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Integration/ERP News

Automating China's Supply Chain

BeijingBenz-DaimlerChrysler leverages B2B connectivity solutions to drive first just-in-sequence car factory in China

By Editorial Staff

In 2006, BeijingBenz-DaimlerChrysler Automotive Ltd. (BBDC) opened an all-new state-of-the-art factory in Beijing to build Mercedes Benz E- and C-Class sedans, as well as Chrysler's best-selling big-grilled 300C sport/luxurymobile. Despite the limited experience of Chinese manufacturing personnel with enterprise resource planning(ERP) or electronic data interchange (EDI) systems, BBDC decided to automate all back-end processes at the new plant to implement just-in-sequence production. By leveraging solutions from SAP and SEEBURGER, the company was able to establish the first fully integrated automotive supply chain management infrastructure in China and one of the most advanced systems of its kind in the world.

Introducing EDI

For BBDC, the decision to adopt just-in-sequence processing stemmed from the need to build several different vehicle platforms on a single production line. BBDC predecessor Beijing Jeep Corporation, the first international automotive joint venture in China, had a smaller and simpler operation with no ERP system, manually communicated purchase orders and forecasts, batch production and a third-party logistics provider (3PL) to collect, manage and stage locally made parts. Those systems would not be adequate to support the new factory's demands.

The transition to just-in-sequence operations required more than a new SAP back-end. BBDC also needed to implement mandatory EDI throughout its supplier network, even with smaller local suppliers. "EDI is not widespread in Asia, but it was mandated by Daimler Chrysler to optimize BBDC's supply chain," said James Hatcher, managing director at SEEBURGER Asia Pacific Ltd. "The project therefore had even more challenges than a typical EDI implementation."

100 Percent Supplier Integration

BBDC selected SEEBURGER to handle business-to-business integration, based on the company's two decades of B2B automotive experience, native integration with SAP and support

for all global standards. SEEBURGER established a strategy to EDI-enable 100 percent of BBDC's suppliers through a combination of traditional and Web-based systems.

First, BBDC licensed the SEEBURGER WebEDI partner portal for use with smaller local suppliers lacking ERP systems or sufficient BBDC volume to justify a conventional EDI setup. The portal is fully double byte-enabled for use by Chinese partners. BBDC is believed to be the first Chinese car manufacturer to adopt a Web portal for total supplier interaction, reflecting its commitment to streamlining material flow for lean production.

In parallel, the factory deployed the SEEBURGER B2B Gateway to allow traditional EDI message exchange with local tier-one partners, DaimlerChrysler Europe for Mercedes builds, and DaimlerChrysler USA for Chrysler 300C production.

3PL & Barcode Inclusion

Next, SEEBURGER integrated Cosco, BBDC's 3PL, into the SEEBURGER WebEDI portal. This allows the portal to publish Cosco pickup and delivery schedules for easy access by local suppliers electing to outsource logistics processes rather than ship directly to the BBDC plant. The Cosco data is also integrated into BBDC's own production schedules to facilitate accurate production planning.

Finally, SEEBURGER incorporated a barcode generator into its portal to allow smaller trading partners to produce AIAG B10-compliant material tags for use on parts, packed boxes or pallets. This yields the same fast and accurate scanning-based goods receipt process at BBDC's warehouse for components from smaller suppliers as those received from local Tier 1 partners, DaimlerChrysler Europe and DaimlerChrysler USA.

150 Suppliers to Date

The SEEBURGER B2B Gateway was delivered on time when the plant opened in mid-2006, and BBDC officially launched the SEEBURGER WebEDI portal in January 2007 after hands-on training of all suppliers to ensure a smooth rollout. More than 150 suppliers were quickly and successfully brought on board.

Today, all suppliers receive an e-mail alert whenever SAP or Cosco generates an appropriate outbound message such as a material release, milk run schedule or order. In the case of partners doing traditional EDI via the SEEBURGER B2B Gateway, the gateway converts outgoing SAP documents to ANSI X12-compliant messages and incoming supplier messages such as advance shipping notices to SAP's iDoc format.

In the case of smaller local partners, the e-mail contains a hyperlink to the WebEDI portal. The supplier logs in with a user ID and password, views and/or downloads the message, and uses the portal to generate responses, advance shipping notices (ASN) and barcode-readable labels indicating the contents of the shipment. Users receive regular updates of parts inventory in near-real time directly from the portal interface, and the portal also automatically passes ASNs to BBDC.

Efficiency and Competitive Benefits

With its SEEBURGER systems electronically enabling small suppliers as well as large, BBDC is achieving its goal of having the right part in the right place at the right time and in the right sequence for product builds. This in turn is helping BBDC run its complex multi-vehicle manufacturing environment at peak efficiency, reduce buffer inventory and reduce costs and errors related to manual data handling by fax, phone and printed mail.

Significantly, BBDC is reaping additional benefits by owning its supplier portal under SEEBURGER's licensed model. Community portals require OEMs to sacrifice their strategic supply chain relationships to the aggregator, who often uses the "total community" membership to attract competitive OEMs. In addition, suppliers resist paying aggregator fees, particularly in developing regions, and those that accept inevitably charge their costs back to the OEMs. SEEBURGER's licensed platform eliminates those problems.

"Just-in-sequence production requires advanced business-to-business integration systems that can encompass the entire supply chain, not just the larger suppliers," Hatcher noted. "SEEBURGER's WebEDI portal has been rapidly accepted by BBDC's partners and is playing a pivotal role in driving operational efficiencies in their new factory."

BBDC Project At-a-glance

Customer Business

- BBDC builds over 100,000 Mercedes Benz and Chrysler vehicles annually in its Beijing factory. It is a joint venture of DaimlerChrysler AG and Beijing Automotive Industry Holding Co.

Type of Project

- Supply chain connectivity EDI implementation

SEEBURGER Solutions

- B2B Gateway
- WebEDI Automotive Partner Portal

Business Benefits

- MMOG/LE compliance
- Just-in-time production
- Just-in-sequence production
- Small supplier connectivity
- 3PL integration in web portal
- 150 suppliers live in 9 months

- Reduced risk of manual errors
- AIAG B10 barcoding
- Automated goods receiving

Technical Benefits

- No outsourcing to community aggregator
- No fees for small suppliers
- Easy new supplier onboarding
- Global standards support
- English, German or Chinese languages
- Seamless SAP integration

Technical Environment

- SAP for Automotive