

## Factories Still Relatively Isolated Operations from Corporate Strategy and Rest of Supply Chain, Analysts at Manufacturing Insights Say

### Time for New Generation of MES? The Global, Virtual Shop Floor

#### SCDigest Editorial Staff

More than 20 years into the Supply Chain era, and the manufacturing operations of many if not most companies remain relatively disconnected from corporate strategies and the overall supply chain.

That's what the researchers at IDC's [Manufacturing Insights](#) say in a new report related to Manufacturing Execution Systems (MES).

Today, "Relatively few manufacturers have a structured approach to shop floor execution practices defined at corporate level. Indeed, the vast majority of manufacturing companies are still basing their production execution practices on the traditional concept that sees factories and their related processes as isolated entities with respect to the rest of the corporate," the report says. "And 10 years of globalization has, in many cases, reinforced this view that considers factories as remote and not integrated black boxes."

The report says that current global economic crisis is driving manufacturers back to basics and considering the value of internal manufacturing operations as opposed to pure manufacturing outsourcing.

However, many are not really prepared for the requirements for success.

"The new challenges requested by real-time manufacturing execution exposes the weaknesses and fragmented nature of software applications currently used by the industry," the report notes.

In fact, uncoordinated manufacturing operations might be the actual bottleneck of supply networks. Regardless of any supply chain process improve-

**As a result, the software market for TMS has developed among somewhat "niche" lines, reflecting where each vendor really began and gained some customers.**

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ments and increasing sensitivity to demand signals from the market, the potential gains will be lost if manufacturing capabilities cannot keep pace.

To get to the next level, companies will have to adopt a new generation of MES solutions, Manufacturing Insights says. Currently, most manufacturers have "adopted a "low profile" IT strategy — or we might say a non-strategy — to support shop floor-level business processes," IDC says.

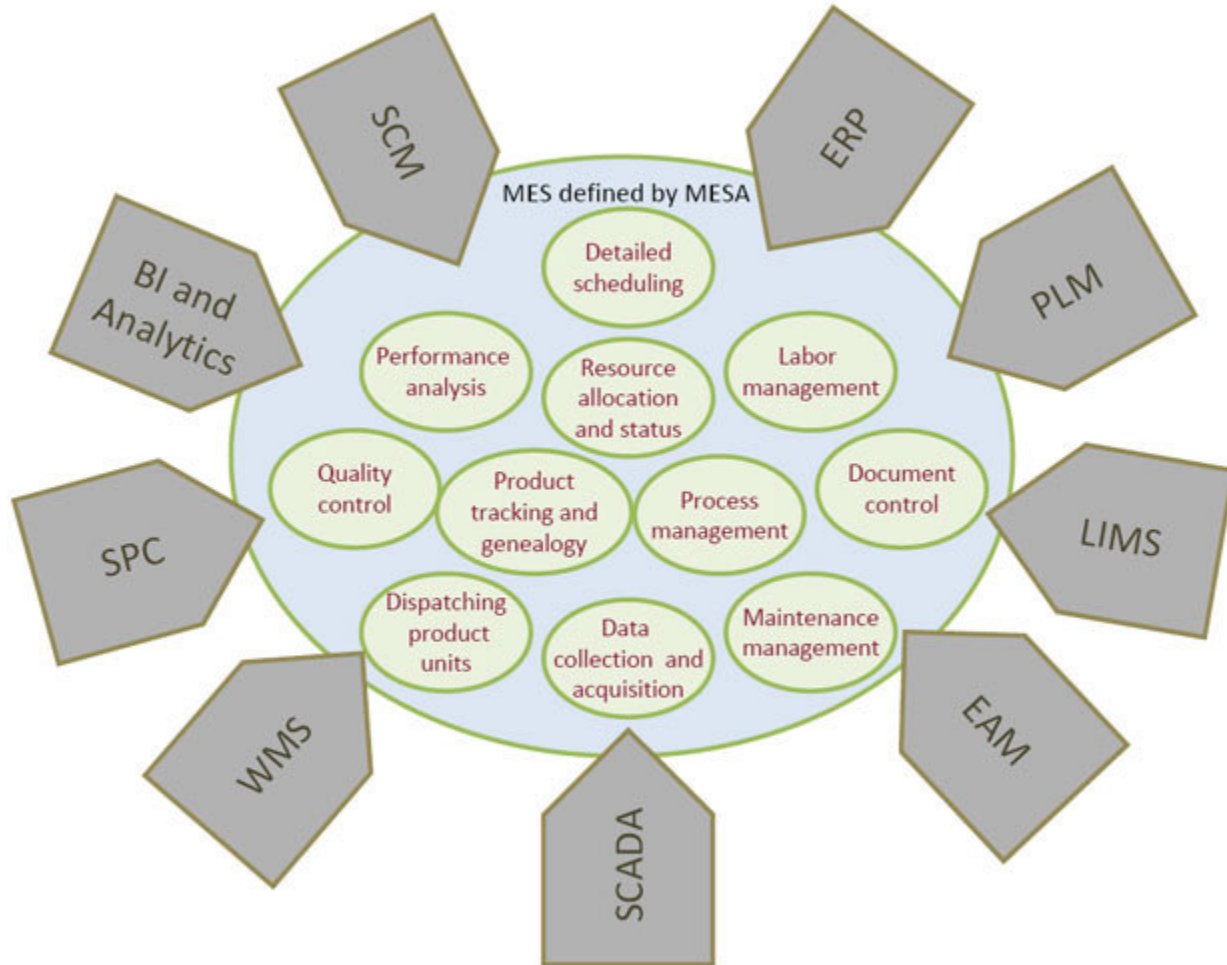
While the full scope of MES solutions available today is quite broad, the reality is that most manufacturers have only adopted a fraction of those capabilities on the shop floor. Recently, many companies have been reluctant to invest in manufacturing capabilities because they have been uncertain as to whether the operations would be outsourced or not.

#### The Global Plant Floor Approach

IDC recommends a new, more strategic approach to shop floor technology-enablement. This "global plant floor" would operate like a "unique virtual factory that consolidates the number of different manufacturing plants in terms of resources, processes, and products," the report says.

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MES and "Competing" Applications



Source: Manufacturing Insights, 2009

In addition to taking a more enterprise view of manufacturing plants and capabilities, this new global approach would address the following types of issues, according to Manufacturing Insights:

- Harmonization of global manufacturing operations — creating a uniform environment for all plants globally as a way to automate decision-making
- Manufacturing intelligence — gaining a higher visibility of global manufacturing operations as a way to gain more centrally managed control over manufacturing capabilities across multiple sites
- Seamless integration with corporate business applications — intimate integration of manufacturing operations processes and data with corporate-wide ERP system and other applications
- Connecting design and manufacturing operations — empowering R&D efficiency and lowering documentation costs

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- Improve fixed assets utilization — Advanced maintenance management as a way to increase plant availability, reduce operational costs, and minimize capital expenditures
- Compliance and environmental footprint reduction — reinforcing regulations and reduce manufacturing operations environmental footprint

“Existing MES systems, typically home grown or highly customized, are getting old and need a thorough rejuvenation,” the report says. Investments in the new generation of MES solutions, which in part will leverage the “internet of things” (i.e., sensors, actuators, identification chips, and GPS transmitters to wirelessly inter-

connect and provide for a “continuous reconfiguration of the plant floor to support current demand”), will be required for most manufacturers.

In the end, the global plant floor will be more virtual than physical and will be operated through interfaces that look much like a session on [Second Life](#), the virtual reality world platform, Manufacturing Insights says.

- The key point is that manufacturers need to take a more strategic and centralized view to shop floor operations and technology – “shop floor to top floor,” as the decades old saying goes.