's core products.

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

The VLTB is a very non-traditional project and we had to significantly adjust our management from a "traditional" program approach. During the development and integration of these innovative new products, with oversight from business unit leadership, we built a truly diverse workforce that included allowing Engineering to take on more traditional program management tasks. By allowing this multi-discipline team to share and transfer deep technical knowledge of the system from one person to another, we ensured a depth of knowledge within the team. Similarly, by allowing multiple people to lead integration and demonstration efforts, we were able to take advantage of a wider range of experience and diverse ideas while providing a safe learning environment for newer members. Overall, this collaborative approach demonstrated career growth opportunities to all the participants while especially utilizing the spirit and ideas of young engineers and technicians. Given the demonstration aspect of the project, the team members also gained personal satisfaction from seeing the results of their work in a relatively short period of time. When the aircraft flies with a new system on board, the team members who made it happen get immediate feedback on their efforts. A large team such as this has also built true esprit de corps and the personal pride in knowing that we could make innovation happen at such a high level.

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

Successfully demonstrating an emerging technology on a flying test bed for direct customer feedback provides immediate, clear evidence of the value of new capabilities and operational concepts. Doing so while complying with Federal Aviation Administration (FAA) rules related to flight safety and Federal Communication Commission (FCC) broadcasting constraints has been exceedingly challenging. However, understanding and complying with these government rules ensured we were properly considering relevant safety, security and broadcasting boundaries. With that understanding, the ability to rapidly iterate new mission concepts in a flying test bed allows for those concepts to be wrung out and the applicable technology to be fielded more rapidly enhancing warfighter operational effectiveness and safety.

The Elbit America leadership and our company culture promotes community involvement. Our VLTB project is a great example of how we engage with the community. We partnered with a local high school Engineering class to give these future engineers a first-hand opportunity to see some of the amazing things that our local industries are doing. We took our helicopter to this high school where we put around 40 students through a ground demonstration using our latest helmet technology – and they loved it! The demo started with a presentation of the 2D and 3D symbology (on the helmet) followed by the FLIR and low light TV camera. We finished up the demo with a simulated hover above Lake Granbury to show 3D obstacles and the low visibility landing grid. This was a great experience for all involved.

Figure 3: Community Event with Local High School Engineering Classes

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**

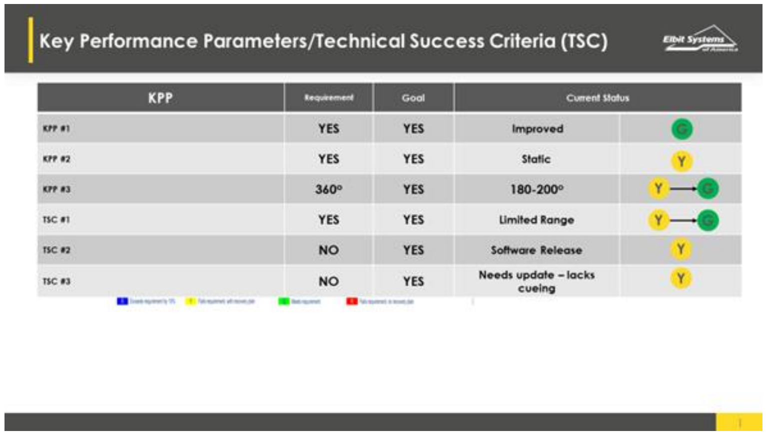
We had to adjust our approach to managing this project significantly from the "traditional" program management approach. Our real customers were internal and their requirements were aligned with our external customer requirements, to the best of our understanding. This fact drove how we managed the program – both programmatically and as a development program. We approached the VLTB project with an "agile" mindset. We always had an end goal in mind but rarely did we have a clear path to get there. That was developed as we worked towards the overall objective. Since this was an internally funded project without a direct external customer, our team had to work to derive requirements based on perceived and understood customer need. The need to be focused on the long-term objective but provide a framework that allowed the desired flexibility without derailing the project, drove how we managed the program. Thus, from the beginning the "agile" mindset was key– always keeping the end goal in mind but our plans allowed for adaption to ever changing requirements. The development was thus performed in an iterative approach, allowing new features and functionality to be documented, developed, and tested – building on previous capabilities.

Elbit America invests in tools and systems to support model design and performance excellence and to manage and meet customer requirements, while also supporting custom software and hardware. Many contractors use the tools and systems discussed below; however, innovation is demonstrated by how our team uses these systems to achieve program goals and manage requirements to customer satisfaction.

QlikView (QV) is a collaborative management tool Elbit America employs to provide the Program Manager, program team, and leadership access to a single source of truth (data), available at the click of a button. Access to data is no longer dependent on pulling from multiple spreadsheets stored in disparate files and locations. Sharing the same data across the team speeds up understanding and decision making and ensures the entire enterprise has the same status.

As the team working this project was heavily made up of engineers, the team leaned hard on the Systems Engineering process to guide their actions. When the aircraft was first purchased, the structure and currently installed aircraft systems needed to be assessed and evaluated to determine what was required to bring the aircraft to a current safe configuration. This effort included a detailed review of all aircraft documentation, maintenance and airworthiness approvals. As the team broke down all the required tasks, they focused in on the requirements for an adaptable testbed to help capture the minimum capabilities for the system. Once that was determined, they began to take the original system designed for a Bell 409 helicopter and reconfigure it to work on the Twinstar. Given the differences in the mechanical, electrical and overall size, weight and power between the two aircraft, a significant engineering analysis was required to ensure the new design would work without compromising either the aircraft or the system performance. The methodical approach inherent in the systems engineering process ensured that the team would take the larger problem, break it down into manageable tasks and then work each of those lower level tasks to conclusion. Along the way, they held iterative design reviews to ensure the technical requirements were properly translated into meaningful direction to all the affected participants.

As part of the original project definition, the team determined our Key Performance Parameters (KPPs) expected from or informally defined by conversations with our customer. These technical aspects of the project were then tracked and assessed regularly to ensure the end result would meet customer needs. If a KPP was not on track, the team would review the risk assessment for update and prepare a plan to address any gaps. We also assessed Technical Success Criteria (TSC) which were internal engineering goals that linked to other corporate level technical efforts. A sample of the KPP/TSC tracking log is shown in Figure 4.



KPP	Requirement	Goal	Current Status	
KPP #1	YES	YES	Improved	G
KPP #2	YES	YES	Static	Y
KPP #3	360°	YES	180-200°	Y → G
TSC #1	YES	YES	Limited Range	Y → G
TSC #2	NO	YES	Software Release	Y
TSC #3	NO	YES	Needs update – lacks cueing	Y

Figure 4: KPPs/TSCs (Tracked and Updated at Program Reviews)

Stakeholder communication and engagement ended up requiring specific attention. Because the original design was created by the Elbit Systems Israeli team, extensive communication was needed to transfer not only the official design package and authority but also the inherent knowledge gained by their engineers over a number of years flying their testbed. The search for spare parts and up to date manuals required extensive coordination with a range of vendors and manufacturers. As we moved to the installation phase, we also learned to coordinate ahead of time with the FAA Designated Engineering Representatives (DER). This pre-coordination ensured any potential issues with certification were identified up front. During those conversations, the team would also discuss and resolve any risk areas or determine how to sufficiently mitigate the risk.

In addition to the team working on the helicopter itself, a parallel team was working on setting up and preparing for the customer demos. To ensure everyone working on the customer events was kept informed, the event team met weekly and put out quick updates with due dates and actions. This ensured everyone was kept informed even if they could not attend the weekly call. This second group arranged for airfield space and support from nearby commercial airports, setup hanger and meeting room space, sent out invitations to key customers and ensured all regulatory requirements had been satisfied before the flights. Each demonstration required a specific plan of attack to ensure the technology demonstrated was relevant to that customer and all safety and legal requirements were met. The collaboration amongst this team resulted in a range of demonstrations that showcased our innovative technology and allowed us to get direct feedback on our solutions from those who would use it in the field.

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

Early on in the project, the team was largely part-time and the ability to focus on the issues with getting the testbed operational was constrained by other demands. Because the team had never developed a flying testbed let alone a rotary testbed, every task was a new experience.

First, the team quickly determined they needed to add specific expertise to the team to address gaps in rotary maintenance and operations as well as the FAA test process. Our primary supplier was the source for this expertise given their extensive experience in both the rotary and testing space. Adding them to the team was critical to addressing this gap in organic knowledge.

The second issue the team faced was a lack of focus on the project due to other competing demands. Identifying a dedicated project lead was key to sharpening attention on the tasks to be done. The project lead also had an engineering background and was able to troubleshoot across both project management and engineering issues. He was also able to manage the relationship with our supplier and created a trusted communications channel to quickly address issues as they arose.

The final way the team managed people was bringing in a number of junior engineers. While adding less experienced personnel seemed counter intuitive, in reality, these engineers were hungry to learn and were not intimidated by some of the issues the team encountered. They were able to think creatively and problem solve without being constrained by the "way we've always done it." These engineers were also able to be assigned to the project full time and as a result could follow through on an issue to resolution.

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

A key expertise that the Elbit America team did not possess was in rotary maintenance and the FAA flight safety certification process. We were fortunate to find not only a company who brought that expertise to the team but also an FAA certified test pilot with rotary experience. In addition to providing maintenance and performing periodic inspections, they were able to fly the aircraft at the appropriate required intervals. Because of their rotary experience, they were able to provide specific engineering advice on how to safely install what was a nose heavy system without impacting flyability. Their relationship with the FAA DERs also provided an avenue for discussions at various stages of the project to ensure we were on the right track before we had too much time invested in a non-viable solution. This contribution was a game changer in ensuring the aircraft was maintained properly and that any modifications to the aircraft would be documented and approved appropriately through the FAA process.

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.)***

Building up and certifying baseline helicopter. When the initial aircraft for the testbed was identified, it had not been flown in some time. Further complicating the initial preparation, the aircraft was part of a limited production run, with two engines verses one for remainder of fleet, and the majority of the parts were thus not interchangeable with other similar aircraft. Finding qualified and suitable spare parts to build the aircraft back to flying status was a constant challenge. The team also had no experience as a major aircraft OEM and did not have many of the processes in place to handle typical OEM issues with operations and maintenance.

Installing technology demonstrations. Once the aircraft was rebuilt and ready to fly, the team faced the uncertainty associated with turning the aircraft into an experimental testbed equipped with new, first of its kind technology. The original design was for a different helicopter type and thus had to be reworked for the Twinstar. Getting the aircraft modified, tested and ready for demo flights also had to consider safety for both the pilot and any personnel flying aboard. Because the testbed was intended for customer demonstrations, the team also faced pressure to meet a tight timeline with hard delivery dates.

Operating an Experimental Aircraft. As a small company without a previously existing flight department or experience managing flight operations, we did not possess the necessary civil aviation expertise to meet our program objectives, safely and successfully. Thus, it became clear we required outside expertise familiar with civil flight operations and had knowledge on how to navigate the complex and varied processes of the FAA. Without this critical support, we would likely face greater risk and difficulty in successfully executing our program.

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

The team was able to successfully accomplish the goals of the project through exemplary collaboration of multiple technical disciplines, between multiple companies and across several sites in both the United States and Israel.

Building up and certifying baseline helicopter. Preparing the aircraft to return to flight required an extensive review of all the existing aircraft documentation and maintenance records. The team had to carefully determine what prior safety or routine modifications had been installed and which still needed installation and in which order. All required FAA inspections had to be completed. Initially, the team underestimated the amount of effort necessary to complete the configuration assessment and build-out. Because the aircraft was purchased near is its 12-year inspection window, the team faced further significant challenges in scheduling maintenance activities and locating replacement parts. The team addressed this roadblock by assigning dedicated personnel to track down the associated parts and manuals. The team's lack of organic rotary experience was filled by our supplier who brought both maintenance and operations experience in the vertical lift space. This critical partner's participation on the team also ensured all FAA required flights and signoffs were accomplished as required ensuring the aircraft met safety expectations.

Installing technology demonstrations. To convert the aircraft to a flying testbed, Elbit America engineers took an extensive Israeli design made for a Bell 409 helicopter and reconfigured it to work on a AS-355 Twinstar. The system configuration of the mechanical, electrical and overall size, weight and power were significantly different between the two aircraft, so a complete re-design was required to install it on the VLTB. By working hand in hand with the VLTB maintenance / modification contractor, the team was able to concurrently work to integrate a system of 12+ Line Replaceable Units (LRUs) including 3 advanced system processors, 4 sensors and a prototype Helmet Mounted Display (see Figure 5).

Figure 5: Example Sensor Bundle

A tight demonstration schedule forced the final integration and test flights to be completed in less than 2 weeks, working around required maintenance flights, pilot availability and weather limitations. During this period, the team completed the final sensor/synthetic world alignment and trained the demo team how to run and maintain the system. Ahead of the first customer demo, the aircraft had to be flown 8 hours from Fort Worth to Huntsville, AL and then prepared for the demo scenario at a transient airfield with limited aircraft services. Once the system was ready, the team executed four long days of flight demos and in the weeks following, the team flew various Future Vertical Lift OEM personnel in Fort Worth where a new scenario had to be developed and rehearsed. The lessons learned from this first set of demonstrations were used to better plan for and execute subsequent demonstrations at other locations.

Subsequently, a completely new sensor bundle and additional flight data processor/recorder and aircraft electrical circuitry had to be incorporated to demonstrate our software defined radar and satellite-based synthetic virtual terrain capability. New collaboration efforts with both the FAA and FCC were also required to approve the use of the radar in flight. The team had to overcome frequency spectrum conflicts with other systems and miscommunication between federal agencies to get this approval. This was done by having the radar software designers limit the actual frequency bandwidth and then constant communication with the FCC and FAA approvers. The new technologies were well received by all and has resulted in additional requests from customers to further understand the technology capabilities.

Operating an Experimental Aircraft. On the civil aviation approval front, once we knew we needed outside expertise to assist us with the FAA flight clearance process, we identified several subject matter experts who assisted the team in developing and implementing policies and procedures for ensuring safe flight operations. They also guided us through the approval processes for making the numerous modifications to our aircraft and then certifying our new aircraft as experimental. That assistance was invaluable as Civil Aviation is a very different environment than the one our team was used to operating in. These Subject Matter Experts (SMEs) helped us to develop and submit required documentation and work with FAA Designated Airworthiness Representatives (DARs) to recertify the aircraft with the FAA. They also acted as the primary interface with local FAA DERs until we had developed the skills necessary to take the lead. These SMEs also served as sounding boards for our program and management teams, helping us to set realistic and achievable objectives. Over time we have developed internally the skills needed to manage effectively manage aircraft operations, the FAA, and the ongoing modifications to the platform. But early on the success of our program hinged on the contribution of those SMEs; without their support we would have experienced far greater risks and difficulties in our VLTB program.

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 team relied heavily on schedule-oriented measures for both the maintenance/flyability of the aircraft as well as the customer focused demos which were fixed on the calendar. FAA required maintenance intervals were fixed dates the team had to meet and any installation activities had to be coordinated to avoid downtime driven by the periodic inspections. The team also had to work around expected customer demos which assumed a particular configuration based on the technology to be demonstrated to that customer. All of these schedule related activities were tracked from end date backwards to ensure sufficient response time and to identify potential bottlenecks on tasks or people before impact on the program.

We closely monitored out performance to our plan through the use of our QlikView tools. An example of how we use QV to monitor our progress to milestone commitments is shown in . Data in QV is available to anyone on the internal network and allows easy access to data that is reviewed at periodic weekly and monthly internal meetings to monitor and adapt our plans when needed.

Even though this was a non-traditional program, we followed our robust risk management process to identify risks and to plan the steps necessary to mitigate these risks to maximize the benefits of this program. An example risk cube from one of technical risks identified is shown in Figure 6. This cube shows the original risk rating along with a summary of the planned mitigation steps required to full mitigate this risk.

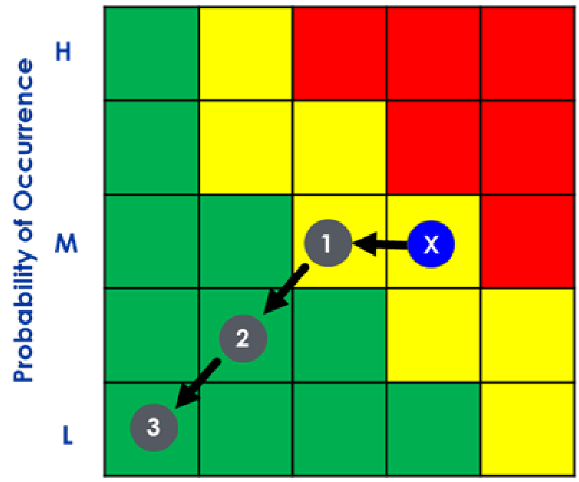


Figure 6: Risk Cube from VLTB Risk Management Database

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

Early in the project, the team struggled to get and keep the aircraft flying. Once the team began to allocate work to the experts in each area, the team was able to better focus on the specific maintenance and engineering tasks required to fly as planned. Significant effort went into communication between team members and regular team meetings to track any issues and identify who was responsible for addressing. As the team gained more experience, the checklist ahead of each inspection and demo became more predictable and the team was able to ensure each required task was completed as planned.

An example of how we use the QV Milestone Status report, a snapshot from a Program Management Review (PMR) is shown in Figure 7. The tool allows us to track contract date (which in this case was purely internal commitment driven) compared to the most recent approved “due” date as well as the plan date from our resource loaded Integrated Master Schedule (IMS).

Significant Milestones	Planned Date	Due Date	Forecast Date	Complete Date	Contract Status	Plan Status	Forecast Status	Plan Days Late
A911: Initial LIDAR Integration Flight	Feb-28-2022	Mar-07-2022	Mar-07-2022	Mar-07-2022		On Time	-	-
A911: 4D World model helicopter integration	Mar-07-2022	Jul-14-2022	Jul-14-2022	Jul-14-2022		On Time	-	-
A911: IR Camera VLTB Integration	Mar-30-2022	Jul-14-2022	Jul-14-2022	Jul-14-2022		On Time	-	-
A911: LIDAR VLTB Demo Flight	May-15-2022	Sep-15-2022	Nov-01-2022	-		Delinquent	-	42
A911: Coordinated Teaming / Data Sharing Fli...	Sep-30-2022	Nov-30-2022	Nov-30-2022	-		Not Yet Due	On Time	-
A911: HSA/DM Demo	Nov-30-2022	Nov-30-2022	Nov-30-2022	-		Not Yet Due	On Time	-

Figure 7: VLTB QV Milestone Status Report

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

The team identified and tracked all critical actions necessary for both the original aircraft upgrade and for the installation of the various demonstration hardware sets. This analysis also identified which actions were within Elbit America's control and which resided with outside entities, such as the FAA for Airworthiness approval. Knowing what actions were the most pivotal to the success of the effort provided focus to the team in prioritizing their work. For example, when the team wanted to demonstrate a new communications system, it was necessary to get approval to broadcast within a specific frequency range. The team member responsible for this action knew that gaining permission was a precursor to the entire demo happening and thus was diligent in pushing for decisions internally in the demo communications setup and externally with the frequency manager. We received this frequency approval well within the timeline to press with the demo.

For the team managing the customer demos, each demo had specific objectives with clear go/no-go criteria that had to be met in order to be confident in the ability to conduct the demo as planned. During the weekly team meeting each of the critical items were discussed and statused. At the decision date, all open actions were assessed for risk to determine if there was likelihood of non-completion. For instance, leading up to one event, the helicopter had damage to the paint on the rotors which can affect balance during flight. The team was able to find a vendor who could do a real-time repair with plenty of time for recovery ahead of the demo. Ahead of that same demo, we met with the local airport management team to ensure that all contingencies had sufficient workarounds and alternative plans. All the demos were accomplished as planned and each successful demo resulted in lessons learned that were applied to the next demo.