

Amphenol CIT achieves real-time production metrics and detailed traceability with ShopVue

Industry

Designer and manufacturer of high-performance wire and cable

Challenge

Lack of productivity metrics; manual data management to meet AS9100 Requirements

Solution

Implementing ShopVue MES to digitize production and ensure compliance by automatically capturing data, managing configurations, and providing real-time visibility into production processes.

Results

Access to robust production data in real-time has drastically improved

Amphenol CIT (formerly Carlisle Interconnect Technologies), headquartered in St. Augustine, FL, designs and manufactures one of the most comprehensive catalogs of wire and cable, connectors and contacts, assemblies, and systems in the industry.

Partnering with customers in the aerospace, military, space, test and measurement, medical technology and industrial markets, they provide virtually limitless solutions, including unique cable configurations, custom high-frequency connectors, complete cable assemblies of any complexity, and specialized complex harnesses, racks and structures. They have approximately 8 manufacturing



Challenge

Chris Khol, now Plant Manager at Amphenol CIT's St. Augustine, FL location did not have real-time and accurate data for her team of Continuous Improvement Engineers to execute lean projects, and deliver the resulting process improvement controls.

Amphenol CIT's St. Augustine, FL factory manufactures lightweight wire and cable that is ultra-reliable and the preferred choice for airframe manufacturers like Boeing and Airbus. The manufacturing process is complex with many inline quality checks, that if not executed effectively can result in significant quality escapes. The leadership team knew they would have to significantly increase cell output for meaningful productivity gains. Without actionable metrics like machine OEE by shift, it was impossible to know where to begin. A sense of progress was challenged by the lack of a simple set of productivity metrics that were: understandable, real-time and easily maintained.

Nogales MX was the third CIT plant to deploy ShopVue, a large plant with 800 employees relying on outdated technology to meet AS9100 quality standards involving costly manual processes. A key driver of deploying

ShopVue was to eliminate manual data gathering by connecting to machine PLCs and providing a simple "single pane of glass" UX for operators to execute to the ERP dispatch list and manage all resources effectively to become a world class aerospace manufacturing site.

Solution

In the St. Augustine, FL factory, Harold Tarter, the plant manager at the time, was dreaming of an Operator interface that would electronically dispatch the next job and provide all the essential details: what materials to use, how to setup and monitor the process – a "one stop shop". Having SAP as their ERP system, they considered implementing SAP's MES module.

ShopVue was ultimately chosen because its out-of-box functionality more closely met their needs and could be implemented in about a quarter of the time – just months.

Results

After ShopVue was successfully implemented in the third location, all manufacturing processes have been streamlined significantly. With the MES fully operational, assemblers' time, efficiency, and production rate is available and displayed in real-time at their station. The data is connected to the labor standards in SAP to allow the worker a real-time benchmark.

Amphenol CIT team members routinely attend continuous improvement meetings to share their recommendations to eliminate "losses in the hidden factory". By enlisting the creativity and good energies of their workforce, and with data from ShopVue, the first plant saved over 3 million dollars a year in labor costs.

After ShopVue was implemented in St. Augustine, part and component tracking was dramatically improved utilizing the software's "Add Component" functionality. Along with other Machine Stock transactions, this tool accomplishes three important functions:

1. Preventing the wrong components from being used
2. Capturing material variance, and
3. Providing as-built traceability.

ShopVue's Direct Machine Interface (DMI) monitors machine state and output. If the machine stops for any reason, this event is immediately recorded and operators indicate the downtime reason. Managers are immediately alerted via their smartphones.

Online Inspections Plans have operators reporting results at the source, rather than manual tests being sporadically reviewed later. Correcting problems at the source has improved worker understanding and accountability; rework is reduced, and throughput has increased. Lastly, bar code labels are automatically produced at several stages which allows for complete traceability.

Because of ShopVue, customers like Boeing can ask for, and receive, the complete genealogy of all of the components used, each worker and machine involved with every operation, and dozens if not hundreds of tests are completed.

ShopVue provides a whole host of labor and machine real-time productivity reports which helps Amphenol CIT focus new continuous improvement projects. ShopVue's continuous fool-proofing of the process, real-time production metrics and detailed traceability are hallmarks of a world class MES.