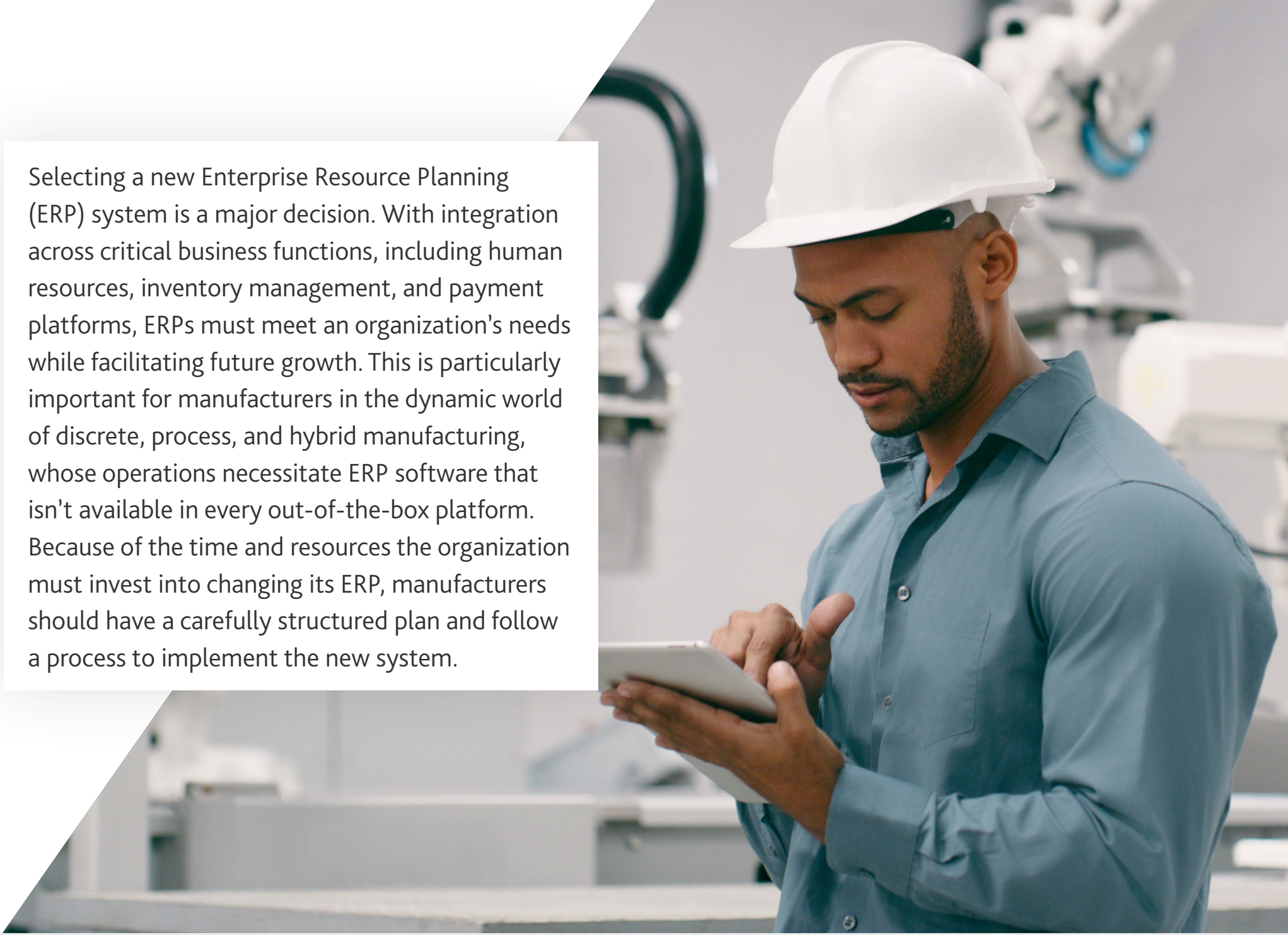
A Strategic Guide to Choosing a Manufacturing ERP System

BDO

Selecting a new Enterprise Resource Planning (ERP) system is a major decision. With integration across critical business functions, including human resources, inventory management, and payment platforms, ERPs must meet an organization's needs while facilitating future growth. This is particularly important for manufacturers in the dynamic world of discrete, process, and hybrid manufacturing, whose operations necessitate ERP software that isn't available in every out-of-the-box platform. Because of the time and resources the organization must invest into changing its ERP, manufacturers should have a carefully structured plan and follow a process to implement the new system.



Conducting a Strategic Assessment

The decision to change ERPs must be calculated and considered. Before any other phase in the process, manufacturers must identify their strategic goals and specific business outcomes they expect to achieve through a new platform, such as reducing production delays, improving inventory accuracy, automating purchasing and planning, consolidating data into one system, and enhancing traceability or compliance with industry regulations.

During the strategic assessment, there are several important questions to consider, including:

- How can a new ERP enhance operational visibility in real time?
- What features will help the business become more agile in the market?
- What other systems and technology are in place with which the new system will need to work, including stand-alone manufacturing enerpise applications?
- How well does the ERP integrate with advanced manufacturing technologies such as Internet of Things (IoT), Manufacturing Execution Systems (MES), Product Lifecycle Management (PLM), digital twins, and predictive maintenance solutions?
- What is the current state of the organization's data governance in preparation for a new ERP?
- Does the organization have unique manufacturing compliance requirements—such as ISO standards, FDA regulations, ITAR, REACH, or OSHA — that may not be supported by an out-of-the-box ERP?
- What core manufacturing functions does the organization require from the ERP? (For example: Material Requirements Planning (MRP), production planning, inventory control, real-time shop floor integration, machine-level data capture, downtime tracking, Overall Equiment Effectiveness (OEE) metrics, barcode/RFID scanning, Bill of Materials (BOM) management, quality control, cost accounting, and customer order tracking.)
- How will the ERP enable real-time data capture and analytics to drive operational efficiency, support proactive decision-making, and quickly identify and resolve production bottlenecks?
- How will the ERP support traceability for raw materials, components, and finished goods to help ensure compliance with industry-specific mandates and facilitate audits or recalls?
- How well does the ERP support supply chain integration and resilience, including supplier portals, vendor performance tracking, advanced procurement features, and supply chain risk management?
- Does the ERP offer advanced demand forecasting and sales and operations planning capabilities to align production with sales forecasts and manage seasonal or cyclical demand?
- Does the ERP support multisite and global operations, including multi-entity management, multicurrency and multilanguage support, and localization for tax and legal compliance?
- How does the ERP support workforce planning, training and certification tracking, and labor cost analysis to address skills gaps and enhance workforce utilization?

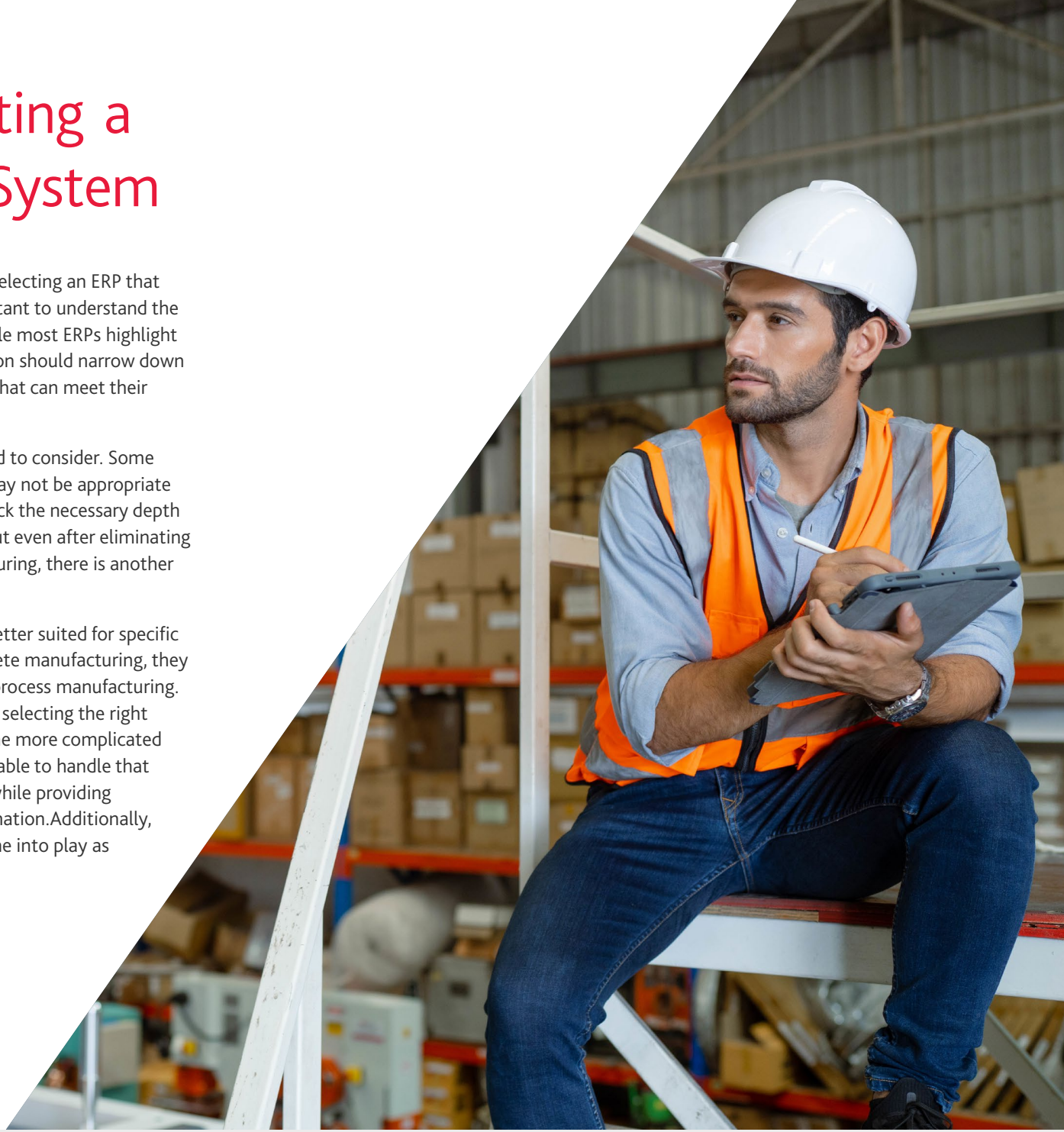
Additionally, manufacturers should include key stakeholders in discussions about the new ERP from the beginning. Ideally, that group would also contain representations from users who can provide valuable feedback about pain points a new ERP can address.

Key Factors in Selecting a Manufacturing ERP System

Once the strategic assessment is complete, the next step is selecting an ERP that aligns with the goals set out in the first phase. It's also important to understand the capabilities of each system and what it's designed to do. While most ERPs highlight their configurability to suit a business's needs, the organization should narrow down its choices to platforms that are manufacturing specific and that can meet their operational requirements.

The organization's size is another factor decision-makers need to consider. Some ERPs are designed with large-scale operations in mind and may not be appropriate for smaller-scale companies. At the same time, some ERPs lack the necessary depth of capabilities to match the organization's strategic needs. But even after eliminating options that aren't the right size or appropriate for manufacturing, there is another more granular layer the company should review.

The type of manufacturing matters, and some systems are better suited for specific categories. For example, if the business only engages in discrete manufacturing, they likely won't require an ERP that handles the complexities of process manufacturing. Overall complexity in revenue streams will also play a role in selecting the right ERP. The more revenue streams there are to be considered, the more complicated the functional needs can become, and the software must be able to handle that information in a way that helps users work more efficiently while providing decision-makers with a complete view of all necessary information.Additionally, regulatory and geographic localization requirements can come into play as well. Localization requirements can come into play as well.



Consider the Importance of Scalability

As manufacturers look at their current ERP needs, they should also keep an eye on the future and how the systems they're considering scale. Although cloud-based technology allows the current iteration of systems to adapt and grow, decision-makers should review the company's future growth plans and explore systems that can scale appropriately with them. In an ideal world, the chosen ERP will have full functionality out of the box and contain all the features the business needs right away.

Configuration vs. Customization

Of course, an ideal world is going to be subjective for every company. Even ERPs specifically made for different manufacturing processes will likely require some degree of configuration once they're in place. That's not to say every facet of the software will require configuration; some features will work as soon as the system is live. Crucially, any features that aren't ready by default should be available through configuration settings in the software's settings.

There may be scenarios when that isn't the case, though. In that case, customization — that is, the alteration of the software's code — could become a factor. This is the least desirable scenario because it requires extensive technical knowledge and changes the software in a way that the developer did not originally envision. It also has the potential to hamper future updates, as new iterations of the platform will be based on the default code. It also introduces the complication of creating reliance on a select few employees who understand how the ERP was changed, meaning its operation becomes disproportionately reliant on their roles.

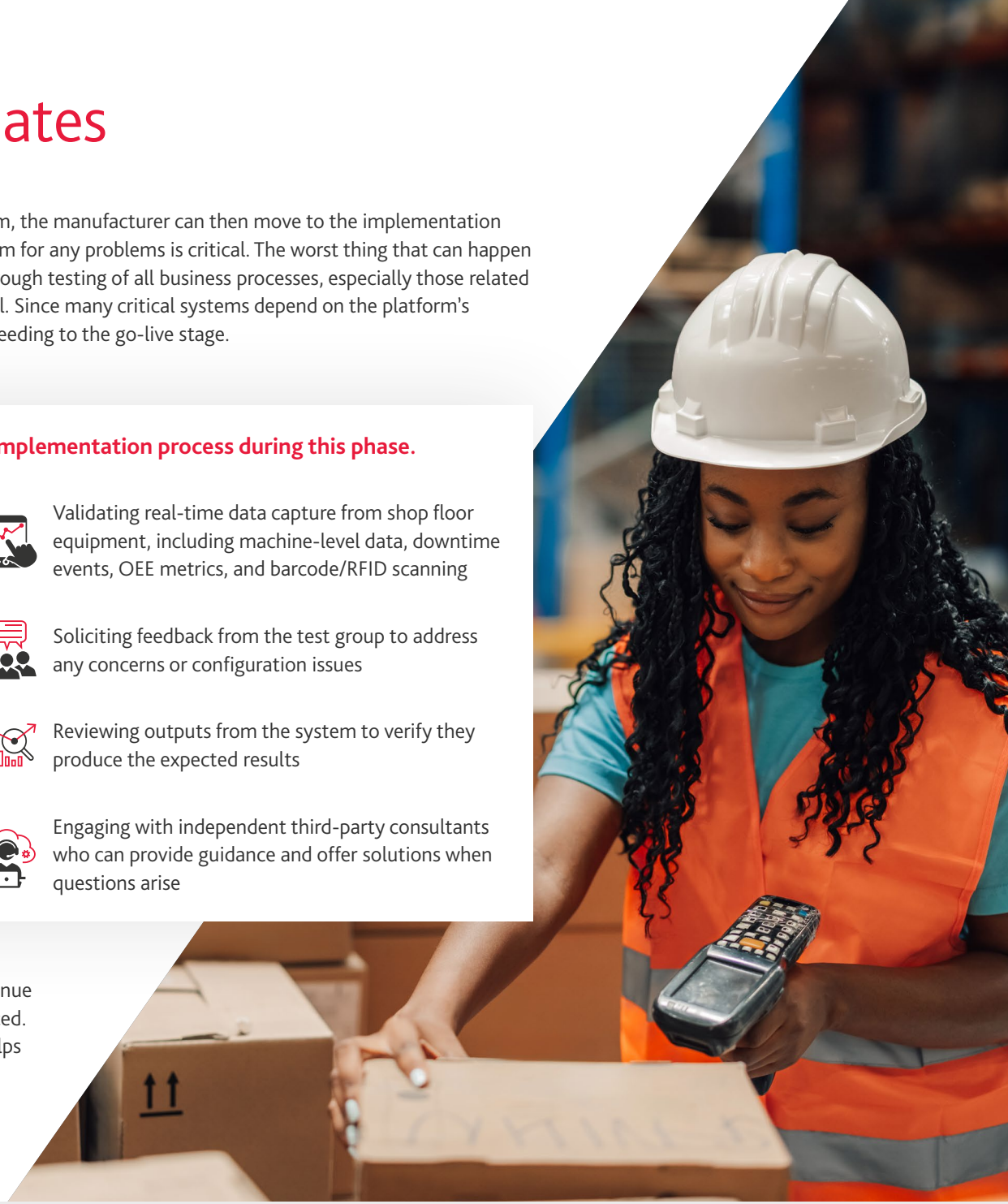
To help address these challenges, many ERP vendors now offer composable ERP solutions, modular platforms that allow manufacturers to select different components within the system that are tailored to their specific needs. This structure comes with the benefit of prebuilt module sets applicable to different industries and functions while also providing enhanced tools that simplify the integration of third-party applications, including stand-alone manufacturing enterprise applications such as WMS, MES, and PLM. Because of their configurable nature, composable ERP platforms enable manufacturers to more easily make adjustments as their business needs grow and change over time, such as when the organization adds a new business line, opens an additional plant, or makes a strategic acquisition. Manufacturers should consider configuring a system that meets their needs by using composable system architecture before taking the more complicated, and often expensive, step of customizing their core ERP platform.

Implementation and Updates

Having outlined its strategic goals and selected an ERP that aligns with them, the manufacturer can then move to the implementation phase. During this time, soliciting feedback from users and testing the system for any problems is critical. The worst thing that can happen at this stage is a failure of the new ERP after it has gone live. Therefore, thorough testing of all business processes, especially those related to shop floor and warehouse operations, using real business data is essential. Since many critical systems depend on the platform's functionality, resolving any issues in the testing phase is critical before proceeding to the go-live stage.

Manufacturers can take several steps to enhance the overall implementation process during this phase. These include:

- Identifying power users to drive quality and adoption of the new system
- Defining data architecture, ensuring data quality, and establishing a repeatable migration process
- Testing the new ERP through different phases of a project from beginning to end
- Evaluating reporting, business intelligence, and artificial intelligence AI
- Validating real-time data capture from shop floor equipment, including machine-level data, downtime events, OEE metrics, and barcode/RFID scanning
- Soliciting feedback from the test group to address any concerns or configuration issues
- Reviewing outputs from the system to verify they produce the expected results
- Engaging with independent third-party consultants who can provide guidance and offer solutions when questions arise



Implementation isn't a one-and-done step, and manufacturers should continue engaging with the system's users to understand how the ERP can be enhanced. By proactively addressing potential issues as they arise, the organization helps to reduce the likelihood that a backlog of missing functionality develops.

Planning for the Next Steps

Choosing a new manufacturing ERP is a major undertaking, but it doesn't need to be daunting. With careful consideration and strategic planning, manufacturers can switch to an ERP that meets their present needs while growing with their business into the future.

The good news is your organization does not have to go alone. BDO's experienced team of professionals can work alongside your team during every phase of assessing strategy, selecting the right ERP, and implementing the solution to position your company for success.

Contact us to learn more about how BDO can help support your ERP System journey.

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