

Track and Trace – Making an Immediate Positive Contribution to Quality

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A mandatory requirement in many industries and pre-requisite of working with aerospace and automotive primes, track-and-trace is often viewed negatively by some manufacturers as a defensive measure. Based on their experience with a medium sized automotive parts producer, manufacturing execution system (MES) specialist, Forcam (<http://www.forcam.co.uk/>), suggest that track-and-trace has a significant immediate impact on quality and cost reduction. The auto component company achieved an 18 per cent reduction in error rate in the first six months after introducing the Forcam Force MES and created a foundation for continuous improvement.

The company has produced a new guide for free download at <http://marketing.forcam.com/acton/media/14751/traceability>.

Real time process data is the key. The Forcam Force track-and-trace feature collects a stream of data from each manufacturing process, taking feeds from embedded machine sensors, inputs from the human/machine interface, scanning parts' bar codes as components progress through the shop and from other sources to build a complete picture of operations. This data is constantly analysed in the cloud and because process digitisation makes it possible to define what parameters characterise in-specification product, a non-conforming manufacturing process is more readily identified.

For example, on a machining centre a combination of data on spindle speed, time and power drawn may characterise the in-specification process for a particular component. Individual profiles for each machine process can be stored in the cloud and deviations from the ideal profile used to pinpoint suspect components and possible process problems as they arise.

The Forcam track-and-trace module can store multiple profiles for different processes. These can be updated easily as required. In a flexible manufacturing environment, where the product being manufactured may change, or the routing of a product through the shop may be altered due to machine availability, the system can take due account of the process being applied to determine if this is in or out of the ideal profile. Similarly if a machine is taken out of use and a new one added, the new machine profile can be determined easily and stored in memory for future reference.

Andrew Steele, Forcam's UK managing director explained, "Real-time feedback from the shop floor drives quality. Manufacturing operation data is processed in real time in the cloud to give immediate role-relevant reporting to plant managers, workshop supervisors and machine operators. Productivity is the main benefit, but having a complete history of component production and processing comes a close second."

Product recall sometimes happens and in these extreme cases having a comprehensive history of production operations can reduce significantly the cost and disruption. "Many clients stream the real time data from Forcam Force directly into the ERP system. This enables total traceability, backward and forward through the supply chain, for streamlined identification and recall," Andrew added.

Forcam Force, of which track and trace is just one element, is a complete suite of software for connecting and taking full control of shop floor operations. By gathering and processing information in real time the system promotes timely intervention to keep production flowing for better overall equipment effectiveness (OEE) and higher productivity. Users frequently report productivity gains of 20-30 per cent in the first year and go on to create an environment where continuous improvement is enabled and becomes embedded in company culture. Pay-back can often be less than 12 months.

More Information

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Images are on the web at www.ainsmag.co.uk/fo255/5459fo1a-forcam-track-and-trace.htm