

The Power of ERP Implementation in Manufacturing



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The process of turning raw materials into finished goods is incredibly complex, with variables that extend far beyond any single production line. Manufacturers need to consider numerous aspects of operation to ensure they're able to balance supply and demand, and produce quality products customers want to buy.

From aerospace to CPG, pharmaceuticals to foods, the answer to manufacturing excellence rests in a powerful Enterprise Resource Planning (ERP) implementation.

What is Enterprise Resource Planning (ERP)?

Enterprise Resource Planning (ERP) is a software system that integrates various business functions and operations across an organization. For manufacturers, this might include procurement, inventory, sales, and production, as well as more traditional areas of operation like finance, human resources, and marketing. ERP systems typically include a suite of modules that can be customized to fit the specific needs of an organization.

Think of an ERP platform as a single source of truth for all business data. Its goal is to improve data visibility, collaboration, and decision-making across different departments—and ultimately, improve the overall performance of the organization.

Why is ERP Software Used in Manufacturing?

Modern manufacturing operations are complex. They often involve multiple processes and departments that need to work together seamlessly to produce products efficiently. On top of this, today's manufacturing companies often face challenges such as supply chain disruptions, factory digitization, and changing customer demands. This confluence of variables can make it difficult to manage operations effectively.

ERP implementation in manufacturing helps producers overcome challenges by providing visibility and oversight into operations. Because an ERP system integrates all of a company's business processes into a single, centralized system, it creates operational synergies.

With an ERP system in place, manufacturers gain visibility into their supply chain, allowing them to track materials, monitor supplier performance, and identify potential disruptions. They can also optimize production schedules, track quality metrics, and monitor performance in real-time, allowing them to identify and address issues as they arise.

Put simply: with an ERP in place, manufacturers can increase value in their value stream.

Areas of Operation Touched by Manufacturing ERP

Manufacturing spans a wide breadth of operational focuses—and that scope is getting even larger thanks to the rise of Industry 4.0 technologies. An increasingly sophisticated manufacturing environment produces more data, which makes ERP essential. Here are some of the key areas that can benefit from ERP implementation in manufacturing:

- **Production planning.** ERP systems can help manufacturers plan and schedule production more effectively by providing data and insights into production processes, inventory levels, and customer demand.
- **Inventory management.** Managing inventory is critical for seamless production. ERP tracks inventory levels, monitors demand, and provides automated alerts when inventory levels fall below specified thresholds vs. production forecasting.
- **Quality control.** Quality is everything in the production environment. ERP insights help maintain quality control by delivering data against quality metrics and identifying potential issues before they become major problems.
- **Supply chain management.** Global supply chains face ever-more-sophisticated problems. ERP systems help manufacturers manage them more effectively by delivering insights into supplier performance, delivery times, and potential disruptions.
- **Financial management.** Manufacturing ERP platforms can help manufacturers manage their financial operations by providing data against budgets and forecasting, invoicing and payment processing, and financial reporting.
- **Sales and customer service.** By providing real-time data on customer orders and inquiries, automating order processing, and providing customer self-service portals, ERP solutions make it possible to balance sales, production, and customer expectations.

The full scope of ERP implementation in manufacturing comes down to the company itself. Modern ERP platforms can integrate with virtually anything—the more sophisticated the company, the more opportunities there are for synergy via an ERP.

The Benefits of ERP for Manufacturing Companies

One of the biggest reasons ERP software is widely used in manufacturing is because it has a proven track record of delivering measurable results for producers. Here are some key reasons why ERP software is a core pillar of factory operations across the industry:

- **Integration.** ERP software integrates complex business processes in a way that allows key areas of the company to work seamlessly—supply chain management, inventory management, and production planning, for example. This can help eliminate manual processes, reduce errors, and ensure consistency across the organization.
- **Insights.** Through real-time data and insights about their value stream and manufacturing operations, producers can improve decision-making, reduce downtime, and increase productivity. In the era of Industry 4.0, where everything is quantifiable, ERP contextualizes data in meaningful ways, enabling action.
- **Collaboration.** Collaboration between different departments and teams within a manufacturing organization is essential. ERP takes operations out of silos and enables cross-team access to data in critical areas—production, procurement, and finance, for example. This ensures everyone is working towards the same goals, with the same information.
- **Savings.** The financial insights created by ERP software help manufacturers identify cost savings opportunities, such as reducing inventory levels or optimizing production schedules. This can improve profitability, cash flow, and other critical financial operations that so often plague manufacturers.

While these are some of the more ubiquitous benefits of ERP implementation in manufacturing, they're far from the only ones. Manufacturers need to set goals for what they're trying to accomplish and use metrics to track how ERP solutions create ROI.

How to Implement a Manufacturing ERP Solution

Here's a general overview of the steps involved in implementing an ERP solution, and how to approach choosing and deploying a platform:

1. **Define the scope.** Include the business processes the ERP will touch, as well as the departments and users that will be involved. Set expected outcomes.
2. **Choose the right ERP solution.** Evaluate different manufacturing ERP options based on factors such as functionality, scalability, and cost.
3. **Plan the implementation.** Outline the timeline, milestones, and tasks involved in implementation, and identify the resources required. Consider any risks or challenges.
4. **Prepare the organization.** Prepare the organization by training employees on the system and processes, and ensure the necessary infrastructure and data are in place.
5. **Configure the ERP system.** Set up and program the ERP platform to meet the specific needs of the organization. This involves setting up modules, workflows, and user access.
6. **Test the system.** After configuring the system make sure it's thoroughly tested to ensure everything works as intended, and that all data is accurate, secure, and consistent.
7. **Go live.** After testing, deploy the ERP and monitor the system closely during the early stages of deployment. Identify any issues that arise, then isolate and resolve them.
8. **Post-implementation support and maintenance.** Once the ERP system is live, invest in ongoing support and maintenance to ensure it continues to meet expectations.

Bear in mind, the above is an extremely simplified outline of the manufacturing ERP implementation process. Ultimately, the timeline for the successful deployment of an ERP system depends on variables such as the software, the scope of the deployment, and the size of the organization.

ERP is a Necessity in Modern Manufacturing

Modern manufacturing is one of the most complex industries out there. From supply chain management to value stream optimization—on top of core operational focuses like recruiting, accounting, and sales—broad oversight is vital for success. Manufacturing ERP software provides the visibility producers need to understand not only each individual facet of operations, but the business as a whole.

Contact us now to learn more about how Dean Dorton can help!