

# Case Study: PlantTalk<sup>®</sup>:MES



Piston Group

Piston Automotive LLC



Piston Automotive received a contract to supply their cooling modules to Ford Motor Company in Chicago for the D3 platform Taurus Sedan and Crossover SUV (Five Hundred/Freestyle) and Mercury Sable Sedan (Montego). The cooling modules had to be assembled and shipped in sequence according to the Ford 866 EDI schedule.

Piston Automotive selected Datanational's PlantTalk:Sequence and PlantTalk:ContainerTrack software modules in order to meet with their customer's requirements. The EDI data is imported into the system and validated to ensure that it is in the expected sequence and that it does not contain any unexpected gaps or duplicates in blend numbers. At that point, the sequence data is available to the actual assembly line for production.



Piston Automotive set up an automated PLC-controlled assembly line for the cooling modules. The PLC on the line requests the next module to build in sequence and the Datanational PLC monitoring program receives the request and writes the next module data to the PLC using Rockwell RSLinx to complete the interface. The line has two reject stations where the information for reject parts comes from the PLC and the Datanational system prints out a label with the appropriate pass/fail messages.

Upon a successful completion of a module, the required sequence label is printed and the data from the PLC is stored in the database. Following the standard PlantTalk:Sequence process, each rack on every truck must be verified to ensure that the correct parts are in the rack and in the proper location. This is done using an RF-enabled scanner.

The application on the scanner directs the Piston Automotive representative to start the process by scanning the sequenced rack label's barcode and then the container ID (for interface to PlantTalk:ContainerTrack). The hand held unit then lets the user know what location is next to scan and require them to scan the Ford sequence label along with the internal label. If the scans match and the module is in the proper location within the rack, it is updated to a verified status. Upon completion of the entire rack, the hand held displays a message stating the rack is complete and audibly alerts the user.



The shipping process validates that all racks placed on the trailer are verified and in sequence (by rack) based on the loading customer-required sequence. The loading sequence is either low in the nose of high in the nose of trailer. When all of the racks for the truckload are scanned onto the trailer, the RF scanner prompts for the carrier and upon entry of that information, a flat file is created for Piston Automotive's ERP system to create a shipping document and update the inventory levels.



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Datanational's PlantTalk:ContainerTrack module has been implemented at Piston in order to keep track of the barcoded shipping containers that are shipped to and from Ford's Chicago Assembly Plant. The application provides a report for racks that are out to the customer over a user-defined number of days. The ability exists to mark a rack as out for repair in the case where a rack has a defect keeping it from being used in the normal shipping loop. Racks that are out for repair do not show up as out to vendor beyond x days. That same report will allow a representative to run a report of all racks, showing the status of all of the racks defined to a particular assembly line.

This is the second sequenced line at Piston Automotive implemented with Datanational's PlantTalk:MES system. Mr. Bart Nandaluri, the IT Director at Piston Automotive, has been directly involved in the software selection and implementation process for Piston Automotive's just-in-time system requirements.

*"We were looking for a shop floor system that could keep up with the growth we were anticipating and at the same time it needed to be diverse enough to handle various product lines and customer requirements. Datanational's PlantTalk: MES did just that for us. The product has a rich set of features and is based on technologies that allow for growth."*

*"Our implementation went without a glitch and we came in under budget and on time. We were very impressed with the team that was deployed on site to manage the project - competent, professional and in tune with our requirements. They are a strategic partner in the future growth of The Piston Group and would highly recommend their product and services."*



### About Piston Automotive Systems

Former Detroit Piston Vinnie Johnson launched Piston Automotive LLC in 1996. The company provides a number of assembly and sequencing services to the automotive industry and is a member of the Michigan Minority Business Development Council. Headquartered in Redford, Michigan, the company specializes in the supply of chassis modules and interior trim, specialty plastic parts and logistics services for the automotive industry. Piston Automotive can be contacted online at [www.pistonautomotivellc.com](http://www.pistonautomotivellc.com).

### About Datanational Corporation

Since 1979, Datanational Corporation has been providing innovative and flexible IT solutions to our clients in North America and Mexico. PlantTalk:MES is an integrated Manufacturing Execution System designed to control and direct the operations at the shop floor level, assisting the shop personnel in getting their jobs done accurately and efficiently. It is comprised of several modules (Receive, Build, Sequence, Pack, Ship, ContainerTrack and Label) that can be integrated as a whole or implemented separately. More information is available online at [www.PlantTalkMES.com](http://www.PlantTalkMES.com).