Demand-Driven Platform Case Study

Orbital ATK

Demand-Driven and Ready for Take-off!

Orbital ATK, Aerospace Structures Division (ASD), is a leading supplier of composite structures for the aerospace and defense industries. With a strong foothold in commercial and military aircraft and launch vehicle programs, the company was looking to equip a new facility with demand-driven, factory of the future technology to support its growing commercial aircraft business.

Fortunately, Synchrono® answered the challenge, and thanks to its Demand-Driven Manufacturing Platform, was able to deliver all of the elements this aerospace giant needed to realize its vision of a fully integrated environment where everyone is working from the same information. Important benefits received by Orbital ATK include increased visibility, improved flow, added capacity to support growth opportunities and actionable information to focus continuous improvement efforts.

The business case for the project was in part, to support the transition to a high volume/high mix model that would allow ASD to support its growing commercial aircraft business. Without the Synchrono Demand-Driven Manufacturing Platform, the business impact to accomplish this transition was estimated in the millions, including significant added resources and the cost of manually managing over 300,000 transactions per month through the supply chain. As such, the cost justification for implementing Synchrono technology was as much a cost avoidance model and it was to position the Division for future growth.

"We had an overall objective to reduce costs, enable growth and provide a path for scalable continuous improvement. What we ended up experiencing was a complete transformation of our processes to help us meet short-term goals and begin to realize our long-term vision for the future."

Brian Andrus, IT Director
Orbital ATK, Aerospace Structures Division

Avoiding Costs, Empowering Change

ASD transformed its operations by synchronizing the company's workforce, methods, materials, machines and data in real-time – providing 360 degrees of manufacturing intelligence through a visual factory information system. This was enabled by implementing the Synchrono Demand-Driven Manufacturing Platform that included a demand-driven planning and scheduling engine; an alert management and escalation utility; a manufacturing intelligence system and a visual factory information system.

KEY OUTCOMES:

• Decreased costs by effectively managing resources and downtime events, solving root-cause problems and focusing more on preventive / predictive maintenance activities.

• Reduced unplanned work stoppages caused by ineffective processes and machine downtime events.

• Fewer missed shipments and lower inventory buffer requirements.

A prime objective of the project was to greatly improve scheduling capabilities and the production operator's efficiency. **SyncManufacturing**, demand-driven planning, scheduling and execution software accomplished this by supporting a new single operator interface, eliminating the complexity of multiple screens and systems used by operators to accomplish their work. **SyncAlert**, real-time alert notification and escalation management software, was implemented to reduce downtime by visualizing alerts and instantly sending rule-based text and email messages where needed.

The Synchrono Platform uses **SyncOperations** software, *powered by Savigent*, to aggregate and analyze data from systems and machines. ASD connects machines, work cells and systems across the enterprise so that relevant data can be collected in real-time and fed to SyncManufacturing and visualized in SyncView, the visual factory information system. This instant feedback to business systems keeps operators working on priority parts throughout their shift. Data is also used to calculate the Overall Equipment Effectiveness (OEE) metrics that will help the Facilities and Maintenance teams better manage and maintain equipment. Process engineers can also easily access information to better understand existing problems and discover trends and relationships that will help them proactively make the factory more productive.

"On a daily basis, leadership walks the factory together, stopping at each work cell to discuss production topics with operators while viewing the display boards produced by SyncView. These display boards give both leadership and operators the ability to easily show and monitor metrics and other information related to the core ASD KPIs: safety, quality, delivery, employee and cost. We can step in before any of these are compromised. It's an amazing power to see—and use—as we prepare for more growth."

Implementation took Orbital ATK thirteen months, with gated phases that included installing new systems and integration with various equipment, manufacturing and business systems.

"In a relatively short time, we were able to support the transition to a high-volume/high-mix business model that would allow us to support our growth in the commercial aircraft market. Without this technology, the transition would have cost us millions more. With Synchrono, we avoided that expense and are in a better position for future growth."

To date, organizational and business benefits of the project have been validated by multi-million dollar contracts with industry giants Boeing and Airbus.

"That's a tremendous measurement in and of itself," concludes Andrus. "Along with the cost-avoidance deliverable we achieved, we can now communicate better, ensure quality, empower our employees and have quite literally transformed this Division's operations, creating a model for the entire company to emulate."

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