

# THE BOEING COMPANY - COMPOSITES

## Establishing a Composite Center of Excellence

### STUDENT TEAM:

Cornell Daia – Master of Business Administration

Greg Halmi – Master of Business Administration

Jon Zwier – MSE Mechanical Engineering

### PROJECT SPONSORS:

Howard Conroy – Director of Fabrication, Boeing Mesa

Mike Kovalchik – Senior Manager, Composites, Boeing Mesa

Dennis Kouo – Chief of Staff to Wally Page

### FACULTY ADVISORS:

Lisa Pawlik – Ross School of Business

Pete Washabaugh – College of Engineering

**Boeing Defense, Space, and Security (BDS)**, one of the \$205 billion aerospace company's three major divisions, is faced with fierce competition as measured by the customer on cost, quality, service, and schedule. To compete as a global industrial champion, BDS must excel in four key areas: a common production system, value stream orientation, a collaborative high-performance culture, and common metrics aligned to customer needs. Center of Excellence (CoE) implementation across the organization has resulted in increased collaboration and cost competitiveness, common designs and production systems, improved flow and production efficiency, increased equipment utilization, and reduced material cost and labor demand variability.

Currently, three programs are distributed across two BDS sites. A new, highly complex and technical labor-intensive product is slated to be produced in its current location. Unless significant advances in composite production automation are made, Boeing and its customers will be subjected to the higher labor costs at that site. BDS will also miss a window of opportunity to integrate composite operations and strategically position itself for future demand.

To address these issues, the Tauber team created a business case and implementation plan for a composite CoE that included current and future state value stream maps, CoE facility layouts, equipment and tooling move timelines, capital investment requirements, and knowledge transfer plans. This required the development and assessment of numerous scenarios representing multiple facilities layouts, standardized production processes, accounting systems analysis, efficiency frontiers, and learning curves.

The result of the Tauber team's work led to the development of a comprehensive comparative model, design of a new state-of-the-art facility and manufacturing center, and the strategic outlook for future composite products. From this analysis the team recommended that BDS develop a core competency in composite production by consolidating capital equipment and human capital in a single production facility. If implemented, the CoE designed by the Tauber team would yield a projected savings of over \$30 million and position BDS as a global industry leader in composite design and manufacturing for years to come by increasing cost competitiveness, design to manufacturing, and customer satisfaction.