



ASAP Automation Customer Success Story - Automotive Supplier

Synopsis

Customer Profile

Astra Logistics, a tier one automotive supplier located in Delaware, builds and delivers tire and wheel assemblies just-in-time.

Size of Facility

250,000 square feet

Demand

1,500 to 1,800 tire and wheel assemblies per day

Solution

Exacta LINK Manufacturing Execution Software (MES)

Benefits

- Provides access to real-time production data
- Reduction in manufacturing cycle times
- Reduction in WIP inventories and their associated capital requirements
- Improved visibility across the operation and to product genealogy data
- Eliminated paper-based processes
- Provided relevant reporting and analytics



Astra Logistics, A Tier One Supplier Satisfies Auto Industry Requirements, Improves Profitability and Reduces Capital Requirements with Exacta® LINK™ Manufacturing Execution Software (MES)

"Exacta orchestrates our order entry, production planning and error proofing systems to ensure that we ship the correct products 100% of the time. It performs data analysis and management to ensure all tire and wheel assemblies shipped by Astra meet or exceed the customer's expectations."

- Bruce Muir, PE, Vice President

The Situation

In 2004, the DaimlerChrysler Corporation made the decision to transform the company's 3.4 million square foot Newark Assembly Plant into one of a handful of Flexible Manufacturing Facilities (FMF) capable of building more than one platform on a single assembly line. Chrysler's FMF strategy is designed to help the company introduce new models to the market faster, deliver higher quality vehicles at a lower cost and free up capital to invest in design and engineering.

The company, the UAW and the city of Newark all have a strong interest in seeing the FMF strategy succeed at Newark. The plant employs more than 2,000 people who earn over 135 million in wages and generate 7 million in tax income for the state of Delaware and the city.¹

The FMF strategy required the plant to retool, renovate and retrain employees. It also required Chrysler Newark management to outsource activities that could be performed by third parties at a lower total cost to Chrysler without sacrificing component quality and availability.

After a formal bidding process, Astra Logistics, a tier one automobile supplier, was awarded the contract to build and deliver tire and wheel assemblies to the Chrysler Assembly Plant in Newark on a just-in-time basis.

The Challenge

To win over SUV and Light Truck customers, Chrysler needs to offer a wide range of wheel and tire styles and needs to update those styles frequently. Safety-related component quality is paramount.

If the potential exists for the drivers or passengers of a car or truck to become injured or killed as the result of a product defect, the automaker must have the ability to quickly access and retrieve product genealogy data to identify and recall the vehicles possessing the defective part.

¹ Daimler-Chrysler AG press release, August 4, 2006.

Exacta LINK Manufacturing Execution Software (MES)

The missing link for production systems

Demand-driven enterprises demand real-time manufacturing execution software to remain competitive with adaptive and responsive solutions.

Cognizant of the fact that operations managers need and want to fill the communication gap between their production planning system (ERP Manufacturing Module; MRP) and the machines on the shop floor, ASAP Automation designed a suite of modules support production and provide up-to-the-minute data and information to plant employees in a format that is useful and easy to understand. ASAP also developed interface tools using standard protocols to connect these modules to an ERP/MRP system or a BTO Broadcast Program on one-end and, through PLC or PC-based control technology, to production and testing equipment on the other.

Contrast this with Astra's needs to keep operating costs low. Developing a profitable business providing automotive components to a major automaker is extremely challenging. The goals were to minimize the amount of floor space leased and the amount of purchased parts inventory managed as these drive up operating costs and reduce cash flow.

Cycles times had to be quick. Yields needed to improve to reduce rework and scrap. Plant labor hours needed to be reduced. Machine life had to be extended to reduce/postpone capital spending. Product genealogy data had to be captured and archived in a cost-effective and efficient manner.

To succeed, it was necessary to incorporate automation into the plant design. Manufacturing Execution Software (MES) was needed to integrate with the existing production planning system and shop-floor controls to guide, trigger and report on the activities and events occurring inside the plant from point of order receipt to point of delivery.

The Solution

After comparing several bids, Astra selected ASAP Automation's Exacta LINK Manufacturing Execution Software (MES) solution. Astra appreciated the software's rich functionality and was impressed with ASAP's ability to integrate its Exacta LINK software with a wide variety of enterprise applications (e.g. ERP) and shop-floor process control systems.

Receiving and Storing Purchased Parts

Employees enter receipts into the system in a fast, error-free manner. As parts are consumed to make assembled products, they are removed from inventory and WIP inventories are incremented accordingly.

The Broadcast and Work Order Creation

Messages (representing requests for finished product) are received via an Internet router and instantly translated into work orders.

Part Selection

When a work order is released into production, employees are directed (via handheld devices) to withdraw the appropriate materials (e.g. wheel, tires) and induct them into the automated assembly and test process.

Part Inspection (Quality Control)

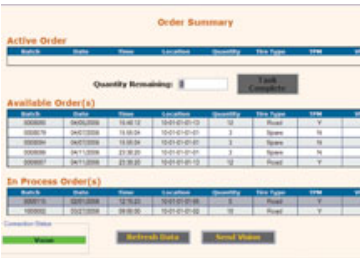
Parts pass through vision equipment and the results are compared with digital images stored in the system's database. The results are used to accept or reject each product.

Data Collection and Automated Routing

As parts pass through various stages in the assembly and test process (e.g. inflation, uniformity, balancing) results are passed from the shop floor machine and stored for future reference. Those same results are compared to acceptable values and used to route the product onto finished goods or out of the production process and into quarantine/exceptions handling.

Order Fulfillment

Assembled wheels and tires are aggregated into families (road tires and a spare) and families are inspected using automated vision equipment to ensure conformance with customer requirements. Information used by the customer's assembly process is added to the finished goods which are directed to the appropriate trailer so they can be delivered to the automaker on time and in the proper sequence.



Reporting (Analytics)

A comprehensive library of reports gives Astra Logistics the ability to comply with the automakers data and analysis requirements. Reports are also used internally to drive continuous improvement efforts.

The Benefits

Provides access to real-time production data

The ability to collect and view real-time data from the plant floor enables management to monitor production progress. This happens without anyone having to collect it or ask for it. Up to date information is available with a few simple clicks of the mouse. Managers can make quick, informed decisions, removing the guesswork.

Reduction in manufacturing cycle times

By minimizing non-value-added activities such as data entry time, paperwork, rework, and redundant checks in the process, throughput increased and cycle time was reduced.

Reduction in manufacturing costs

Maintaining assets and WIP inventories at optimum levels and improving quality through all phases of manufacturing, rework, scrap, labor and material, allows costs to be reduced.

Reduction in errors

Through the use of handheld RF devices and automation, manual data entry and redundant paperwork were eliminated which helped in reducing error rates.

Accurate and timely reporting

To make the right decisions you need to have the right information at the right time. Real time data reporting provides the information so it is possible to respond to situations as they develop. There are no more questions about individuals calculating metrics differently or reports being manually compiled incorrectly, everyone shares the same automated report information.

The Future

Astra Logistics is enjoying the benefits and business advantages they have achieved through the implementation of Exacta LINK. Their performance has been impressive and they are working to obtain a contract to build and deliver tires for another North America assembly plant. If they are awarded the contract, Exacta LINK will be the enterprise MES solution of choice.

ASAP Automation

Integrated Supply Chain Solutions for the Demand-Driven Enterprise

ASAP Automation is an industry leader in using advanced automation technologies and Supply Chain Execution software (SCE) to help businesses execute their strategic goals. Success through the control of material flow, information flow, and operational procedures can yield huge competitive advantages. Our integrated systems reduce the total cost of order fulfillment and the cycle time for the end user to receive their product.

For more information about ASAP's software solutions and services, visit our website at www.asapauto.com or contact us at 800-808-0442.