



Autoliv Belgium Always Produces and Delivers “Just in Time” Thanks to Lawson M3

Just in Time (JIT) delivery is a concept that suppliers in the automotive industry have not been able to do without for years. A typical example of such a company is Autoliv Belgium, a manufacturer of airbags, seat belts, and other safety systems. It is located a stone's throw away from Volvo. But physical proximity alone is not enough to make JIT delivery possible. Autoliv Belgium also needed an enterprise resource planning (ERP) system that could support sequential production planning with a high frequency of delivery and subprocessing. Ultimately, Autoliv chose the Lawson M3 Enterprise Management System.

Business Benefits

When Volvo started production of its V70 and S60 models in Ghent, Belgium, the Swedish automobile manufacturer also decided to raise the number of JIT suppliers it used from seven to 17 right away. Autoliv, an international supplier with headquarters in Sweden, anticipated this and opened an office in the vicinity of Volvo Ghent. The company saw an opportunity to optimize both the variety of its product palette as well as its supply management. “With just a limited stock of basic parts, we are able to manufacture a large number of finished products,” says Patrick Van Ackere, plant manager at Autoliv Belgium. “For example, we can install various types of control switches on the module installed on a steering wheel. This way, the standard module forms the basis

“With the SILS [Supply-in-Line Sequence] module in Lawson M3 Automotive, Autoliv’s expectations were met perfectly in the area of sequencing. The SILS approach allows us to work with very small supplies and to anticipate changing trends or product adjustments.”

Patrick Van Ackere, Plant Manager at Autoliv



"Thanks to Lawson M3, Volvo is saving enormous handling costs, and production is running much more smoothly."

Patrick Van Ackere Plant Manager at Autoliv

for at least 24 different finished types of steering wheels. Neither we nor our customers can keep all the types in stock; that would cost too much money."

That's why Autoliv Belgium and Volvo Ghent decided to follow the JIT principle. For each automobile put on a Volvo production line, Autoliv receives a special order (approximately one order every 80 seconds). The order specifies which products Volvo needs, and when, to continue assembling automobiles. For Autoliv it then boils down to sequentially delivering the right steering wheel, the right airbag, and the right seatbelts, for each car to Volvo.

To process these JIT orders and support sequential production planning, Autoliv uses the Lawson M3 Enterprise Management System. Thanks to this system, the company can adjust production planning at Autoliv Sweden for the basic components of each order that it receives from Volvo. "The Lawson software runs on the IBM AS/400 platform at Autoliv Sweden," Van Ackere says. "We have continuous access to the system via a leased line through which we can always see supplies and planning systems online. This way we can get the ball in play really fast." Thanks to this approach, Autoliv has already managed to limit average supplies to five days. Now the company wants to reduce this number even further; to just three days.

The Company

Autoliv operates as a subsidiary of Autoliv Sweden and produces safety parts for Volvo Ghent: driver- and passenger-side airbags, safety belt and seat systems, anti-whiplash systems, and so on. Another advanced product is the "post-crash sensor," which automatically informs emergency services via the GPS system after an accident. In fact, Autoliv plays the role of "subassembler" within the so-called value chain; the company positions itself between producers of basic components and automobile manufacturers. For example, its suppliers produce the parts for airbags (explosives to inflate the airbags, textile and electronic components), and Autoliv then assembles these for customers like Volvo, Ford, Opel and Saab.

Why Lawson?

Lawson M3 was already more or less a standard within the Autoliv Group even before Autoliv Belgium was established. Lawson M3 version 9 is being used in Sweden for supply control, processing orders from Volvo's long-term planning, and requests for deliveries to Volvo Ghent's plant, among other things.

Nevertheless, implementing Lawson M3 at Autoliv Belgium was not an obvious solution. "Lawson M3 version 9 was actually inadequate for processing JIT orders and the high frequency of delivery and order processing that we are confronted with," Van Ackere says. One solution was that Autoliv Belgium would keep all possible product combinations in stock. Autoliv Sweden would then freely deliver large batch volumes to the Belgian site, and the products would then be delivered to Volvo Ghent from there, using a manual system. "This solution was far from ideal. The impact was incalculable in the administrative area alone, especially if you know that an invoice has to be drawn up for each car," Van Ackere explains. "Storing large volumes of airbags, for example, was problematic, too, not only because of the cost but also because of the explosive that's been incorporated into the igniter."



"When the plant is running at cruising speed, we achieve a level of productivity that would normally have been unthinkable without the Lawson M3 system."

Patrick Van Ackere, Plant Manager at Autoliv

As a result, it was decided that using JIT on the spot for production and keeping only limited stock on hand was the only feasible solution. Luckily, however, the problems Van Ackere encountered with the earlier version of Lawson M3 were resolved by the release of version 11. "Thanks to the implementation of Lawson M3, we are able to steer clear of having to do production planning in Sweden for components for every incoming order from Volvo," Van Ackere says. "Volvo Ghent sends a sequential purchase to Autoliv Belgium via EDI [electronic data interchange]. This purchase is first converted by an IBM application so that it can be used within Lawson M3. Then, the purchase is sent on again by EDI to Autoliv Sweden where Lawson M3 directly incorporates it into production planning. Subsequently, correct planning is sent back from Sweden to the computers on the production lines in Ghent so that they know when each assembly stage has to be done."

The Implementation

The Lawson Benelux team was responsible for implementing the new version of Lawson M3 in cooperation with the logistical responsibilities of Autoliv Sweden in Belgium. The implementation project was characterized by an approach divided into clear phases, and it was completed on schedule.

"First the different material structures were developed and on the basis of these we created a test environment within the Lawson M3 system in Sweden," Van Ackere explains. "In this phase it all boiled down to adequately organizing communication—we had to be ready to receive purchases from Volvo, convert them, process them, and import them into Lawson M3. We approached this challenge together with the IT people at Autoliv Sweden and the consultants from Lawson in Sweden."

From that moment on, Autoliv Belgium could handle all the work available. "We were quite lucky that the start-up phase was spread out over a few weeks so that we were able to build up our supplies systematically," Van Ackere adds. "In other words, we had sufficient time to go through the learning process and to gradually move over to the new sequential manufacturing process. This way we were able to learn how to work with the different modules and adjust them as necessary."

During the second phase of the project, the focus was on incorporating JIT information into planning and, more specifically, the requests to Autoliv Belgium's suppliers. This was still done from Sweden during the test phase, but later on Autoliv Belgium began operating from Ghent independently. In the last phase, after everything was complete, they achieved full integration with production planning in Sweden.

"Installing the new version of Lawson M3 also had a number of important consequences for processing financial information," says Dirk Piessens, financial manager at Autoliv Belgium. "Lawson M3 automatically generates invoices on the basis of the sequential information every day. At the same time, Volvo forwards us an invoice proposal, and then Lawson M3 works out whether the two match each other. If that's the case, then the system prints a definitive invoice."

The financial module had to be thoroughly adapted to Belgian tax legislation due to the fact that there were a few discrepancies between Autoliv Sweden's reporting and the reports that Belgian legislation requires. "In fact, we set up an accounting system and an accounting structure ourselves. That was a difficult job that we had to do with relatively limited resources, but we had to

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be ready on time with the implementation," Piessens explains. "If deliveries from Autoliv to Volvo fail, Volvo Ghent shuts down within one hour. And of course that is something we don't want."

The Future

At present Autoliv Sweden is still the most important supplier of product components for the Belgian subsidiary. In the future, however, Autoliv Belgium would like to set up EDI connections with its other large suppliers too. "We want to be able to send sequential purchases to our suppliers in the future that can be incorporated directly into their planning—just as Volvo is currently doing with us," Van Ackere explains. "That's already running smoothly between Autoliv Belgium and Sweden since we are both working with Lawson M3. It'll be necessary to make bigger adjustments with suppliers who are using different ERP systems in house, but in the end a direct connection with their planning systems will be something that's quite feasible."

About the Solution

The Lawson M3 System at Autoliv supports the following business processes: purchasing and sales, distribution, warehousing, and production planning. Lawson M3 runs on the IBM AS/400 platform at Autoliv in Sweden.

About Autoliv

Autoliv Sweden is a global producer of safety parts for automobile manufacturers such as Volvo, Ford, Opel and Saab. Among other things, Autoliv offers products that protect drivers and passengers before, during, and after an accident to the greatest extent possible. Autoliv Belgium was set up to provide Volvo Ghent with all the driver- and passenger-side airbags, sun visors, safety belt and seat systems, and anti-whiplash systems, that it requires. One of the company's innovations is its "post-crash sensor," which notifies emergency services automatically after an accident via a GPS system. Autoliv employs approximately 24,000 people globally, who together realize annual sales of about EUR 4.4 billion. In Belgium Autoliv employs 26 people and monthly sales amount to about EUR 6.2 million. Autoliv has more than 60 subsidiaries and joint ventures in 29 countries. The company tests its cars and products at 19 crash-test tracks in nine countries.