Mitigating Risk

for Success and Profit





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Introduction

Program risk measures the obstacles involved in achieving cost, schedule, and performance goals. As such, effectively managing program risk in Aerospace and Defense (A&D) programs may be the single most important factor in determining success or failure.

Risk touches all facets of an A&D program — technology maturity, available skillsets, supplier performance and winning the business. Success or failure depends on continuously identifying the risk associated with those program facets and developing options to mitigate them.

These dependencies cut a wide swath through an enterprise, making risk the responsibility of all stakeholders, regardless of function, status or organization. Unfortunately, enterprise business challenges such as poor communication, insufficient visibility, and faulty data often hamper effective risk management.

The benefits of an enterprise-wide view of risk

- Boost program visibility: Integrate WBS, requirements, resource, and proposal management
- Establish traceability: Track meetings, decisions, and artifact baselines for historical referencing
- Increase user adoption: Simplify access to enterprise-wide program information content with the representation and level of detail defined by the user
- Improve decision-making: Leverage accurate, relevant and up-to-date data accessed from a "program cockpit"
- Meet program deadlines: Communicate, collaborate, coordinate enterprise-wide
- Eliminate failed contract audits: Institute repeatable and secure storage, submittal and contract verification processes



Turning Risk into Success

A&D program managers look for a risk management approach that will reduce lifecycle costs and increase the likelihood of success. The best approach is to **manage the risk across the lifecycle of a program with visibility across the enterprise**, while following structured, consistent, common guidelines.

By integrating systems engineering and program management processes, companies can achieve a tighter oversight on a program's lifecycle— from the requirements to the functional and physical product definition (RFLP), supporting a consistent planning, execution, and tracking system across the enterprise.

By linking the risk data into the integrated master schedule (IMS), all stakeholders have access to real-time, relevant information. For example, involving suppliers in the risk management process enables internal and external teams to view the same tasks, requirements, and deadlines—reducing the chance of supplier failure. Assigning account control responsibility is clearer because the guidelines provide the process for resolution and mitigation while the availability of product-related information delivers the accurate data necessary for decision-making.

The complexity, length, and detail necessary to execute A&D programs successfully require more than a simple spreadsheet and a laptop. Program managers need to capture and decompose risks into manageable, traceable, and auditable entities that relate to volumes of enterprisewide information.

Forward-thinking A&D companies invest in productivity strategies and software tools that enable itemized risk mitigation plans linked to the program master schedules for proper schedule visibility.



Mitigating Risk

The Dassault Systèmes (DS) Product Lifecycle Management (PLM) strategy minimizes risk by enabling real-time visibility to the status of all program activities enterprise-wide. Authorized users, from senior managers to program managers can access relevant, accurate data on such important categories as schedules, resources, and costs.

DS PLM provides visibility and traceability into program details by integrating into the IMS such essential risk mitigation activities as the Work Breakdown Structure (WBS), Contract Data Requirements List (CDRL) and Subcontract Data Requirements List (SDRL). Users choose the level of granularity they need.

In addition, throughout the extended enterprise, DS PLM integrates and provides visibility into contractual and program performance, technical requirements, and performance measurements. Supply chain issues become visible as the solution identifies and manages the data as part of the program through the enterprise risk registers. Program managers can now allocate the correct management reserve to cover any program risks. The DS solution further acts like a 'program cockpit,' providing the 'pilot' (program manager) with access to relevant, real-time data. Such critical visibility improves decisionmaking, reducing errors and eliminating inconclusive results as program master schedules and milestones are available to all stakeholders.

The Risk Management solution is built on the DS V6 PLM platform. As such, the solution benefits from other innovative V6 solutions, such as DS ENOVIA® 3DLive®, which integrates 3D technologies to provide an immersive 3D environment for all product-related data.

For example, designers and suppliers can use ENOVIA 3DLive to navigate and share risk data online real-time in '3D dashboards," aggregating product-related information and program Key Performance Indicators (KPIs).

Customizable 3D dashboards that highlight KPIs help program stakeholders visualize and present information quickly in an intelligible way on specific attributes —regulatory compliance, failure rate, program risk level, cost, product owner, product lifecycle stage/maturity, or last modified timeframe, etc.



ENOVIA Aerospace and Defense Accelerator for Program Management

The ENOVIA® Aerospace and Defense Accelerator™ for Program Management manages product lifecycle business processes, including risk.

Designed as an out-of-the-box solution available on the DS V6 PLM platform, the Accelerator software ensures that the critical integration and collaboration necessary for program excellence occurs across all stakeholders. Performance to contract improves because all requirements are visible to the entire team, with enhanced capabilities for risk management.

ENOVIA Aerospace and Defense Accelerator for Program Management decreases risk by integrating critical data and program information into a single system. Through the program planning and control capabilities within this product, project teams can identify, quantify, analyze and mitigate project risks. Risk professionals can produce evaluation and status reports with greater precision using risk registers, 5x5 panels and an industry standard cube.

Risk factor analysis is more stringent because categories such as Actual, Calculated, and Goal contain information based on actual technical performance measurements (TMPs). The ENOVIA single system ensures that all stakeholders access the same information, reducing errors and miscommunication. Users can assess and quantify risk in two dimensions (impact and probability), minimizing any potential negative impact.

Dassault Systèmes Commitment to A&D

More than 300 A&D customers worldwide, including Boeing, Airbus, Bombardier, Pratt & Whitney Canada, BAE Systems, and Goodrich Aerostructures rely on DS ENOVIA products. DS develops and markets PLM application software and services that support industrial processes and provide a 3D vision of the entire life cycle of products from conception to maintenance. ENOVIA, one of six Dassault brands, is a recognized leader in delivering collaborative PLM solutions.



As a world leader in 3D and Product Lifecycle Management (PLM) solutions, Dassault Systèmes brings value to more than 130,000 customers in 80 countries. A pioneer in the 3D software market since 1981, Dassault Systèmes applications provide a 3D vision of the entire lifecycle of products from conception to maintenance to recycling. The Dassault Systèmes portfolio consists of CATIA for designing the virtual product - DELMIA for virtual production - SIMULIA for virtual testing - ENOVIA for global collaborative lifecycle management, EXALEAD for search-based applications-SolidWorks for 3D mechanical design and 3DVIA for online 3D lifelike experiences. For more information, visit http://www.3ds.com.

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