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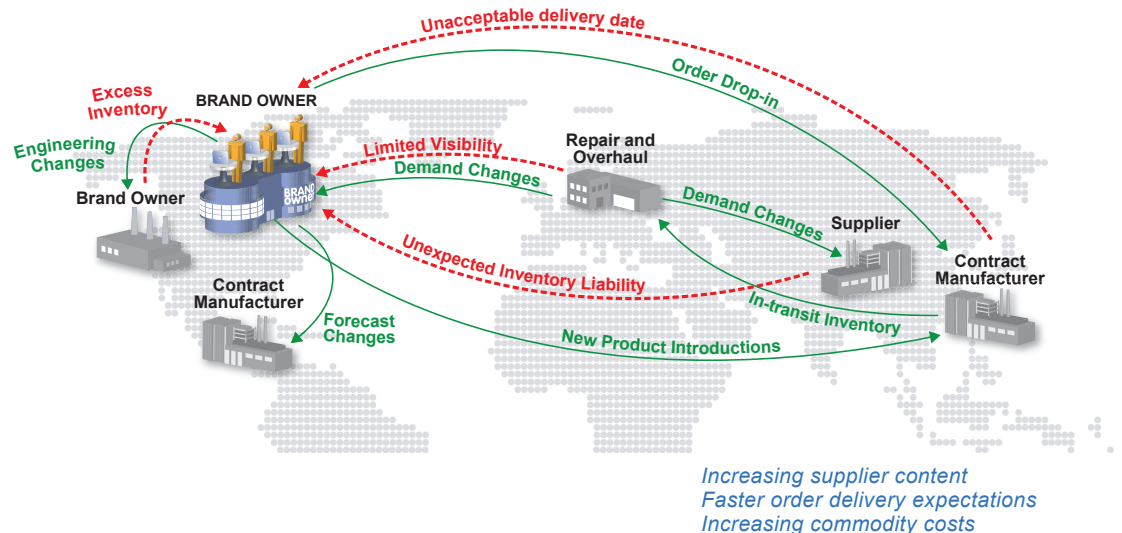
By adopting outsourcing the aerospace and defense (A&D) industry has undergone a fundamental change in the manner in which it sources materials and manufactures leading-edge commercial and military systems. Not only is a supplier of major sub-assemblies not part of the company, they may not even be on the same continent. Delivering to customer expectations while coordinating the extended supply chain in an environment of constant change is the core reason our aerospace and defense industry customers have adopted Kinaxis™ **RapidResponse™**.

Industry Dynamics

Change is becoming a constant in all market segments of the A&D industry, and is largely driven by customer expectations for reduced costs and increased flexibility. Supply chains in A&D continue to evolve, resulting in the globalization of supply chains and the need to work with partners from all over the world at all stages of the product life cycle — from design to manufacturing to maintenance, repair, and overhaul. Today's A&D supply chains are characterized by: the need to manufacture increasingly complex equipment and systems; ongoing pressure to reduce costs; extended product life cycles; requirements for coordinating an increasingly outsourced supply chain; turn-key support services; and ongoing requirements from regulatory and safety agencies.

At the same time, A&D companies have experienced huge swings in demand and costs as a result of varying costs of fuel and commodities and shifts in the global economy. The streamlining of manufacturing and business processes in order to decrease unit cost of production is therefore becoming increasingly important in maintaining profitability, reducing inventories and enhancing competitiveness within the industry.

Today's Challenges in Aerospace and Defense



RapidResponse is a proven solution to today's pressing supply chain management challenges at many of the world's leading A&D manufacturers.

To meet the many challenges that have emerged as a result of these new industry dynamics, aerospace and defense companies have adopted process improvements such as Lean Manufacturing, as well as technologies targeted at removing business “silos,” improving collaboration, and increasing productivity. Above all else, A&D companies have turned to technology to keep a finger on the pulse of the supply chain in order to detect changes and understand consequences, by providing a collaborative environment in which the all partners in the extended supply chain can create and evaluate alternative responses to change.

A new paradigm, for a new world

Solutions must embrace the reality that today's supply chains are multi-enterprise in nature and, thus, must provide clear visibility into the extended supply chain, along with tools that understand this virtual enterprise and its nuances. Today's solutions must:

- ▶ embrace and leverage human judgment, since the number of unplanned events with high risk to the business is on the rise
- ▶ arm front-line staff with tools for risk trade-off and response, to deal with these situations quickly and appropriately to ensure a profitable response is put into action
- ▶ foster team-based decisions that tap the collective insight of the right people in the organization — those that understand the potential impact of any unplanned event and proposed action alternative
- ▶ enable people to leverage a single system with one set of data, no matter what the problem — whether it is a demand, supply or product issue that needs to be addressed

Many of these requirements are extremely difficult, if not impossible, to capture in a mathematical model — the foundation of an optimization system. And if they can be modeled, the speed at which they change and the time it takes to formulate the mathematical model make it infeasible.

To deal with today's increasingly complex supply chains, you need an integrated solution that empowers your staff with planning, monitoring and response capabilities. Legacy demand planning and supply chain planning systems were not designed for today's complexities.

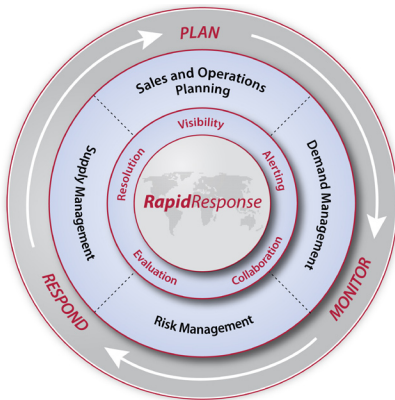
Meeting the challenges of constant change

Kinaxis ***RapidResponse*** starts by delivering supply chain visibility across your multi-tier, multi-enterprise supply chain. By delivering this visibility to all the appropriate staff within your supply chain organization, you regain an understanding of the manufacturing commitments and inventory positions throughout the supply network.

This is an essential pre-requisite to being able to develop supply chain plans and coordinate the right compromise when things don't go according to plan.

RapidResponse proactively brings these situations to light, identifying not only unplanned events, but also identifying and quantifying the consequences to customer service, revenue, margin, and a number of other financial and operations metrics, and thereby flagging those that could do harm to your business so immediate action can be taken by front-line responders.

RapidResponse then delivers your team the tools to evaluate the effects of alternate courses of action on your customers, your inventory and all of your key performance indicators (KPI) so you can detail and select the appropriate course that maximizes your performance to these metrics.



- ▶ Reporting
- ▶ Sales and Operations Planning (S&OP) Support and Enablement
- ▶ Immediate impact and response to:
 - Order changes
 - Forecast changes
 - Supply changes
- ▶ Order Promising/Global Available to Promise (ATP)/ Capable to Promise (CTP)
- ▶ Demand management/planning
- ▶ Capacity and Constraint Planning
- ▶ Clear to Build
- ▶ MPS Planning
- ▶ Inventory Reduction and Rationalization
- ▶ Engineering Change Management
- ▶ New Product Introduction
- ▶ Supplier Collaboration
- ▶ Data Integrity Management
- ▶ Performance Monitoring and Alerting

RapidResponse includes specific functionality required by A&D companies — from inventory pooling, to model unit effectivity, to line-of-balance reporting that provides a summary risk perspective on the status of the delivery schedule for targeted units. This allows management to focus resources and make critical scheduling decisions.

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For example, the primary business driver for one customer is the ability to analyze demand changes associated with both drop-ins of new aircraft orders, and configuration changes to existing aircraft orders. Key functional requirements include: model unit effectivity, scrap factors, alternate parts, network BOM configuration, demand drop-in and change analysis, spares analysis, score carding of alternative scenarios, alerting to changes, and operational capacity analysis.

Another customer was faced with the challenges associated with understanding what critical parts need to be expedited to meet deliveries (line of balance) while managing inventory exposure. Key to their requirements was visibility and management of parts shortages (resulting from changes in demand and supply) which allows them to prioritize purchasing actions and maximize performance.

Reaping the benefits

The benefits our customers have experienced are equally impressive. A defense and aerospace systems supplier reduced excess inventory at one site by \$600,000 in the first month of use, while a diversified technology and manufacturing leader serving aerospace industry reduced total inventory by \$52 million in the first 6 months of use. In addition, the latter company used to take over 5 days to respond to demand changes, and their response was inaccurate. Now they respond in less than 24 hours with an accurate response.



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ABOUT KINAXIS

Kinaxis™ helps manufacturers manage increasing business complexity and achieve operations performance breakthroughs with its proven solution for demand and supply chain planning, monitoring and response. Kinaxis **RapidResponse** is an on-demand service that enables collective risk tradeoff and response to change by empowering front-line decision makers with integrated tools for supply chain visibility, demand management, supply management, sales and operations planning (S&OP) and supply chain risk management. Global leaders such as Casio, Jabil, Qualcomm, and Raytheon are realizing superior customer satisfaction and a competitive advantage with **RapidResponse**. For more information, visit www.kinaxis.com or the Kinaxis blog at www.21stcenturysupplychain.com.

Comments on this paper?

Want to learn more?

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