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# ***Five Risks to Consider When Selecting an MES***

By **Naveen Poonian**, VP of Strategy, iBASEt

As manufacturing industries face a daunting amount of change in the fast-paced era of smart factories and digitally integrated global supply chains, many companies are seeking new MES solutions in an effort to achieve higher levels of excellence and innovation. The most sought after outcomes of an MES implementation include optimizing speed and flexibility, cutting production costs, enabling compliance with quality and regulatory standards, along with accelerating visibility and control. With proper planning and risk assessment, these are achievable. However, if the inherent challenges are not thoughtfully reviewed, costs, compliance, and control could be negatively impacted.

When selecting a Manufacturing Execution System, there are two broad types of Manufacturing Execution System (MES) implementations, each with its own set of risks: a custom built MES configuration based on an MES tool kit; or a Commercial-Off-The-Shelf (COTS) configuration of MES software.

Taking the time to do proper risk management, and to identify and mitigate risks before implementation, can protect the organization from unnecessary costs and headaches. Let's examine the key risk factors to consider when planning a smooth path to implementation.

## **Budget Risk**

As companies operate with tighter budgets, it is becoming more critical to manage costs from deployment to adoption, not just the cost of the software licenses. Buying software can be an expensive proposition if you underestimate the actual services work required to make the software operational, including customization, integration and testing.

Custom-built MES configurations based on MES tool kits can run high ratios of license-to-service dollars, often upwards of 1:5. That means for every \$10,000 spent on licenses, you may actually be spending \$50,000 in services. With a COTS MES solution, the ratio can drop dramatically to the range of 1:2. It is important that the comparison of various solutions includes both expected license and service costs to get a more accurate estimate. For custom solutions, remember to account for the additional cost of managing the software production lifecycle as the toolkit and platforms require more upgrades.

## **Operational Risk**

Configured and COTS MES solutions always have some kind of failure risk. The reasons could be inherent, including insufficient hardware, lack of training, or other improper implementation processes. Validation is an extremely important exercise when custom



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building a solution; you have to know how your company's data and process flows will react in the software system. The one major benefit of looking at a COTS MES solution is that you can conduct a small pilot project to test and validate data in a sandbox or emulated environment before making a bigger purchasing decision or conducting a full rollout. Testing with a small sample of your data and processes in your own environment is one way to mitigate your operational risk.

## **Change Management Risk**

Old processes and habits are often hard to change. Moving an organization from legacy processes to new ones or to investing in new software adoption requires heavy commitment from the management and the entire team. Implementing new solutions can be a scary undertaking for individuals (career risk) as well as groups; failure





or inadequate leadership can create fear of change in the organization. Implementing effective change management procedures, combined with executive sponsorship and ample training, are key to providing an organization with the confidence it needs to make the necessary changes.

### Technical Risk

There is always a risk of compromised technical performance or a derailed project schedule during an MES implementation. Configuration issues and scope creep during an implementation are often the cause of


can be higher because configuration is at the crux of the solution; if the implementation is not following or operating to a set of standards, there is more room for failure. COTS MES configurations have an advantage because many technical risks have already been discovered by the solution provider's tests and reviews from multiple user communities.

### Program Risk

Unforeseen external factors can work against a successful implementation. In this sense, every MES implementation project has some degree of program risk.

The longer it takes to "go live," the more room there is for an unforeseen circumstance to interfere. Completing implementation in four months versus two years could be the difference between a successful transformation of your manufacturing environment and an unfinished project that yielded minor improvements. Bite as much as you can chew, even if it means giving up a few things in order to achieve success with that first project milestone.

### Build a Stronger Launch Pad

Striving for quality management, compliance excellence, and innovation capacity should bring out the best in any manufacturing organization. Attaining a higher level of visibility, connectedness, and control starts with a successful MES adoption. Ensure the best outcomes by getting started with a comprehensive risk assessment tied to your company's specific goals and requirements. Plan your implementation project carefully, keeping total costs, timing and change management top of mind. Validate and test thoroughly, consider pilot projects, and make sure initial milestones are well within reach. Building confidence in your MES investment will pay dividends as you advance your operations to reach for that competitive edge. With a strong start, the sky's the limit. 

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technical difficulties. Continuously adding and changing requirements can cause adverse effects on relationships between the configurations in different areas of related functionality. Each change made could have a negative ripple effect and unexpected consequences. With tailored solutions, these risks

A company runs out of funds, a division is consolidated and moved, or the company changes direction with a new strategy. These disruptions are very hard to anticipate and can often be frustrating. That is why it is best to look for solutions that can refer successful implementations done in a reasonable time frame.