



*The C-5 Modernization Program
The Strategic Ability to Move*

A Focus on Reliability and Maintainability

Due to the indisputable utility and efficiency of the C-5, the U.S. Air Force is coordinating with Lockheed Martin, the original C-5 manufacturer, to undertake a two-phase, comprehensive modernization plan to improve reliability and ensure the life of the C-5 transport aircraft through the year 2040. These plans to modernize the C-5 aircraft include the Avionics Modernization Program (AMP) and the Reliability Enhancement and Re-engineering Program (RERP).

The Program's objectives are to improve the fleet mission capable rate (aircraft availability) and the overall reliability and maintainability of the aircraft while reducing total ownership costs.

The C-5 Galaxy

The C-5 Galaxy is an outsized-cargo transport aircraft used by the Air Mobility Command as an inter-theater airlifter to perform both strategic and tactical missions. As one of the largest aircraft in the world, it can take off or land in relatively short distances and fly intercontinental ranges.

The C-5 is the only aircraft capable of carrying 100 percent of certified air-transportable cargo from the United States to any theater of combat on the globe. The nose and aft doors of the cargo bay open the full width and height of the cargo compartment to allow simultaneous loading and unloading of personnel, equipment, and cargo. Large equipment, such as a 74-ton mobile scissors bridge, six Apache helicopters, two M1 main battle tanks, four M-2/M-3 Bradley Infantry Vehicles, or a Special Operations Mark V boat, can be loaded into the unobstructed cargo interior.

Directly related to logistics supportability, the project is designed to:

- Improve C-5 Reliability, Maintainability, and Availability (RM&A) and mission capable rate to well above the 75% required by Air Mobility Command.
- Minimize sustainment costs while delivering significant performance and cost benefits to the Air Force.
- Reduce Total Ownership Costs (R-TOC)

Improving Technology Infrastructure and Business Processes

BearingPoint was engaged by the C-5 Modernization Program to assist in the development and implementation of their sustainment logistics processes, including a comprehensive information technology architecture encompassing a web-based portal and decision support tools. As part of this support, BearingPoint was commissioned

to assist the Program in assessing the market for qualified Commercial-Off-The-Shelf (COTS) software vendors to support the requirements for spare parts planning, including initial provisioning and sustainment. MCA Solutions was selected to execute the Multi-indenture, Multi-echelon Readiness Based Sparing (MIME RBS) requirements of the Program.

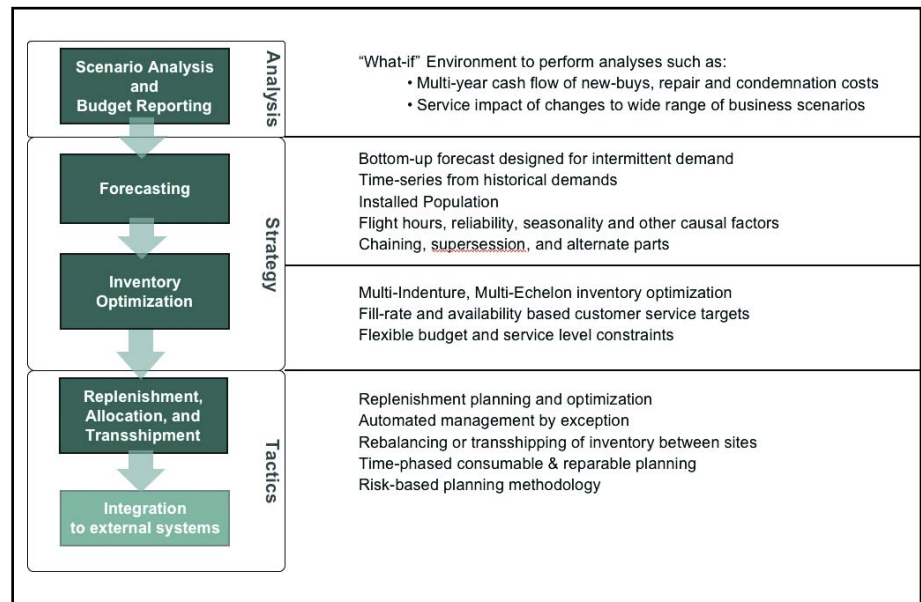
Lockheed Martin retained BearingPoint to implement MCA's software utilizing a teamwork approach consisting of functional and business process subject matter experts from BearingPoint and MCA along with Lockheed Martin technical resources. The primary objective was to integrate MCA's tool into the Program's support and sustainment business processes and technical architecture to improve the overall business efficiency and speed and effectiveness of decision-making.

The project established a model of the C-5 supply chain including aircraft configurations, operating bases and required spare parts by integrating the input data necessary to enable the strategic planning processes and the output of its tactical planning recommendations with the Lockheed Martin legacy transaction systems.

MCA Improves Spare Parts Planning

For the C-5 Modernization Program, MCA provides enterprise wide, fully integrated, MIME RBS capabilities. Specifically, their Service Planning and Optimization (SPO™) software suite translates air fleet service availability, inventory and financial management targets into spare part stocking levels coupled with a tightly integrated time-phased replenishment plan.

MCA's strategic planning module determines the optimal inventory level and stocking locations in order to achieve service targets with minimal inventory investment and supply chain costs. Additionally, the strategic functionality can provide projected future budget requirements for customer



MCA Solution Architecture

budget requests. The scenario analysis capability provides the functionality to address the investment and service level implications of various fluctuations in supply chain factors that are representative of the dynamic nature of the air fleet sustainment environment. Such as:

- Supplier lead time reductions or price increases
- Increased fleet size or addition of new operating locations
- Increased operational flight hours in the middle of a PBL contract
- Re-design costs weighed against repair and new buy costs

The integrated day-to-day tactical planning module provides specific recommendations for intra-network inventory re-deployment movements, new-buy procurement and repair actions. Additionally, the tactical tool proactively alerts the C-5 service managers to supply chain events and/or changes in the service network.

Expected benefits include:

- Reduced Inventory
- Increased Customer Service
- Decreased MICAPs
- Increased Inventory Manager Productivity
- Improved Decision Making with What-if Scenario Analysis

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