



Epicor Success Story

Cosma International

Improves systems through collaboration with Epicor

Company Facts

- ▶ Location: Victor, Iowa, United States
- ▶ Industry: Tier-1 supplier of automotive assemblies (a division of Magna International)
- ▶ Web site: www.magna.com

Success Highlights

Key Challenges

- ▶ Accurate inventory management
- ▶ Lack of electronic data interchange (EDI) capabilities
- ▶ Manual spreadsheet-based production scheduling
- ▶ No visualization of shop floor data

Solution

- ▶ Epicor® CMS, integrated enterprise business system for manufacturing and distribution
- ▶ Epicor Informance, enterprise manufacturing intelligence (EMI) system

Key Benefits

- ▶ Accurate, real-time, shop floor reporting and inventory management
- ▶ Integrated production scheduling
- ▶ Reliable EDI
- ▶ Near-instant access to key metrics
- ▶ Accurate, finite shop floor information using programmable logic controls (PLCs) and an open connectivity protocol (OPC)



Cosma International

Cosma International, a wholly-owned operating unit of Magna International, is one of the world's premier global automotive suppliers providing a comprehensive range of body, chassis and engineering solutions to OEM customers. Unsatisfied with the lack of functionality and support for its legacy business management system, Cosma International's operation in Victor, Iowa, searched for an integrated enterprise resource planning (ERP) system that allowed for real-time shop floor reporting and inventory management. In 1996, Cosma International selected Epicor CMS for discrete manufacturing and has never looked back.

"With our legacy system we were reporting all of our inventory transactions at one reporting station," recalls Andy Hrasky, assistant general manager at Cosma International's Victor operation. "It was on the shop floor, so it was somewhat in real-time. That process required a lot of unnecessary, time-consuming movements. But what led us to look for another ERP system was the legacy system vendor's inability to work with us to develop a better way of shop floor reporting."

Up to the challenge

Early on, Cosma International wanted to take the shop floor activity reporting capabilities of Epicor CMS even further. "Epicor was very willing to work with

us on the development of a better shop floor reporting system, which is now known as the event based reporting system," says Hrasky. "We were very impressed that Epicor was willing to listen to its users, invest in the product, and take it to a better place."

With the event based reporting system in Epicor CMS came enhanced serial traceability. As a Tier-1 automotive supplier, serial traceability information is critical to Cosma International quality control. "If we were to have an issue with the steel used in our stamped and metal assemblies, then with Epicor CMS we could quickly identify that we have a bad heat number in a coiled-steel product. We could then identify all of the suspect material that may have gone to our customers, and what was still at our facility."

Traceability with Cosma International's legacy system had been a manual process. It was a time-consuming method involving large boxes of cards, a few days, and a few people. Using the event based reporting system, the operators report their own production in real-time throughout the day. "All it takes is two quick bar code scans," says Hrasky. "There are no keyboards needed so we've minimized the amount of time the operators need to interact with the system. They're able to focus on making parts."

A scan of the bar code does several things for Cosma International:

- ▶ Increases the quantity on-hand of that part
- ▶ Back-flushes all of the components that went into the manufacture of that part, in the proper quantities, according to the bill of materials (BOM)
- ▶ Validates that all of the materials required to manufacture that part are indeed on the BOM and in sufficient quantity
- ▶ Validates that operators are on the proper resource, and not attempting to report a part that doesn't run on a given resource
- ▶ Forms the complete serial traceability record
- ▶ Performs labor accountability to record the operators logged into the machine at that time who are responsible for the product's quality.

Today, Cosma International has 23 reporting stations on the floor. "The event based reporting system in Epicor CMS is integral to what we do," says Hrasky. "We couldn't get by without it."

Improved inventory accuracy

Cosma International has always had reasonable inventory accuracy but knew there was room for improvement. "We were in the low 90 percent accuracy range," recalls Hrasky. "When we switched to Epicor CMS, as part of the development of the event based reporting system, we started with a single reporting station. In the first year our inventory accuracy decreased a bit. But we worked our way back up. Because Epicor CMS was a better ERP system, we soon achieved 96 percent accuracy."

Cosma International went live with event-based reporting in 2000. That year, Cosma International transitioned from a few personnel interacting with the system to everyone on the shop floor. "We increased the number of people using the system, so we took a step back to the low 90 percent accuracy range," says Hrasky. "Since then we have improved every year to the point that we are now at 99.7% accuracy."

Inventory accuracy has its benefits. "It's been over 15 years since we've taken a full physical inventory," says Hrasky. "The accuracy has really helped us improve our inventory turns. With this level of accuracy we've been able to eliminate excess safety stock because we can rely on the quantities shown in the system."

"In my opinion, inventory accuracy is king, the building block of everything. If you don't have accurate inventory then you don't have anything. Epicor CMS is our foundation."

Improved EDI

To meet tough supply chain requirements, Cosma International left behind the poor EDI support of its legacy system for an integrated solution from Epicor. "We've maintained at or near 100% delivery rating with our primary customers because of the stability of the EDI package," says Hrasky. "The EDI package is reliable and robust."

Improved production scheduling

In the past, scheduling "within the system" had been difficult. In 2002, Cosma International and Epicor began development of the visual Whiteboard Scheduler (included in the CMS Advanced Planning and Scheduling application) to allow production planners to work within the system, instead of outside using manual spreadsheets. Cosma International went live with the Whiteboard Scheduler in 2003.



"Lots of plants use world-class ERP systems," says Mayo Fotral, manager of materials, logistics, and ERP systems at Cosma International's nearby Montezuma operation. "But in order to schedule they still take the information out of the ERP system and manually key into spreadsheets. They're not able to use their ERP system to schedule. We use the Whiteboard Scheduler to create production schedules without taking the data outside of the ERP system. This allows us to eliminate duplicate effort and save time."

"Being in the automotive industry, we use a customer pull system," says Hrasky. "An Automotive Industry Action Group (AIAG) requirement is that when we receive EDI demands from customers, we have to be able to generate the production schedule and create shipments, all without manual intervention. Not only does the Whiteboard Scheduler allow us to meet this requirement, but we also save time and reduce risk of data entry error."

The Whiteboard Scheduler allows users to gather, assemble and apply information to production planning, scheduling, execution, and cost analysis. Users can view scheduled production runs at-a-glance, and change the schedule in real-time.

Cosma International also uses the Whiteboard Scheduler to manage capacity and material constraints. "We can locate bottlenecks in advance of production starts," says Fotral. "The Whiteboard Scheduler will suggest a schedule, which is most often accurate and can be run as is. If we run into exceptions, then the Whiteboard Scheduler gives us options."

The Whiteboard Scheduler's what-if scenario capability allows Cosma International to put work where it makes sense. "When we make changes or introduce new business we're able to use what-if scenarios to make sure we have the work in the right place," says Hrasky. "Instead of reacting to release changes we're better able to anticipate them and better manage them with this foresight."

Data analysis with Informance EMI

In 2010, Cosma International decided to use their existing investment in CMS to drive even greater factory performance by adding Epicor Informance enterprise manufacturing intelligence (EMI) system to analyze real-time production data. "For all of the things we did well because of CMS, we felt we had room for improvement in how downtime data was analyzed. We wanted to visualize our shop floor management information."

At first glance, Cosma International felt that Informance was like every other manufacturing intelligence package. Then Informance showed what it could do using a sample of Cosma International's actual data. "We were looking at our data in a visual way through Informance," says Hrasky. "Informance took us from nothing to an intuitive display of what was happening on the shop floor and a useful way to look at downtime and other data."

Easy system integration

The integration of existing CMS data with Informance allows Cosma International's plant operators and management personnel to access real-time performance analytics, which can be used to continuously improve performance. For manufacturers that focus on overall equipment effectiveness (OEE) as the primary indicator of performance, it is the only way to dive deeper and uncover the issues that affect OEE. Only then can appropriate action be taken and the right issues resolved. "People at our other divisions had prior experience in using other manufacturing intelligence products," recalls Hrasky. "They had spent significant resources trying to achieve the same integration that Epicor provided with CMS and Informance within days. Informance is intuitive, but it's really the integration between CMS and Informance that's really helped us."

Near-instant access to key metrics

Cosma International's tradition has been to track key resources and publish weekly reports that show average setup time, production efficiency, and average downtime by reason code. What Cosma International wanted was to make this information available at the supervisor's fingertips. Supervisors can now look at their previous shift data and quickly run a report. The intuitive display of that previous shift's information, together with the graphical display of where the issues were the day before, allows the supervisors to walk out to the machines and address issues immediately. "Informance gives us nearly instant access to key metrics like cycle time, downtime, and trends that we can use to make management decisions right away," says Hrasky. "Not only that, but our production supervisors now have meaningful analyses they can use all day, every day to make adjustments before issues become problems. The supervisors have certainly embraced what Informance can do for our improvement initiatives."



Cosma International managers use Informance to display OEE, cycle time charts and down time charts, while machine operators have customized dashboards that focus on the key pieces of equipment. The operators have high level information in OEE, and they can drill down to identify where issues are, should they arise. At Cosma International, the result of the integration of Informance and CMS is real-time insight to evaluate improvement opportunities, align plant tactics with corporate strategies, and the ability to sustain the effects of operational excellence activities like lean and Six Sigma improvement initiatives.

Empowered employees

The integration of CMS and Informance allows Cosma International to retrieve meaningful data, not just a large

quantity of data. The next logical step for Cosma International will be to link its metrics to shop-floor action plans and employee suggestion plans. "A lot of systems can show you a bunch of data, which can lead to 'analysis paralysis' because it all quickly piles up," says Fottral. "What we want to achieve with Informance is the ability to tie the data to a corrective action that actually fixes the problem, not just analyze it."

The idea is that data alone generally cannot determine the best corrective actions. Although data helps to determine where investigations should be focused, it is the combination of data and shop floor observations that lead to the best actions.

According to Fottral, a good integrated system "empowers the people to use data, make observations and capture suggestions for the purpose of continuous improvement."

About Epicor

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