Manufacturing Execution: All in the Approach

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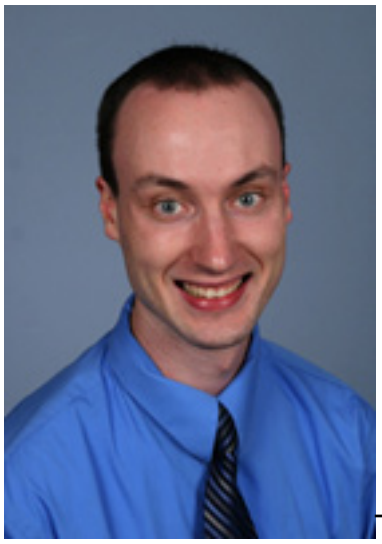

There’s no one way to complete a manufacturing execution systems (MES) project.

It’s easy to see the benefit of undertaking the effort to implement an MES system. They effectively collect, process, and translate valuable business data related to the plant floor and the enterprise resource planning system. But the adoption process can be fraught with risk and uncertainty, depending on the approach a manufacturer takes. This is because MES installation projects require significant amounts of custom coding since the built-in functional capabilities struggle to handle many simple manufacturing processes and integration to current installed information systems. As a result, they are just as much about custom software development as they are about installation and configuration.

So what are the options? According to Tom Gill, senior MES consultant with Maverick Technologies, manufacturers have a few different approaches they can take to an MES implementation. The specific method by which a company goes about its MES installation project depends quite a bit on how much information it has gathered up front, how comprehensive that information is, and on the company’s overall agility.

Here are the three methods:

1. The traditional/high-level approach: A full, step-by-step process, in which a manufacturer conducts discovery, comes up with an entire functional breakdown, commences with a full-blown design, engages in testing, and conducts reviews at every level. Companies are quick to turn to this approach because it works well for automation projects, it is familiar and

they feel they have a significant amount of control over the process. Integrators are also very used to this approach and are willing to work with companies who tackle the project this way.

2. Medium level: A more cautious approach in which a company develops an idea of what it wants to accomplish, determines how long it takes to get production information, and gages the accuracy of that information. However, companies that embrace this approach recognize their inability to translate that into function that can be used to move forward with a design and build a system.
3. Low level: This is the proper approach for a company that's uncomfortable with the aforementioned two. Those that embrace this approach typically willing or able to undergo a full MES implementation. Instead they deal with the functional code and set everything else up after the fact.

According to Gill, while a traditional waterfall implementation often works well for automation efforts, it isn't always the best fit for a MES project.

"It can be hard to bridge the gap between dollars and process," says Gill. "So basically you end up driving them down a path that they don't know."

The approach should instead be driven by need. It's as simple as that. Manufacturers have to take a realistic and cautious assessment of their readiness and agility, because there is a ton of configuration that needs to be done. Vendors give companies a toolbox to write code, but transactions deal with real events. Companies need to engage in custom coding to be able to trigger those transactions. The purpose of agile programming is to do some documentation, but that doesn't paint a completely clear picture. The coding must be done, and that knowledge needs to drive the decision-making process early on.

"There are lots of reasons why certain packages are picked, but they are usually driven around standardized packages," says Gill. "But it is the implementation of the standardized packages is what matters, because in many cases it is not one size fits all and the software packages are limited sets of what you can do."

What's your take? Please feel free to comment below or email mike.schmidt@advantagemedia.com *[1].*

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