Shop floor performance is especially challenging for today’s manufacturers who operate in an age of complex production and supply chain environments. Business managers who oversee plant operations are not always well-equipped to deal with the results when shop floor operations are not streamlined or optimized.

Manufacturers are constantly looking for ways to increase productivity, accelerate operational output, and achieve sustainable excellence in manufacturing. Many manufacturing companies struggle with the need to maximize quality and performance—while attempting to minimize costs. There is no “magic bullet” to achieve this excellence, but innovation can lead to excellence, and can be derived from various parts of an organization. People, processes and technology must all be considered when exploring alternative designs or solutions in the pursuit of excellence. Assessing opportunity costs and taking steps to develop different methodologies is the first step in the journey towards lasting and substantial change.

Automating business processes and establishing greater visibility into the productivity of plant operations can provide companies with a substantial advantage over their competitors. Connecting the shop floor to the “top floor” with plant data, transmitted in real-time, to senior management, sales teams and centralized business systems (such as ERP) can enable executive teams to make rapid, better-informed business decisions.

Cultivating a synergistic culture through leadership—in order to create an environment based on combined strengths, concepts and skills—is a proven approach for delivering world-class performance and a competitive advantage. Methodologies like Lean manufacturing can help streamline operations, reduce waste and improve costs—all of which are critical success factors that should not be overlooked, when aspiring for manufacturing excellence.

This solution sheet outlines why manufacturers should embrace an integrated approach to optimizing their shop floor productivity, and shows how to prepare their people, processes and technology to be part of the winning solution.
Effective communication between production and leadership teams is a critical component in achieving excellence in manufacturing. Typically, management and operations teams have very different priorities; the former is focused primarily on strategic business goals, while the latter aims to produce quality goods and meet production timelines.

Manufacturers can improve communications between the shop floor and the “top floor” by executing a carefully thought-out strategy:

- Establish a stable and on-going relationship between line workers and senior management, in order to help improve supply chain and production management processes
- Refine systems, data and reporting processes, in order to identify the multiple—and possible disparate—applications being used, and integrate them into a centralized system
- Agree on productivity goals and KPIs, in order to set manageable expectations
- Reduce waste by mobilizing shop floor employees and senior management in the same strategic direction
Despite the potential benefits, connecting shop floor production teams and senior management can be difficult in most manufacturing environments.

Some key challenges may include:

**Complex business processes:** Shop floor production often employs different systems for planning, scheduling, designing, executing, and reporting. This can lead to unnecessarily complex, inefficient processes, and increases the likelihood of errors. A poorly thought-out design to integrate the shop floor and “top floor” will only add to the complexity.

**Lack of standardization:** Manufacturers often lack the resources needed to create a standardization strategy, that can encompass the multiple systems employed at both shop floor and “top floor” levels.

**A house divided:** If strategic goals are not effectively communicated and clarified to shop floor workers, the end-result can be reduced visibility, disjointed reporting and poor decision-making.
When connecting shop floor and “top floor” networks to help improve productivity, here are some questions to consider:

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<th>Question</th>
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<td>What metrics should be examined to help meet business goals?</td>
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<td>Based on the current technology ecosystem, how should information be collected and stored?</td>
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<td>How can data be best analyzed to help improve shop floor processes?</td>
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<td>What decisions should be made based on this analysis, and who should be involved in the decision-making process?</td>
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When shop floor and “top floor” networks are effectively connected, manufacturers are better poised to automate business processes to help drive productivity. Automation enables manufacturers to make faster, more efficient business decisions using real-time data, and can drive manufacturing productivity improvements by:

- Connecting planning and scheduling data from ERP systems with shop floor scenarios
- Reducing the need for human intervention, allowing shop floor workers to focus less on intervention and more on strategic tasks
- Enhancing equipment control and data collection to reduce human error
- Delivering accurate, real-time information on materials consumption and availability, in order to meet customer demand
While automation can provide significant business benefits to manufacturers, there are several challenges that must be considered:

**High levels of complexity:** The wide range of IT systems used to run shop floor equipment and devices makes it difficult to integrate systems for true process automation.

**Resistance to change:** Manufacturing infrastructures tend to rely on vast, rigid quality control procedures. Shop floor managers may feel reluctant to connect—and trust—systems and processes that they view as disconnected.

**Cost control:** Demonstrating the business case for change to shop floor managers, focused on meeting on-going demand and minimizing delays, can be especially challenging.

As part of a transition to automated processes, consider the following questions:

- Which shop floor processes are relatively easy to automate in the short-term?
- Which manual processes are most problematic on the shop floor?
- Where are the immediate bottlenecks and inefficiencies, and how can automation help?
Lean manufacturing is a customer-first methodology that seeks to eliminate waste and strives toward continuous improvement. Lean processes begin by specifying value from the standpoint of the end-customer—enabling product development in small batches, based on efficiency and resource availability. This methodology can improve shop floor productivity by:

- Identifying each step in the value stream for all product families being manufactured, including any steps that are redundant and/or wasteful
- Streamlining manufacturing processes from the shop floor to distribution, to help eliminate waste
- Optimizing the flow of products and services to refine shop floor sequences
- Improving on-demand product delivery
Implementing Lean processes offers a great number of business benefits, but is not without its challenges, which may include:

- **Poor communication:** Businesses lacking strong communication channels are not as equipped to introduce and promote the value of Lean manufacturing among shop floor employees.

- **Lack of support:** Poor communication can result in a lack of support from upper management and low buy-in at the employee level.

- **Inadequate training:** A lack of proper training on the objectives of a Lean implementation can create vulnerabilities in the supply chain, when attempting waste reduction.

- **Resistance to cultural change:** Workers may view the focus on continuous improvement as an added task on top of their daily duties, especially if they are not effectively involved in operational discussions.

Here are some key questions to consider when planning to implement changes on the shop floor:

- Which area of shop performance are the changes aiming to improve?
- How likely are the technology implementations to deliver on performance goals?
- How should shop floor employees be incentivized to support the changes?
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**NEXT STEPS:**

If you want to learn how SYSPRO can help your business benefit from automating processes from the shop floor to the “top floor,” contact us today at info@ca.syspro.com or +1 (888) 259-6666.