

## Leading Automotive Parts Supplier Reduces Costs, Increases Accuracy with Greater Efficiency in its Reporting using Altair® Monarch®



A global leader in automotive supplies, this organization has over 300 manufacturing centers and close to 90 product development, engineering and sales centers in 30 countries. Known for quality part designs and engineering, it conducts tests and manufactures automotive systems, assemblies, modules and components for original equipment manufacturers (OEMs) of cars and light trucks around the world. It has won awards from their customers for delivering innovative technology, providing superior quality components, and offering competitive enterprise-level cost solutions.

In the early 2010s the company expanded its operations to a new facility in the south-central United States. This location manufactured components for a popular compact crossover sport utility vehicle sold by one of the Big Three automakers. Before the plant became operational, the company recognized the need for a data mining solution that could help them manage the massive amount of data that would be required to engineer, deliver and invoice against the many different components used in the manufacture of items that would be used by the automaker in the final vehicle assembly.

### The Challenge

The supplier's business model is based on invoicing against the cost of each component used in the manufacturing of a final product. Orders are placed, processed, delivered and invoiced by the components that go into the finished unit, rather than invoice against the total number of finished units shipped to the automaker. On average there were over 100 different components used in each finished unit. However, as the automaker offered custom variations to when selling vehicles, it was not uncommon to have over 250 components in a single unit that was manufactured and shipped to the automaker.

The parts supplier needed the ability to validate, reconcile and report on all the components used to manufacture the final unit for the automaker. Poor inventory controls and inaccurate supply chain reporting impacted the supplier's operational

### About

- A global automotive parts supplier conducts tests and manufactures automotive systems, assemblies, modules and components for automakers around the world
- Hundreds of components are used to manufacture finished goods. These parts need to be inventoried, invoiced, and traceable to the finished vehicle

### Challenge

Final reports extracted data from multiple systems. With hundreds of thousands of automated transactions per month, the manual reporting process became too complicated and too slow using existing processes

### Altair Solution

- Monarch was chosen because of its ease of use yet powerful data transformation features. By integrating into the reporting infrastructure, Monarch greatly increased reporting accuracies and significantly reduced operational expenses
- With greater reporting insight, better inventory controls were implemented and efficiencies were gained in multiple areas of the business

costs and revenue numbers. Moreover, the automaker required that each component used in the final unit be mapped to the Vehicle Identification Number (VIN) of the fully manufactured vehicle.

The number of different data sources and formats used in this process demanded that analysts from the accounting departments had an ease of use method to connect to data, that there was simplicity to extract needed information from these disparate data sources, and that the final reporting and invoicing was accurate, was completed within defined time periods, was flexible to adapt to changes in the reporting structure, and fit within the automated B2B payment system used by the supplier and the automaker.

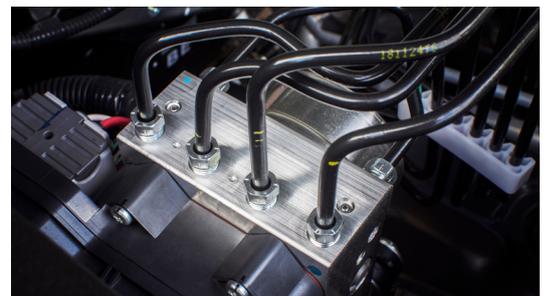
### Using Self-Service Data Preparation to Jump Start the New Facility

Before the plant became operational, the parts supplier turned to Altair's self-service data preparation solution, Monarch Complete as an integral piece of the reporting process. The workflow begins with job orders by component put into the Manufacturing Executive System (MES). When an order is ready for production, the components' data is passed through the company's ERP system known as 'Trans4M', in the form of a report that provides the inventory of the order. Once the order has been produced and is ready to ship, a finished goods report is generated showing the components that were included in the order. This report is then passed through a pick and pull shipping system from Hewlett Packard; it is also passed through an ERP system by finished good, product unit number and the VIN.

Using prebuilt reports and data queries run from inside the ERP system, the manufacturer uses Monarch to extract, compare and verify the production data from one system with what is in the shipment from another system to ensure the order is correct and properly billed. With all of these systems involved in the process, Monarch has proven to be the solution that mitigates complexity when creating final reports and invoices and analyzing other datapoints for business purposes.

### Results

Using Monarch to efficiently extract data from various sources, the company has realized tangible results in the time and cost it takes to create reports compared to similar reporting processes used at other sites. Being able to minimize the amount of data that is transferred into the general ledger (GL) system (IDEAS from P2 Energy) has reduced time and licensing costs for this system. When a report of the GL data is run, it passes through the separate GL system in detail and is then pulled into a SQL table for future use. There are 300K detailed transactions a month that are kept, but only 1500 are used for the final GL reporting. The accounting department uses the detailed SQL table to analyze its business costs, as well as their customers spend, margins realized, and growth patterns. Monarch's user-friendly interface is leveraged to access and transform this data for the analyses. Before Monarch was used, the reports were manually created in and took hours to complete. The process is now automated by dropping a file into the Monarch environment. The time it takes to create a report is now measured in minutes. With the success of the Monarch's self-service data preparation capabilities, the parts supplier is now adding Monarch to other areas of the business to increase reporting efficiencies, reduce costs, and to improve its inventory controls, supply chain logistics, and to increase its overall value with their customers and partners within the automotive industry.



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