

# UNLOCKING THE MYSTERY OF ROI FOR MES

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For manufacturers the question isn't if they will implement a Manufacturing Execution System (MES) solution, but when. Successful companies can't rely on error-prone processes and guesswork to cope with production complexity, stringent regulations, and customer expectations. Unfortunately, many key decision-makers don't have a solid understanding of the Return on Investment (ROI) for an MES, and the companies fail to start a project despite a critical need and obvious benefits.

A recent survey by Gartner discovered that, "A fuzzy understanding of cost, ROI and business case justification [of an MES] is the largest obstacle to achieving value [in the project]." So, what is ROI, and how can you use it to achieve real value for your shop floor and manufacturing business?



## WHAT IS ROI?

Return on Investment (ROI) measures the consequences of individual investments and actions. Manufacturers use ROI as a metric for evaluating capital acquisitions, projects and initiatives, including software systems such as MES.

ROI can be very misleading when not utilized properly. Solution Matrix Limited, a management consulting firm, explains, "... decision makers and analysts should be aware that ROI figures are often produced and used by those with a poor understanding of the metric's strengths, weaknesses and unique data requirements."

The term itself doesn't have a universally-accepted definition. Most calculate ROI as the gain (or return) from an action (such as the implementation of an MES) divided by the cost. This calculation delivers a hard return over a period of time. The ROI does not factor the soft returns, a primary benefit of an MES. The metric offers a single snapshot of an investment, and not the overall benefit over time. The ROI can be used to evaluate the value of an MES implementation, but it requires manufacturing-specific tactics.

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## TACTICS FOR DETERMINING THE ROI OF AN MES

Here's how you can take control of your MES project and present powerful proof of benefit with an ROI:

### 1. Start with the Hard Savings

Most MES projects begin as a solution to a specific production problem. It might be too much scrap or quality escapes, a lack of production data, or scheduling errors. There will be a cost, often an obvious cost, associated with these problems. The MES that eliminates the problem delivers a return equal to the cost.

### 2. Focus on the Project Goals

Many MES projects fail when they drown under scope creep. As you add functionality above the core goals of the project, the cost will increase. Eliminate non-standard functionality that doesn't deliver an adequate return. Focus on the core project goals to limit cost. Additional scope can be added to the project in later phases.

### 3. Evaluate Potential Soft Savings

Soft savings are critical for determining the true value of an MES. Study the expected efficiencies gained with the system in place. What tasks can the software automate that were previously done manually? Many manufacturers see significant gains in accurate reporting and elimination of non-value added tasks. Note soft savings in the ROI metric for the project.

### 4. Consider the Value Over Time

Benefits and gains from an MES accumulate over time, and your ROI should reflect these savings. For example, if at a single plant the return on an MES for one-year is \$1 million, then the ROI for 10 years is \$10 million. Many companies report these savings accelerate as additional efficiencies and benefits are revealed.

## REFINING THE ROI ESTIMATE

As you review the initial estimate, revisions may be necessary. According to Bianca Scholten, author of MES Guide for Executives, "For an ROI, you need to be able to estimate the costs and benefits in detail. This is especially difficult in manufacturing execution systems... Beforehand, you only know the system is going to give you more insight, but you don't know which insights. Therefore, it is hard to predict the amount of dollar savings."

Look at specific details to add as you refine the estimate. These details remove doubt as others review the ROI. For example, rather than just noting the software will eliminate paper build books, offer a specific number of pages used on the shop floor each day. As the project reveals other problems solved by the software, add these costs to the hard or soft savings.



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## USING THE ROI TO BUILD A BUSINESS CASE

According to TechTarget, a technology media company, a business case is, "... argument(s) intended to convince a decision-maker to approve some kind of action. A well-crafted business case explores all feasible approaches to a given problem and enables business owners to select the option that best serves the organization."

For complex investments like an MES, the business case must explore the benefits and risks of each option, then present a compelling argument for the solution. To craft a business case, illustrate the problem and present the costs. Next, review options (potential solutions) to solve the problem, forecasting the benefit and potential ROI for each option. Complete the business case with recommendations for next steps. Focus on details, and relevant and factual data.

A strong business case presents the benefits to the company and positions the project team as thought-leaders. It will result in well-informed decisions built on a solid assessment of the business environment. According to Mark Perry in The Engineer, "... the manufacturing industry remains somewhat in the dark as to the business benefits of an MES system." In fact, according to research from Gartner business analysts Simon Jacobson and Michael Dornan, 63% of the companies from a recent survey said the biggest obstacle to MES deployment was the cost, business case and ROI for the project was not properly understood.

Your business case eliminates these problems and positions the company for success.

## WHERE DO WE GO FROM HERE?

Now that you can develop an ROI for MES, it's time to apply that knowledge to your shop floor. Look at your current processes and identify inefficiencies that cost money and result in errors and lost production. Many companies discover problems in their paper-based processes, where confusion and missing data cripples production.

Once you've identified the problem reach out to solution providers. Compare the cost of the solution with the cost of allowing inefficiency to continue.

In addition to the ROI, the political/cultural component of an MES project must be addressed in planning. Consider how the software aligns with the business goals of the company, and what it will mean for future planning.

The operational and infrastructure requirements must be considered. Both Information Technology (IT) and Operations have a stake in the project, and the goals and priorities of both groups should be addressed before a project begins.

Once you've selected a solution, the supplier can work with you to build a comprehensive project plan. CIMx has experience navigating and implementing a successful MES project from identifying a need, building a business case and ROI, and implementing the software.

Want to know more? Talk to an expert at CIMx about our Quantum system and discover how far our solutions can take you and your company.



Quantum customers typically see a ROI in their first 6 months

## NEXT STEPS

Quantum customers typically see a return on investment (ROI) in their first 6 months of usage. Quantum increases production rates, cuts reporting timelines and eliminates machine and personnel downtime. Your production is on-time, more accurate and more efficient with Quantum control. Contact CIMx today for your shop floor analysis.



Identify problems holding back operations



Receive potential solutions for your obstacles



Determine if Quantum is the best option for your business

