



Maintenance & Material Planning Solutions for Aerospace and Defense

Providing proactive and predictive integrated planning solutions

The Challenge

Revolutionary technology changes in the A&D sector have dramatically changed the way customers and manufacturers plan for the maintenance and material support for A&D assets. With the increase in sensor-based predictive health management and performance-based logistics solutions, coupled with the loss of knowledge due to the wave of Baby Boomer retirements, A&D companies are at risk for major breakdowns in their Service Lifecycle Management systems and processes.

Although the basic tenets of integrated logistics support for maintenance and material resources required to safely operate A&D assets have been codified since the 1960's, the ability to plan and execute has been problematic due to the high degree of variability and unpredictability in the demand for maintenance and material resources associated with operating complex A&D assets.

The low density of fielded systems, very different operating environments, and long lead times for material have all combined to make predicting maintenance and material demand over a long planning horizon with acceptable accuracy very difficult. The result has been crisis execution that reduces maintenance efficiency, creates large amounts of excess and obsolete inventory, and reduces asset availability.

We are the experts at helping you translate your supply chain vision into measurable business results. Contact us at info@inspirage.com to discuss how we can collaborate to improve these critical capabilities for your company.

The Solution

Inspirage has created a robust **Maintenance & Material Planning Solution** for A&D customers that uses Oracle's best-of-breed Value Chain Planning applications to align maintenance and material planning through the use of a single source of truth enabling lean operations. Cost and efficiency gains are achieved by improvements in forecasting, planning, optimization, visibility and collaboration across the maintenance lifecycle.



Maintenance Planning

With the Inspirage **Maintenance & Material Planning Solution** for A&D companies can achieve dramatic improvements in their maintenance planning.

Niche MRO Systems

- Operational, tactical, and strategic planning data is extracted from niche MRO systems and analyzed in spreadsheets to generate the daily plan and longer range reports.
- Niche MRO systems do not de-conflict multi-visit constraints and identify critical path for multi-project sites.
- Niche MRO systems do not create statistically accurate allowances for unplanned work and material nor provide easy what if analysis to achieve level loading and equalized maintenance.

Niche MRO Systems

- Planned and unplanned labor and parts statistically forecasted. Include equipment utilization, causals, prognostics, and part usage to **create improved maintenance workload and material forecasts.**
- As constrained resources approach capacity, jobs can be **scheduled to create the shortest make-span** for assigned work.
- Early identification of potential constraints** in resources or materials enabling proactive action to minimize disruptions to operations.

Integrated Dashboards and KPI Measurement

A single source of truth for maintenance, material, and procurement make keeping track of key performance indicators easy. Supported by ad hoc query and analysis capabilities for users to create their own reports and dashboards without IT support. Multiple dashboards, pre-built reports and context sensitive drill downs are standard. Configurable and extensible architecture provides the ability to leverage data from external sources.

Key KPIs

Material

- Forecast Accuracy**
- Service Levels (Fill Rate)**
 - by Fleet, Station, ATA
 - Plan vs Actual
- Inventory**
 - by Fleet, Station, ATA
 - by User defined attribute
 - Plan vs Actual
- Reliability**
 - OEM vs Actual MTBF
- Planned Requisitions (New Buy, Repair, Transfer)**
 - Qty & \$ by SKU
 - Qty & \$ by Supplier

Labor & Facilities

- Labor**
 - Station by Fleet /ATA
 - Station by Task Type
 - Check
 - MEL
 - Deferred
 - SB / AD / EC
 - Hangar & Equip Utilization

Material Planning

Industry-standard provisioning and re-provisioning processes supported with improved statistical forecasts reduce inventory investment and improve service level.

Better Planning Tools

- Statistics models tailored to varying historical demand patterns – intermittency, trend, seasonality
- Incorporation of key causal factors / indicators (including fleet size, utilization, reliability, etc.)
- Conversion of common forecast into different views (\$, units, etc.)
- Ability to match execution plans to maintenance inventory budget
- Ability to manage tradeoff between operational reliability and cost
- Better measurements to help prioritize forecasting efforts

Automation of Planning Processes

- Rapid response to maintenance requirements; collaboration to provide reliable material support
- Shift of planner effort from expediting to higher-value analytics
- Speed of end-to-end planning cycle
- Lean practices for measurement and continuous improvement of material operations

Better Projection of Material Requirements

- Time-phased projection of requirements to provide both short and long term visibility of needs
- Dynamic setting of inventory levels based on current forecasts
- Automated inventory station allocation calculations and update frequency

Synchronization Across Supply Chain

- Automation of replenishment recommendations; transfers, repair and purchase orders
- Timely collaboration between Maintenance and Supply Chain to ensure material availability

Measurement and Analysis

- Better what-ifs – around events, plan deviations/changes
- Better measurement and exception management to help prioritize planner efforts

Solution Benefits

- Provides the ability to forecast and identify trends critical to anticipating potential problems that could affect operations while enabling reduced turnaround times, increased capacity utilization and minimized costs.
- Improve planning process efficiency and planning cycle time with an integrated view across maintenance and supply chain enabling improved decision making.
- A comprehensive solution that provides users multi-dimensional analysis of operational, tactical, and strategic maintenance capacity plans, supply chain plans and robust scenario modeling.