Beginner's Guide to ERP:

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Manufacturing

In a global market that's expected to show <u>substantial growth through 2026,</u> industry-specific ERP software is essential for the manufacturing process.

ENTERPRISE RESOURCE PLANNING (ERP) software brings clarity and consistency to your manufacturing organization. ERP solutions are designed to streamline your operations, automate processes where possible, and generally make your manufacturing business run more smoothly. An ERP system brings all your core business processes into a centralized database, connecting every aspect of your business into one single system.

The concept of enterprise resource planning was born in the manufacturing sector as far

back as the 1960s, though it wasn't known by that name at the time. With humble beginnings in inventory management and control, ERP evolved over time to encompass other essential business processes including accounting, supply chain management, HR, CRM, and more.

A well-designed ERP can transform your business from chaos to order and can transform inefficient processes into streamlined growth opportunities.

ERP for the Manufacturing Industry

If you are considering an ERP for your manufacturing business, it is important to consider what type of manufacturer you are: discrete or process. Discrete manufacturing refers to the manufacturing of identical products using materials that remain the same from one phase to the next, such as machinery components, biotech, computer equipment, instrumentation, and electronics, to name a few. Process manufacturing transforms raw materials and ingredients into finished goods. The rest of this guide focuses on discrete manufacturing.

A powerful, modern ERP system for manufacturing is one of the best ways to gain a competitive edge and build a stronger, more resilient business from the inside out. Using a well-designed ERP that aligns with your business goals and manufacturing process can help you make visible improvements throughout your organization for increased productivity, effectiveness, and profitability.

Production of discrete items can either be in high volumes of low complexity or low volumes with very high complexity. Important for high volume/low complexity production is inventory control, lead times, and reducing or limiting materials costs and waste. For low volume/high complexity production, a flexible manufacturing system that can improve quality and time-to-market speed and cut costs is important.

Either way, manufacturers must pay close attention to the supply chain to ensure quality, consistency, and availability in the components they receive as well as the products they produce. Fluctuating economies, encroaching competition from domestic and overseas companies, and the need to cater to ever-changing market demands continue to push the envelope for manufacturers and add guesswork to the process.

Challenges facing the manufacturing industry

The manufacturing sector is constantly under scrutiny from regulatory agencies, competitors, and environmental groups. Today's companies continually grapple with operational and competitive threats that could impact their viability in the marketplace.

Some of the primary challenges include:

✓ Changing Consumer Preferences

Shifting markets and demographics not only influence profits, but also entire product lines, marketing strategies, and distribution channels.

✓ Managing Waste

Keeping operating costs low is a top priority among manufacturers, and many turn to waste reduction as a cost-reducing strategy. This entails examining operations to work as productively as possible, performing preventative maintenance to avoid costly production errors, and minimizing material usage where possible.

✓ Traceability & Quality Control

Buyers and end-users want to know where their products originate. In addition, companies would do well to track batches of products to pinpoint specific issues, streamline recalls for faulty items, and ensure a high level of quality in each of their finished products.

✓ Sustainability

Today's consumers want to support manufacturers that demonstrate a commitment to sustainability. Companies should have concrete metrics to support their green initiatives, as well as a deep-level understanding of how their operations impact the environment.

✓ Supply Chain Inefficiencies

With the current supply chain being disrupted on all fronts, it's more important than ever for companies to build resilience in their operations to avoid shipping and production delays. This often includes having multiple vendors and supply chain partners that can fill in critical gaps in times of need.

What is ERP software?

ERP is a centralized business management platform.

ENTERPRISE RESOURCE PLANNING (ERP) software is a comprehensive business management tool used by multiple industries that connects and organizes all the areas of your business. The goal of integrating an ERP with your organization is to reduce redundancies, increase efficiency, and provide a 360-degree view of your business, including but not limited to accounting, production, inventory, procurement, human resources, risk management, compliance, project management, sales, and supplier relationships.

Available in the Cloud or on-premise, ERP can replace all the separate systems that do not integrate or are poorly integrated with other departments. The result is a single system that delivers a single source of truth into the state of your manufacturing company. With ERP, you can streamline processes and make data-driven decisions to maximize profits and reduce costs.

While each department system may have its own core set of features, ERP's strength lies in integration. Data collected from every department feeds into a central location that company leaders can use to understand past and current operations and forecast future needs.

The impact ERP makes on daily operations can be seen at the departmental level all the way up to the C-suite.

Benefits of a well-designed ERP solution

Manufacturing companies decide to implement ERP solutions for different reasons. Your priorities should drive your decision as to when and how you make the switch to an ERP from your current legacy system or other tools.

Regardless of your goals, manufacturing companies that make the investment can expect the following short- and long-term benefits following a successful implementation:

Greater collaboration

Manufacturing organizations aren't immune to the silo effect. When each component of your business exists in its own bubble, it stifles the process of collaborating and sharing data, ideas, and resources that can be essential to maintaining a competitive edge. ERP helps companies overcome the silo effect by serving as a single source of truth. ERP connects systems that were disconnected before, so teams can share data in real-time and collaborate in the moment. Companies can manage different types of information from a single platform, which simplifies finding information and improves reporting and data analysis.

Streamlined supply chain

The supply chain for manufacturing companies is multi-faceted. A variety of suppliers, a transportation network, and seemingly endless documentation makes it difficult to manage all of the data that passes through your organization. Because there are so many moving parts to the supply chain, it's important that it operates as fluidly and flawlessly as possible. To improve and optimize supply chain management, ERP works to minimize the amount of inventory manufacturers need to keep in stock along with ensuring finished goods can be shipped out quickly. Holding onto inventory can be costly, and ERP's visibility into suppliers, costs, lead times, and other data can help you improve planning.

Compliance and accountability

Manufacturers have an obligation to their customers when it comes to product quality. They also have legal obligations to maintain compliance with regulations and ensure quality and safety in every product. Companies must take compliance seriously to avoid fines, costly recalls, and reputational risks. Fragmented systems and software simply cannot manage compliance at the organizational level. Using an ERP made for manufacturing, companies can create robust quality metrics and initiatives to ensure compliance at every stage in a product's life cycle.

Customization

ERP solutions are rarely used right out of the box. Manufacturing companies require solutions that will accommodate the unique needs and structure of their business. Today's cloud-based ERPs are fully customizable to include labels, fields, functions, workflows, and reports that deliver on business objectives that matter to you.

Competitive Advantage

One of the most cited reasons for manufacturers to invest in ERP is to replace technology that no longer meets their needs or doesn't offer today's modern benefits and advantages. Adapting to the latest solutions, such as cloud-based deployment or mobile accessibility, allows companies to remain in tune with the ever-changing technological landscape and maintain an operational edge over competitors that are still using legacy systems.

Multi-location management

Managing one manufacturing facility is complex enough, but bringing cohesion and organization to more than one location increases the challenge exponentially. Using a separate system to manage each location doesn't give a complete view of the total company operations. A cloud-based ERP that links all the facilities together does provide the complete picture and does it in real-time. With a Cloud ERP, management can gauge performance across the organization, identify areas for improvement, and make adjustments that benefit the company as a whole.

A 360-degree view is particularly important when transferring materials from one location to another or scheduling multiple production cycles in different locations.

Adaptability

Shifting to accommodate changing market needs doesn't happen overnight. It takes time, effort, planning, and resources to pivot, especially in an industry as complex as manufacturing. For instance, consider what happens when one of your products becomes obsolete or in need of a major rehaul. It is no simple matter to design a new product or overhaul an old one. It involves developing and testing new products, finding new suppliers, marketing to a new customer base, and

setting performance and quality metrics, among other activities. With this level of complexity, companies that use ERP may be in a better position to adapt because

they don't have to reinvent the wheel every time they test a new direction. They can rely on their deep-level data insights and forecast trends before they need to shift. Also, ERP can track new developments like costs and materials sourcing to remove some of the guesswork from new product development.

Support for future growth

Manufacturers that think long-term need software that will support their desire to grow and scale. Too often, companies outgrow their software investments in a few years and must restart the process, but ERP is designed to help companies adapt over time and add features and functions as business needs change.

Core features of ERP in manufacturing environments

ERP is key software for manufacturers of all sizes and industries, from automotive, computer, or oil and gas machinery and components to biotech or toys. However, ERP needs and requirements will vary widely between industries, so it's important to explore options that are designed for your company's manufacturing needs. Among the most common core features that manufacturers should look for are:

✅ Production scheduling

- » Production schedules according to trends and forecasting
- » The right materials on hand
- » No bottlenecks, stock issues, and delays on the production line
- » Real-time data insights
- » Automated adjustments to resources needed for scheduled production, including personnel, quantities, and equipment
- » Minimal production changeovers and downtime

✅ Inventory control

- » Accurate Bills of Materials (BOMs)
- » Real-time insight into inventory levels
- » Automatic reorders for low inventory
- » Multiple warehouse management
- » Lot traceability forward and backward
- » Multiple units of measure
- » Quality control
- » Inventory costing
- » Mobile applications
- » Inter-site transfers
- » Transaction management

✅ Resource management

- » Available resources
- » Resources in use
- » Resource inventory
- » Idle time
- » Production capacity
- » Production run durations
- » Cost control

✅ Financial management

- » General ledger
- » AP/AR
- » Budgeting
- » Expense reports
- » P&L statements
- » Analytical accounting
- » Forecasting
- » Fixed asset management
- » Payroll and personnel

Machinery maintenance

- » Cost of machinery maintenance
- » Frequency of machinery maintenance
- » Preventative maintenance schedules
- » Maintenance histories
- » Machine performance histories
- » Scheduled downtime
- » Machine usage

Customer and vendor relationship management

- » Contact management
- » Vendor pricing & ordering information
- » Salesforce automation
- » Marketing campaigns
- » Customer support
- » Relationship history
- » Referral sources
- » Pricing & discounts
- » Order histories, preparation, delivery, packing, and shipping
- » Inventory inquiries
- » Invoicing and billing
- » Sales commissions
- » Customer returns and credits
- » Quotes, contracts, and open orders
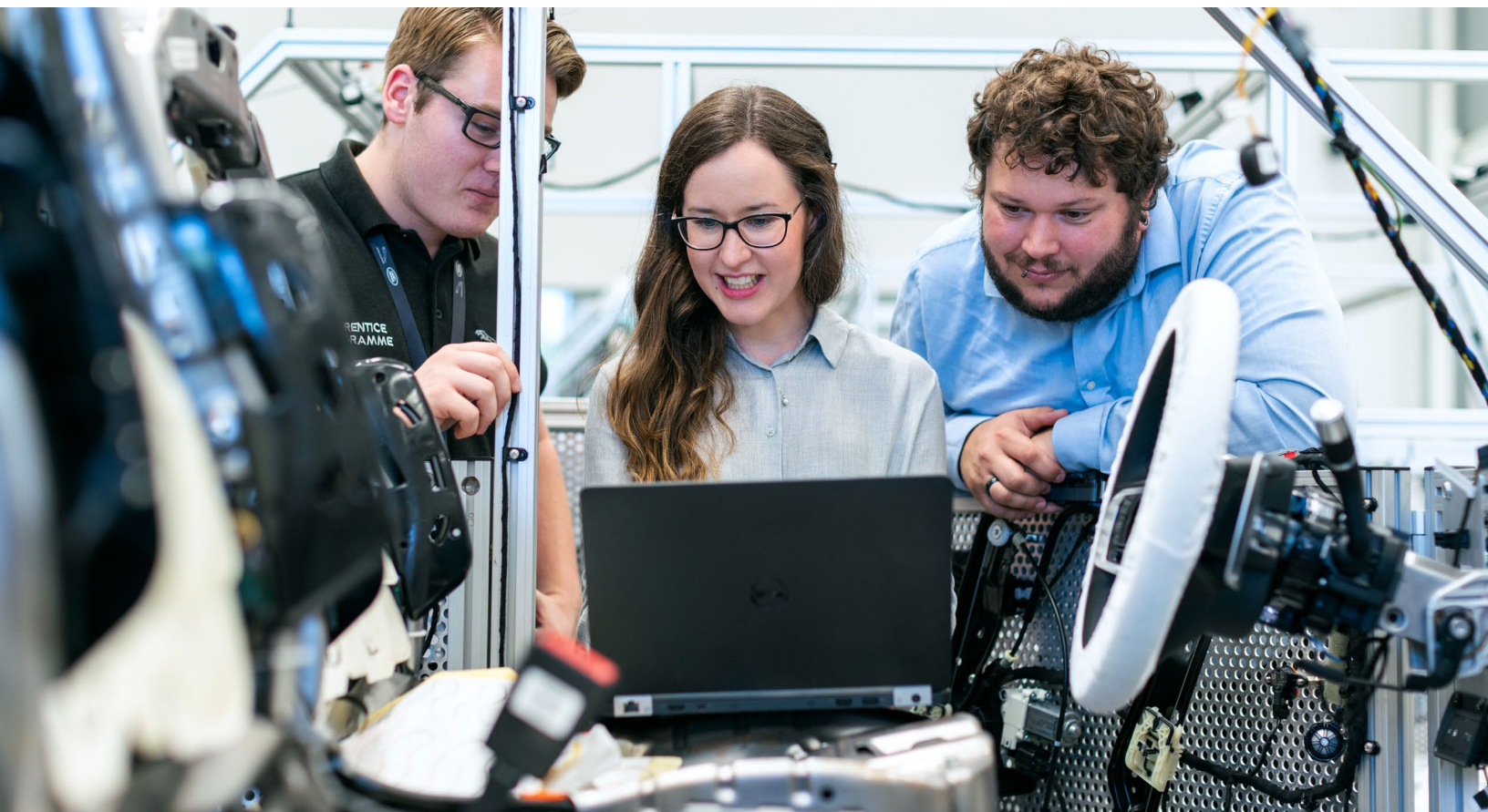
How to choose the right manufacturing ERP solution

ERP is an essential business tool for manufacturers. When vetting ERP solutions for your manufacturing organization, consider the following priorities:


Assemble a project team

Assemble a project team with the time, resources, and knowledge to assess, purchase, implement, and optimize your new ERP system.

Conduct a needs assessment

Conduct a needs assessment that determines the features, functionality, and long-term objectives your business needs in a new solution. This exercise should include an evaluation of your current tools and technology that may be eliminated upon implementing your new ERP.
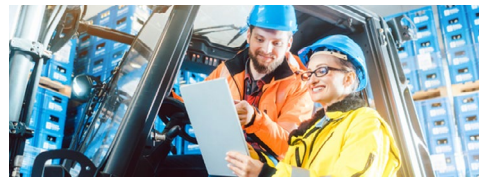
Determine your criteria

Determine your criteria for evaluating ERP vendors. An extensive list of requirements and desired features organized by level of importance can help inform the selection process.

NexTec Group recommends **Acumatica – Manufacturing Edition** for manufacturers of discrete products. It wins multiple awards for its cloud-based ERP and is considered one of the best business management solutions for mid-sized and small companies. Acumatica is built to run your entire company and integrates manufacturing, inventory management, accounting, distribution, supply chain management, sales and more. **Learn more at nextecgroup.com/acumatica.**

About NexTec Group

NexTec Group is a leading provider of business technology, specializing in ERP, CRM and BI software that grows with your business now and in the future.

For over 25 years, we have been helping companies connect data and systems, update out-of-date software, ensure compliance, and streamline operations with the goal of saving you money and increasing your profits. NexTec is a gold-certified Acumatica partner with deep experience in discrete manufacturing, process manufacturing, distribution, services and more.

We can help you select an ERP designed to tackle your toughest challenges. We will set it up at your company and all of its locations, teach you and your team how to use it, and provide ongoing support so that you can continue to get the most from your investment.

You will have an integrated system with real-time data shared across the organization that will reduce time-intensive and error-prone manual entry, and allow you to make your operations more efficient and effective.

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About the NexTec Group

NexTec Group is one of North America's largest and most experienced technology consulting firms, specializing in industry-specific solutions for mid-sized organizations. For nearly 30 years, NexTec has been a trusted partner to businesses, delivering, implementing, and supporting the core Enterprise Resource Planning (ERP) and Business Intelligence (BI) solutions they need to scale and grow. With seasoned consultants from coast to coast, and a premium portfolio of innovative business management solutions including Acumatica, we help you get the most out of your technology investments.

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