How you can improve quality with paperless manufacturing

Advantages of an MES for Quality

Real-time data collection.
With an MES, you control when and where data is collected, rather than relying on operator memory or guesswork. Data collection is an integrated process in an MES, seamless with the production process. In addition, the entire enterprise has access to data the moment it is collected.

A single source for all production data.
It is common for manufacturers to keep data in multiple locations. QC (Quality Control) may have their own data source, while production keeps another set of records, and engineering a third set. An MES creates a comprehensive production record. Data collected is automatically attached to an order, eliminating confusion.

A system for transmitting and managing production information.
A common cause of quality escapes is missing information during production. Data gets lost, or the wrong information is transmitted, and easily avoided errors occur. An MES eliminates this problem by digitally ensuring the correct information is used.

The creation of feedback and feed-forward loops.
With a feedback loop, critical quality data is automatically delivered to the right person at the right time to implement a solution. According to Jamie Finchbaugh in the article, *Is Quality a Result or a System?* "You must design your feedback systems so that people can see the entire problem landscape and then make good decisions about where to put their resources." Automated tolerance checks, a library of approved planning, real-time access to production information, and electronic sign-offs allow MES users to design feedback loops to sustainably improve production quality.

Complete production records.
Without a digital system to manage production records, data is collected, but not directly attached to an order. The relevant connections between data are lost, and a comprehensive quality solution impossible.

Process enforcement.
With process enforcement, manufacturers ensure best practices are followed by operators on the shop floor. Once a root cause of a quality escape is found, process enforcement allows QC to take actionable steps toward correcting or mitigating future errors.

Reports and Data Analytics.
Analyzing data through a robust reporting and analytics system identifies where and how quality escapes occur. Only through a capable reporting system can you move from a reactive to a proactive quality control program.

CIMx SOFTWARE
The Leader in Paperless Manufacturing

The Importance of Quality

Quality is a critical measure of success in manufacturing. Poor quality is an unacceptable expense. In *Five Steps to Improved Manufacturing Quality*, Jason Pratt writes, "There is no better cost to eliminate than poor quality. Scrap material and lost labor hours add no value to the operation."

Quality is also a key driver in motivating customer and consumer demand, critical to the success of any business. In the article, *In the Race for Success, Quality is More Important than Productivity*, Dan Slater writes, "Customers don't make purchasing decisions based on productivity; they make them based on perceived value and quality is intrinsic to that perception."

When considering manufacturing improvement initiatives, there are few more beneficial than one focused on quality. There are both hard savings (eliminating scrap, rework and lost productivity) and soft savings (improved perceived value with customers). Every manufacturer, no matter the industry, will spend both time and resources on improving quality.

Unfortunately for many, those time and resources are not well spent.

5 Easy Shop Floor Quality Improvements You Can Make with Paperless Manufacturing

A Strategy for Quality Improvement

Quality has never been a single step or process. This is why Harold Dodge, one of the founders of the science of statistical quality control, once said, "You cannot inspect quality into the product." Nor can you just fix problems and correct errors to increase quality (though it might seem that way in the short term).

Improving Quality with Paperless Manufacturing

A sustainable and successful quality program requires an integrated approach to every phase of the manufacturing value chain, because every phase has an impact on the quality of a finished product.

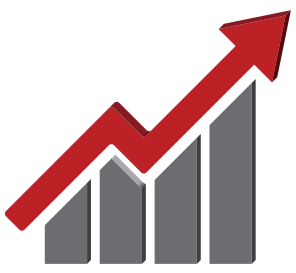
Quality initiatives focusing on a single aspect of the production process cannot address the underlying issues resulting in poor quality. Consider this – a program to collect quality data at the end of a production process may discover quality escapes, but won't identify the root cause of the problem. The data collected isn't the "right" data. QA (Quality Assurance) who discovered the problem can't correct the error alone, and the revised work plan isn't addressing the underlying issue.

Focusing on single procedure rather than a solution integrated along the manufacturing value chain isn't sustainable. The manufacturer may not be collecting the right information, can't identify when, where, or why the quality escape occurred, and may be finding the problem too late for corrective action.

An MES or paperless manufacturing system provides the integrated system necessary for sustainable quality improvement.

The Paperless Manufacturing Solution

Paperless manufacturing creates an integrated system for managing the production process. It provides a single source for shop floor visibility and control, transmitting and managing information along the manufacturing value chain.



How Data-Driven Manufacturing Will Impact Your Shop Floor

An effective MES allows you to design and re-design feedback and feed-forward lops to optimize production quality. It provides real-time information anywhere and anytime, as well as the shop floor control and process enforcement necessary to close the feedback loop. With an MES, QC (Quality Control) manages production more efficiently with actionable information.

The Importance of an MES to Optimizing Manufacturing Quality

This allows manufacturers to directly address the root cause of quality escapes, rather than reactively addressing problems.

Empower Quality Initiatives with an MES

An MES provides a solid foundation not only for shop floor production and manufacturing, but also improves quality sustainably and reliably. Robust data collection allows manufacturers to capture the data they need for quality improvement, while KPIs (Key Performance Indicators) and analytics use complete production records to identify the true source of the error. Finally, process enforcement, automated systems and real-time access to data enable the feedback and feed-forward loops to empower quality improvement.

No other software system can match an MES in managing quality improvement. An MES gives users the comprehensive, integrated tools necessary for working in every phase of the manufacturing value chain, ensuring the root cause of problems are targeted and solved.

Next Steps

Now that you have a better idea of how an MES can benefit the quality in manufacturing, it's time to discover how it can benefit you specifically. CIMx offers a shop floor analysis, during which you work with an application engineer to:

Identify problems holding back operations

Determine potential options

Review how production can be improved

When complete, the report outlines key benefits of the software for your operation, as well as next steps for initiating an improvement project. Contact CIMx today for your shop floor analysis.

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