

Aerospace & Defense

Powering digital supply chains with an AI-infused platform for government, aerospace and defense organizations worldwide



Blue Yonder is on the General Services Administration's (GSA) schedule of information technology software providers.

Blue Yonder A&D customers have:

- Realized cost savings of up to \$60 million annually
- Improved return on net assets by up to 106 percent
- Reduced critical path cycle time by up to 35 percent

A digital fulfillment platform for today's digital A&D world

Today's aerospace and defense (A&D) world is digital, with complex, high-spec, deep bills of material and long lead-time products that are often specific to each customer. The vexing twist to A&D production is that planes are grounded and space shots are postponed not because the mechanical systems don't work, but because digital systems have failures. In this respect, A&D organizations have more in common with high-tech companies than with other manufacturers.

The complexity of these technologically advanced, customer-specific programs is reflected in the complexity of modern A&D supply networks with thousands of suppliers across multiple tiers and industries. A failure to perform by any one of the suppliers can delay the entire program, leading to missed deadlines and cost overruns. That's why A&D organizations are focused on digital solutions for a wide spectrum of supply chain planning and execution capabilities, including visibility across extended supplier networks, removal of internal and external siloes, optimized planning and production across partner networks, understanding the impacts of engineering changes on the supply network and AI-based analytics to predict and prescriptively respond to disruptions while also considering total lifecycle cost constraints. To accomplish this, A&D organizations must deploy a digital fulfillment platform built for the complexities of today's digital A&D world.

A&D organizations must also meet multiple mission requirements against changing compliance and regulatory regimes while maintaining overall performance in a cost-constrained environment. Succeeding in an environment laden with competing priorities means finding opportunities to align operations, improve scheduling, minimize costs, reduce risk and extend visibility across complex, multi-tiered supply networks. A&D organizations worldwide understand that the most efficient and effective way to address these business challenges is through artificial intelligence (AI) and machine-learning (ML) based digital fulfillment platforms designed for A&D.

Government agencies like the U.S. Navy and Marine Corps, as well as both the GSA and Defense Logistics Agency rely on Blue Yonder's digital fulfillment platform.

A history of innovation for government and A&D

For over 35 years, Blue Yonder has enabled thousands of organizations, including eight of the top ten A&D businesses and government agencies, to better plan and execute on customer commitments at lower costs and with increased effectiveness. Blue Yonder's in-depth understanding of the A&D industry's always-evolving requirements is evident in its first-of-its-kind digital fulfillment platform powered by AI and ML technologies.

The Blue Yonder platform optimizes global supply chains with flexible and configurable solutions that incorporate AI-based learnings from both commercial and government deployments. A&D organizations benefit from greater visibility, insight and exception management to enable greater effectiveness and lower total lifecycle costs. Blue Yonder capabilities easily integrate with existing enterprise systems using Blue Yonder's service-oriented architecture framework. Organizations can choose which functional areas are critical for success and prioritize deployment milestones.

Driving end-to-end supply chain processes with intelligent decision support

Blue Yonder offers the one and only digital fulfillment platform powered by AI and ML technology for A&D. From emergency planning and preparedness to day-to-day operational issues, the platform brings the best of the commercial world to government and A&D enterprises. Key solution areas include:

Manage across programs and contracts for enterprise efficiency

Original manufacturing, sustaining and re-fit programs require resource, capacity and execution management for deep bills of material as well as for sophisticated parts or sub-assemblies. Blue Yonder's enterprise project planning capabilities help organizations achieve optimal plans across multiple programs while Blue Yonder's capabilities for make-to-order and maintenance, repair and overhaul

help manage complete execution.

- Balances program assignments against constraints with enterprise-level projects and resource tradeoffs for overall productivity and profitability using earned value analysis
- Delivers comprehensive ERP for contract manufacturing from the plant to the shop floor with A&D configuration management, financial and cost reporting compliance
- Supports maintenance, overhaul and rebuild management with induction and dispositioning tools for repair or replace decision-making, as well as cost and asset tracking from receipt to delivery

Optimize asset utilization and delivery performance

While every organization strives to limit risks and surprises during build planning, it's not always possible with a wide variety of high-spec parts, large assemblies and competing program demands. The planning and scheduling processes in A&D are varied and complex. Through simultaneous material and capacity planning, Blue Yonder's factory planning, order sequencing and slotting capabilities help organizations drive efficiency and gain the flexibility to adapt to changing customer needs while remaining on schedule.

- Features both heuristic- and optimization-based capacity and sequence planning methods for order-pegging against supply constraints and schedules
- Assesses and responds to changing customer request dates with industry-leading, order-by-order planning and pull-in facilities
- Enables sophisticated scheduling to evaluate and allocate slotting opportunities, minimize changeovers and accommodate due dates and physical clearance constraints
- Allows alternative scenarios to be interactively analyzed against material and capacity constraints for visibility into a proposed action's impact on the plan

Accelerate fulfillment and lower overhead costs

When related agencies or fielded systems can be scattered across the globe, demand interpretation and fulfillment activities are often inefficient. Provisioning across such a wide range of parts and materials can lead to slower-than-desired response and create unnecessarily high overhead costs. Blue Yonder's capabilities for distribution and replenishment are proven to quickly aggregate demand and reliably respond based on ML learnings to drive optimal execution. A&D organizations minimize time, inventory and administrative expense with these capabilities:

- Creates allocations based on current inventory, purchase orders and plans; supports what-if evaluation to test future allocation strategies prior to execution
- Accommodates multiple distribution methodologies and models internal and customer distribution networks as part of integrated, extended supply chains
- Generates orders and replenishment plans that respect network, vendor and transportation constraints with multi-tier, time-phased order, shipment, receipt and inventory detail; supports overstock and alternate source transfers
- Provides advanced planning for date-sensitive items and manages item lifecycle transitions and product substitutions

Collaborate and design-for-supply for lifecycle sustainability and risk visibility

Managing longer lifecycle products requires effective obsolescence-proofing and the ability to meet compliance requirements such as RoHS or REACH. With complex supply networks and longer lead times, it is critical to have effective collaboration and complete visibility in order to achieve schedule attainment objectives. Blue Yonder's supplier relationship management capabilities bridge design and sourcing to manage product content and supply base strategies. Blue Yonder's Luminare™ Control Tower integrate supplier interactions to manage commitments and surface supply or schedule issues.

Functions include:

- Conducts sophisticated part cross-referencing, preference and approved vendor list management

with user-friendly selection, bill of material-level obsolescence and compliance analytics managed by workflows to control part introduction and availability issues

- Drives sourcing, controls leakage and leverages savings opportunities across the organization with features including cross-site spend, demand and receipt aggregation with integrated commodity strategy and supplier performance management
- Supports multiple programs for site and commodity replenishment regimes, such as customer-scheduled shipment, safety-stock replenishment and vendor managed inventory
- Ensures visibility for complete delivery confidence with multi-mode collaboration for capacity forecast and orders, as well as logistics and shipment tracking along with exception-based workflows to focus resources when action is required

Manage the business at the integrated operations level

Even with a significant backlog or timeline against which to plan, A&D organizations must still contend with technical issues, supplier delays or adjustments to customer specifications which can hamper performance excellence. Organizations must manage change before it threatens end-product delivery dates or cost overruns. Blue Yonder's AI-based sales and operations management capabilities provide the visibility and control to help executives quickly understand tradeoffs across the organization as a whole to minimize disruptions and shortages while achieving cost and schedule objectives. These capabilities include:

- Provides stakeholders with a one-version view of the organization's plans with management dashboards, offering a familiar Microsoft Excel-based user experience at any level of aggregation
- Supports what-if scenarios and plan-to-plan comparisons to more quickly evaluate opportunities and threats
- Enables direct drill-down functions to reveal underlying details, highlight performance-to-plan gaps and their root causes for greater accountability and faster resolution

A history of innovation and results

Perhaps the strongest link between A&D organizations and Blue Yonder is the requirement for continuous innovation and superior results. Blue Yonder has a long history of pioneering and patenting innovations in supply chain management and logistics that enable A&D customers to consistently produce superior results. Recent Blue Yonder innovations include the industry's one and only digital fulfillment platform and the first fulfillment platform to incorporate AI and ML technologies, as well as IoT and other sensor data, to create the powerful planning, execution and decision-making environment A&D organizations need to excel in today's digital world.

The proof is in real-world results. Blue Yonder customers have achieved the following benefits:

Optimized inventory management and production reliability

- Reduced inventory carrying costs and direct material spend
- Reduced parts shortages by up to 33 percent
- Limited cross-program plan collisions
- Minimized program schedule and delivery risk
- Provided visibility into exception or disruption events
- Streamlined set-up times, improved shortage tracking

Improved sustainability and supply management

- Increased use of preferred parts and suppliers
- Complied with regulatory and approval procedures, part-contract application rules
- Incorporated supply forecasting, collaboration and call-offs for approximately 80 percent of direct supply parts
- Ensured that consistent coordination processes were implemented across key vendors
- Lowered obsolescence costs and improved last-time-buy response

Implemented world-class digital fulfillment processes

- Created feasible, cost-efficient plans across entire supply chain
- Accelerated manufacturing throughput
- Integrated organization-wide support for order, inventory and operations planning

With Blue Yonder's digital fulfillment platform, A&D organizations are empowered to drive innovation and superior results across complex, end-to-end supply chain operations.



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