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**ASI DataMyte**  
Total Quality Solutions

## Case Study: Striving for Continuous Improvement, Trans-Matic Implements ASI DataMyte Quality Solution

From the components in the kitchen cabinet drawers and door locks of your home to those in the turn signals and air bags of your car, Trans-Matic products are all around you every day. Headquartered in Holland, Michigan, Trans-Matic specializes in deep-drawn metal stampings, creating high-quality precision metal components for common yet essential applications.



*Some of the automotive parts manufactured by Trans-Matic.*

### The Challenge

With a diverse product mix and volumes that reach into millions of units, meeting customers' expectations on a daily basis is a serious long-term challenge. Trans-Matic ensured customer satisfaction by collecting and recording data manually. With over 600 active parts, however, such manual data collection was a complicated process. Ed Brown, Trans-Matic Director of Operations, states, "With today's economic pressures, it was obvious to us that we needed to change our thinking on how we collected and recorded data. Increasing production requirements were resulting in an increased demand for manual inspection labor. Automation was necessary to keep labor down while allowing production demands to grow."

possibly go unnoticed by the tool maker. If it was noticed, the reaction was often, 'I trust my work a lot more than the points on that piece of paper.' The bottom line is folks didn't always trust the data. Also, the data was not easily attainable and was put in file cabinets in case it was needed later. It was difficult to recall data for later use."

Cal Folkert, Trans-Matic's IT manager, recalls, "Previously, a quality technician manually mapped a point only to have it

To counter this issue and better serve customer and internal production needs, Trans-Matic began using automated inspection equipment from a number of different vendors. Folkert adds, "It makes great sense to me that if you can automate parts inspection, you are going to get:

- A more repeatable inspection process
- More accurate readings
- Better data reliability
- Less human error
- Quicker inspections

If that's the case, why would you not want a machine to do your inspection work? I think we are going down the right path in automating inspections and at the same time, we're getting more inspections done."

This approach improved data integrity but created separate data silos for each inspection system. Each piece of inspection equipment recorded and stored the data in a unique format. Jeff Sotok, Trans-Matic Vice President of Manufacturing explains, "What we wanted was a solution that could be fed information from a variety of different inspection devices, from a variety of different vendors."

This inspection equipment includes:

- Coordinate measurement machines (CMM)
- Vision inspection systems
- Surface roughness measurement system
- Profile analysis system
- Various hand gages

For example, a particular job may have 40 different dimensions that need to be checked. Twenty will be checked on a vision inspection system, seven on a CMM, three on a form trace, five on the profilometer, with the five remaining dimensions being recorded manually.

## The Quantum SPC Solution

With the ASI DataMyte system, all data is deposited into one common database.

Using Quantum SPC\DC and Importer modules allows data to be gathered from a variety of different inspection devices, while at the same time providing a common database for storing and retrieving data. This centralization eliminates the separate silos of information typically associated with multi-vendor, multi-function inspection equipment.

Folkert explains, "The system has reduced the time it takes to make information available on the floor." Using the ASI DataMyte Analysis and Reporting package, production personnel are able to view data for a particular job independently from the method used to collect the data. The data is accessed via laptop computers that have a wireless connection to the central database. The laptops are mounted to mobile carts so they can be positioned and re-positioned as needed.

## Data Access

The central database allows data extraction at the click of a button. The data can also be dispatched in the format the customer finds desirable.

- The system supports "cut and paste" functions, allowing data to be copied from display screens to a wide range of software, including Microsoft Word®, Excel®, Exchange® and PowerPoint®.
- It allows reports and charts to be published in HTML formats
- Data can be exported to Minitab (mtv), Comma Separated Value (csv) or Tab Separated Value (tsv) file formats.

Bob Mulder, Trans-Matic administrator for the ASI DataMyte system, said, "We run pre-control charts on all of our critical characteristics and individual & moving range charts on our non-critical characteristics. The data is used by our production staff throughout the job run. Once the job is completed, the information can be e-mailed to customers or simply retained awaiting a specific customer request.



*Laptops on mobile carts are used to access data from anywhere on the Trans-Matic factory floor.*

"On the other end of the spectrum, I have a vendor to Trans-Matic that collects and transmits data that we review and then insert into our central database."

## Benefits

These sections outline some of the benefits Trans-Matic has enjoyed since deploying the ASI DataMyte system.

### *Reduced Scrap*

As Trans-Matic places more and more jobs onto the system, scrap rates continue to decline. In fact, Trans-Matic has experienced significant reductions in scrap on jobs being run on the system. The system is making dimensional control

more visible, which has resulted in quicker reactions. Sotok explains, "We are using pre-control charts on all of our critical characteristics. The system makes it very easy and very visual for us to track trends. Once a trend is identified, the production staff responds before we produce parts that are out of specification. We have not had any customer rejects related to dimensional control on any part that is being run on the system."

#### *Reduced Setup Time*

Trans-Matic has seen a major reduction in the time needed to complete first piece layouts. Each time a job is placed into production, every dimension on the part is inspected and a capability study is completed on each critical dimension. "With our previous method, that first piece layout on a complex part could take three to four hours to complete. Today, that same task can be completed in less than 15 minutes," Sotok said. This reinforces the critical operation of getting data from the inspection point to the production personnel as quickly as possible.

#### *Data Mining*

The ease with which Trans-Matic can conduct data mining has been greatly enhanced. If a customer needs data retrieved, it's a simple matter of defining the specific lot, dimensions and time period needed.

"This has also benefited our internal staff," Sotok said. "If we spot an issue with a particular part characteristic, we can pull the historical information on the dimension and we can see how it has run in the past. Previously, that information would have been manually extracted page-by-page from in-process inspection reports in filing cabinets."

### **Into the Future**

Trans-Matic expects to build on the ASI DataMyte system's success throughout 2006 as implementation becomes even more widespread throughout the Holland facility. The system will be introduced to the Sanford, North Carolina and Mesa, Arizona facilities later this year, to make Trans-Matic products, all the more transparent in our daily lives.