Challenge: Efficiently Supporting the Increasingly Individualized Build-to-Order Automotive Industry

Automotive consumers are requesting more and more highly individualized and customized vehicles. This global trend challenges the automotive supply chain as vehicles are increasingly made to order, with highly complex modules being supplied order- and vehicle-specific. Many automotive suppliers are facing these challenges as they build and ship multi-variant modules and complex as well as safety-relevant parts.

Satisfying these consumer demands for individual customization requires the ability to deliver the right product and quality, at the right time and location. Automotive suppliers must deliver zero-defect products on time, built to order and sometimes in sequence for the OEM to quickly respond to a consumer’s specific requests and last-minute changes. An increasing number of vehicle niche models and consumer options require high flexibility and late customization. Furthermore, the products are often packed and shipped in-sequence (SILS/ILVS programs). The short lead times require the supplier to be able to respond to any change in real time, and the core production processes are mission critical.

Only companies with the most agile and integrated manufacturing and logistics strategies will succeed in adapting to customized production and delivery, meeting the demands of mass customization.

Solution: JDA Build to Order

JDA® Build to Order is the perfect answer to master these challenges, supporting lean and agile tier 1 supplier operations with complex vehicle-specific module assemblies, late customizations and in-sequence deliveries for automotive OEM assembly factories. The JDA Build to Order solution enables automotive suppliers to quickly adapt to changing market demands and satisfy customer needs, transforming build-to-order strategies from a cost-increasing production methodology to an approach with considerable cost reductions and shorter lead times over traditional production methods. JDA’s solutions help automotive enterprises successfully implement SILS/in-sequence-delivery, agile and lean manufacturing, and build-to-order processes. With JDA, suppliers can manage their production from order to delivery in real time, thereby gaining a competitive advantage through shortening lead times, reducing inventory costs and increasing delivery quality.

Facts and Trends

- Vehicle-specific manufacturing with short lead times and increasing product complexity
- Increasing number of options requires late customizations and in-sequence deliveries
- Increasing quality requirements through demanding norms, parts and process traceability in the supply chain
- Increased competitiveness through the use of solution templates

Pain Issues

- Short lead times and complex production with high variance, modules and systems being produced
- Manufacturing constraints, fluctuating production load
- Supply chain visibility, recall and warranty management
- Maintaining agility, safeguarded by real-time visibility, monitoring and alerting

Functionality Highlights

- Build-to-order and sequencing execution, from SCM/ERP down to the machine level
- Build compliance, error-proofing/poka-yoke, data collection and traceability
- Materials management with engineering change control, option- and feature-based programs
- Supply chain integration (broadcasts, EDI, ASN, etc.)
- Order management with multiple commodity manufacturing and assembly
- Production scheduling and release, tracking of work in process and completion
- Label management, production and product labels
- Packing and shipping, including sequencing
- Integration of ERP and inventory management systems
- Exceptions management (e.g., insufficient inventory, work in process delays, order fulfillment or quality issues, production flow issues, etc.)
- Graphical configuration tools

Benefits

- Build-to-order strategy
- Agile production with on-time delivery
Suppliers often face significant liabilities in relation to both quality and on-time deliveries, requiring an absolute control of both related supply chain and production aspects — leaving absolutely no room for mistakes. Based on the manufacturing event management (MEM) concept, JDA Build to Order monitors and reacts to production, manufacturing and order fulfillment events, including exceptions, as early as possible to minimize risks and increase throughput.

<table>
<thead>
<tr>
<th>Challenges</th>
<th>Required Measures</th>
<th>Potential Consequences</th>
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<tbody>
<tr>
<td>Continuous price pressure</td>
<td>Stay lean – lower inventory costs</td>
<td>Increased buffer inventory</td>
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<td>Shorter lead time</td>
<td>Automated process flow and control</td>
<td>Excessive capacities</td>
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<td>In-sequence supplies</td>
<td>Embrace variability</td>
<td>Penalties</td>
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<tr>
<td>Available-to-promise</td>
<td>Agility and event management</td>
<td>On-time delivery issues</td>
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Addressing the Global OEM Requirements for Handling Diverse Supply Chain Information and Standards

JDA Build to Order is a suite of functionality to meet the global OEM requirements for handling the diverse information and standards in the supply chain. A set of order management and fulfillment functions act as a core foundation to support small- to large-scale operations — from one type of product to multiple commodities produced and shipped in parallel. This is tightly integrated with the production and manufacturing processes to support multiple levels of assembly, late customizations, build validation and data collection from floor equipment and tooling controllers. At the back end, JDA Build to Order has the necessary capabilities to meet every OEM demand for finished goods, package and shipment labeling, and packing and shipping requirements for in-sequence deliveries (SILS/ILVS programs) as well as any supply chain messaging.

JDA Build to Order is a highly flexible set of solution building blocks, enabling customers to maintain a central repository of specific business logic for order fulfillment. This includes business supply chain integration, production, manufacturing error-proofing and data collection, labels, papers, exception handling rules, document and reports, and system interfaces.

This repository is the foundation for a true template environment that ensures and maximizes reusability across all of your company’s operations worldwide — increasing your return on investment.
**Product Overview**

JDA Build to Order is a set of proven extensible, standardized solutions for specific customer business challenges and requirements. It is based on a modular approach and is fully scalable to seamlessly adapt to changing requirements and multiple sizes of facilities. JDA Build to Order is the most advanced integrated solution suite in the area of sequencing (ILVS/SILS), build to order, error-proofing and traceability, as well as lean manufacturing and advanced scheduling.

JDA Build to Order handles the complete horizontal flow of information and material from order entry to delivery, controlling the execution between the ERP/supply chain and the device/machine levels. Other solutions typically provide vertical integration of the shop floor information with single processes of the business layers (ERP), only providing visibility into individual steps in the processes.

**Deploy JDA Build to Order via JDA Cloud Services**

Protect your JDA software investment and increase business agility by having JDA experts manage, monitor and maintain your JDA solutions. JDA Cloud Services reduces your implementation time and risk while enabling you to quickly and easily deploy new functionality to keep pace with your changing business needs. With your software running in the cloud and upgrades included in your service, you will benefit from solutions that are optimized for your specific business requirements to help ensure that you achieve and sustain a long-term return on your investment.

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<tr>
<th>JDA Build to Order Visibility, Event Management and Reporting</th>
<th>AMERICAS</th>
<th>EUROPE</th>
<th>ASIA PACIFIC</th>
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