# ERP Manufacturing Buyers Guide

## Software Provider and Product Assessment


ISG Research

# ERP Manufacturing

Enterprise Resource Planning (ERP) systems are comprehensive software platforms designed to integrate and manage all the core processes of an enterprise while recording transactions and their financial consequences to support the accounting and finance functions. These systems streamline cross-functional operations using workflows and consolidate data created by various departments such as finance, human resources, supply chain and customer relationship management into a unified database. This integration facilitates the accessibility of real-time data, enhancing situational awareness for executives and managers while boosting overall efficiency and productivity.

The market for ERP systems can be segmented by the nature of the business and the size of the enterprise. At a general level, ERP systems serve the needs of companies that deal in physical products such as manufacturing or goods distribution, and those that are services oriented, such as financial services, entertainment and intellectual property. However, software providers may also tailor their systems to serve the specific needs of an industry such as healthcare or even a specific niche subvertical in that industry such as hospitals or pharmaceuticals. Industry specialization can make ERP software more attractive to relevant buyers because of the deeper built-in functionality suited to their requirements with a potentially lower total cost of ownership while enhancing productivity.

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ISG Software Research defines large enterprises as those with 1,000 or more employees. Systems for these enterprises, often referred to as Tier I, are complex with deep functionality and are highly configurable to support even specialized and intricate business processes. They are designed to scale to support thousands of users at multiple global locations while managing large volumes of transactions and data. This flexibility and scalability can come at a cost because of the time and effort required to implement and maintain the system.

We define “midsize” as enterprises with between 100 and 999 employees. Midsize ERP systems (Tier II) offer robust functionality but with less complexity, providing a practical balance of features and ease of use, often with industry-specific capabilities. While scalable, ERP systems for midsize companies are generally tailored to support fewer users and locations. They are suitable for growing businesses but may require upgrades as the company expands. They are typically faster to implement and can be more cost-effective. They often offer pre-configured solutions that reduce the need for extensive customization. Large

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enterprises may also use one or more Tier II applications in specific divisions or business units.

ERP systems have served as the central nervous system of enterprises for over thirty years, managing essential business processes and recordkeeping. The software traces its origins to Material Requirements Planning (MRP) developed in the 1960s to help manufacturers manage inventories and production schedules. Manufacturing Resource Planning (MRP II) added related functions such as quality assurance and equipment maintenance. Meanwhile, accounting systems were evolving in the scope of their functionality while using technology to make such systems increasingly affordable to smaller enterprises.

By the 1990s, the development of relational databases, the graphical user interface (GUI), more sophisticated event-driven programming languages and widespread adoption of personal computers brought about ERP systems that could bring together a wider set of functions and business processes while offering greater flexibility in how individual enterprises could design and manage their operations. The arrival of ERP systems coincided with management consultants' focus on "business process reengineering," which could be assisted with implementing an ERP system. The widespread adoption of ERP resulted in a general flattening of organizational structures as fewer middle managers were required to operate effectively.

Cloud-based ERP systems began to emerge in the 2000s with the near-total adoption of the internet in most developed countries. Adoption of these systems was initially slow, partly because the cost, operational complexity and risks of changing ERP software means that enterprises replace them only when absolutely necessary. Our research has found that the average age of a system is seven years, suggesting a replacement cycle well over a decade. Services businesses have been faster to move their ERP system to the cloud because product-based companies typically need to more heavily customize their software to support their operations. However, the tide has turned as most companies look to replace their on-premises software. We assert that by 2027, over 80% of ERP systems purchased by non-product companies will be deployed in the cloud to promote continuity, improve performance and lower costs.


While their fundamental organization remains largely unchanged, modern ERP systems now boast enhanced functional depth, usability, adaptability and manageability, particularly in cloud-based environments that are easier to maintain. Over the past two decades, continuous refinement and development tailored to specific industries have increased their utility and

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decreased overall ownership costs, particularly in implementation and maintenance. Foundational technologies and architecture have also evolved, allowing greater customization capabilities in shared (multi-tenant) computing environments while allowing ongoing development of the core software. Providers offer software development kits (SDKs) to allow third parties to apply their subject matter expertise to extend the capabilities of their system. Application programming interfaces (APIs) allow for easier and reliable integration of different software categories.

Current technology trends will revolutionize ERP systems. Innovations such as artificial intelligence (AI), generative AI (GenAI), natural language processing (NLP), agents and agentic devices promise to transform how individuals and enterprises work with the software. Change is already underway. Some straightforward, low risk features such as anomaly detection to flag potential errors are already in place. Technology will make even complex processes faster and easier to execute, and some tasks will be largely or completely automated by agents. AI will condense highly repetitive accounting and other tasks through automation to address the need for greater administrative staff productivity and enable enterprises to attract and retain the best talent. We assert that by 2027, almost all providers of ERP software will have incorporated AI to reduce workloads, speed processes and reduce errors.


When considering modernization or replacement of existing ERP software, it is crucial to understand how a new system can complement current capabilities and how to effectively manage the resulting organizational changes. The decision to replace a core ERP system is challenging due to associated costs and potential disruptions. Yet, executives—especially the CFO—must also recognize how outdated systems pose risks to the continued smooth operation of the enterprise. It is also essential to recognize that the capabilities and supporting technology of these systems have evolved slowly but significantly over time. The shift from on-premises to cloud-based ERP continues to accelerate, driven by improved configurability and customization options for specific industries. Terms like “configuration” and “customization” define how systems can adapt to user needs without altering the core code. Moreover, executives must recognize the need for a strategic approach to assessing the software rather than a simple like-for-like replacement. This is especially true in assessing the AI direction of providers.

The ISG Buyers Guide™ for ERP Manufacturing assesses offerings from providers that meet our inclusion criteria and focuses on how these applications address the needs of product-centric and manufacturing operations of these enterprises. The guide assesses the software’s

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ability to support manufacturing operations, advanced planning and scheduling, demand planning, manufacturing execution, shop floor management, material flow optimization, multi-site operations, quality management, facilities and equipment maintenance, warranty management, environmental, smart manufacturing and distribution. AI-enabled features and functions are also part of the evaluation.

This research evaluates the following software providers that offer products that address key elements of manufacturing ERP as we define it: Abas, Acumatica, Aptean, Epicor, Exact, IFS, Infor, Microsoft, Oracle, Oracle NetSuite, QAD, Ramco, Rockwell Automation, Sage X3, SAP S/4HANA and SAP Business One.

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# Buyers Guide Overview

For over two decades, ISG Research has conducted market research in a spectrum of areas across business applications, tools and technologies. We have designed the Buyers Guide to provide a balanced perspective of software providers and products that is rooted in an understanding of the business requirements in any enterprise. Utilization of our research methodology and decades of experience enables our Buyers Guide to be an effective method to assess and select software providers and products. The findings of this research undertaking contribute to our comprehensive approach to rating software providers in a manner that is based on the assessments completed by an enterprise.

> **ISG Research has designed the Buyers Guide to provide a balanced perspective of software providers and products that is rooted in an understanding of business requirements in any enterprise.**

The ISG Buyers Guide™ for ERP Manufacturing is the distillation of over a year of market and product research efforts. It is an assessment of how well software providers' offerings address enterprises' requirements for manufacturing ERP software. The index is structured to support a request for information (RFI) that could be used in the request for proposal (RFP) process by incorporating all criteria needed to evaluate, select, utilize and maintain relationships with software providers. An effective product and customer experience with a provider can ensure the best long-term relationship and value achieved from a resource and financial investment.

In this Buyers Guide, ISG Research evaluates the software in seven key categories that are weighted to reflect buyers' needs based on our expertise and research. Five are product-experience related: Adaptability, Capability, Manageability, Reliability, and Usability. In addition, we consider two customer-experience categories: Validation, and Total Cost of Ownership/Return on Investment (TCO/ROI). To assess functionality, one of the components of Capability, we applied the ISG Research Value Index methodology and blueprint, which links the personas and processes for manufacturing ERP to an enterprise's requirements.

The structure of the research reflects our understanding that the effective evaluation of software providers and products involves far more than just examining product features, potential revenue or customers generated from a provider's marketing and sales efforts. We believe it is important to take a comprehensive, research-based approach, since making the wrong choice of manufacturing ERP technology can raise the total cost of ownership, lower the return on investment and hamper an enterprise's ability to reach its full performance potential. In addition, this approach can reduce the project's development and deployment

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time and eliminate the risk of relying on a short list of software providers that does not represent a best fit for your enterprise.

ISG Research believes that an objective review of software providers and products is a critical business strategy for the adoption and implementation of manufacturing ERP software and applications. An enterprise's review should include a thorough analysis of both what is possible and what is relevant. We urge enterprises to do a thorough job of evaluating manufacturing ERP systems and tools and offer this Buyers Guide as both the results of our in-depth analysis of these providers and as an evaluation methodology.

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# How To Use This Buyers Guide

## Evaluating Software Providers: The Process

We recommend using the Buyers Guide to assess and evaluate new or existing software providers for your enterprise. The market research can be used as an evaluation framework to establish a formal request for information from providers on products and customer experience and will shorten the cycle time when creating an RFI. The steps listed below provide a process that can facilitate best possible outcomes.

1. Define the business case and goals.
   Define the mission and business case for investment and the expected outcomes from your organizational and technological efforts.
2. Specify the business needs.
   Defining the business requirements helps identify what specific capabilities are required with respect to people, processes, information and technology.
3. Assess the required roles and responsibilities.
   Identify the individuals required for success at every level of the enterprise from executives to frontline workers and determine the needs of each.
4. Outline the project's critical path.
   What needs to be done, in what order and who will do it? This outline should make clear the prior dependencies at each step of the project plan.
5. Ascertain the technology approach.
   Determine the business and technology approach that most closely aligns to your enterprise's requirements.
6. Establish software provider evaluation criteria.
   Utilize the product experience: Adaptability, Capability, Manageability, Reliability and Usability, and the customer experience in TCO/ROI and Validation.
7. Evaluate and select the technology properly.
   Weight the categories in the technology evaluation criteria to reflect your enterprise's priorities to determine the short list of software providers and products.
8. Establish the business initiative team to start the project.
   Identify who will lead the project and the members of the team needed to plan and execute it with timelines, priorities and resources.

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# The Findings

All of the products we evaluated are feature-rich, but not all the capabilities offered by a software provider are equally valuable to types of workers or support everything needed to manage products on a continuous basis. Moreover, the existence of too many capabilities may be a negative factor for an enterprise if it introduces unnecessary complexity. Nonetheless, you may decide that a larger number of features in the product is a plus, especially if some of them match your enterprise's established practices or support an initiative that is driving the purchase of new software.

Factors beyond features and functions or software provider assessments may become a deciding factor. For example, an enterprise may face budget constraints such that the TCO evaluation can tip the balance to one provider or another. This is where the Value Index methodology and the appropriate category weighting can be applied to determine the best fit of software providers and products to your specific needs.

## Overall Scoring of Software Providers Across Categories

The research finds SAP S/4HANA atop the list, followed by Oracle and Infor. Software providers that place in the top three of a category earn the designation of Leader. Oracle and SAP S/4HANA have done so in seven categories; Infor in three; IFS in two; and Oracle, NetSuite and SAP Business One in one category.

**ERP Manufacturing**
**Overall**

| Providers | Grade | Performance |
|---|---|---|
| SAP S/4HANA | A- | *Leader* 87.2% |
| Oracle | A- | *Leader* 87.0% |
| Infor | B++ | *Leader* 80.3% |
| IFS | B++ | 75.8% |
| Sage X3 | B+ | 72.7% |
| Epicor | B+ | 72.0% |
| SAP Business One | B+ | 71.7% |
| Acumatica | B+ | 69.8% |
| Oracle NetSuite | B+ | 69.7% |
| Microsoft | B+ | 69.5% |
| QAD | B- | 62.1% |
| Rockwell Automation | C++ | 55.3% |
| Aptean | C++ | 54.6% |
| Ramco | C++ | 53.0% |
| Abas | C+ | 46.7% |
| Exact | C | 42.5% |

Source: ISG Research
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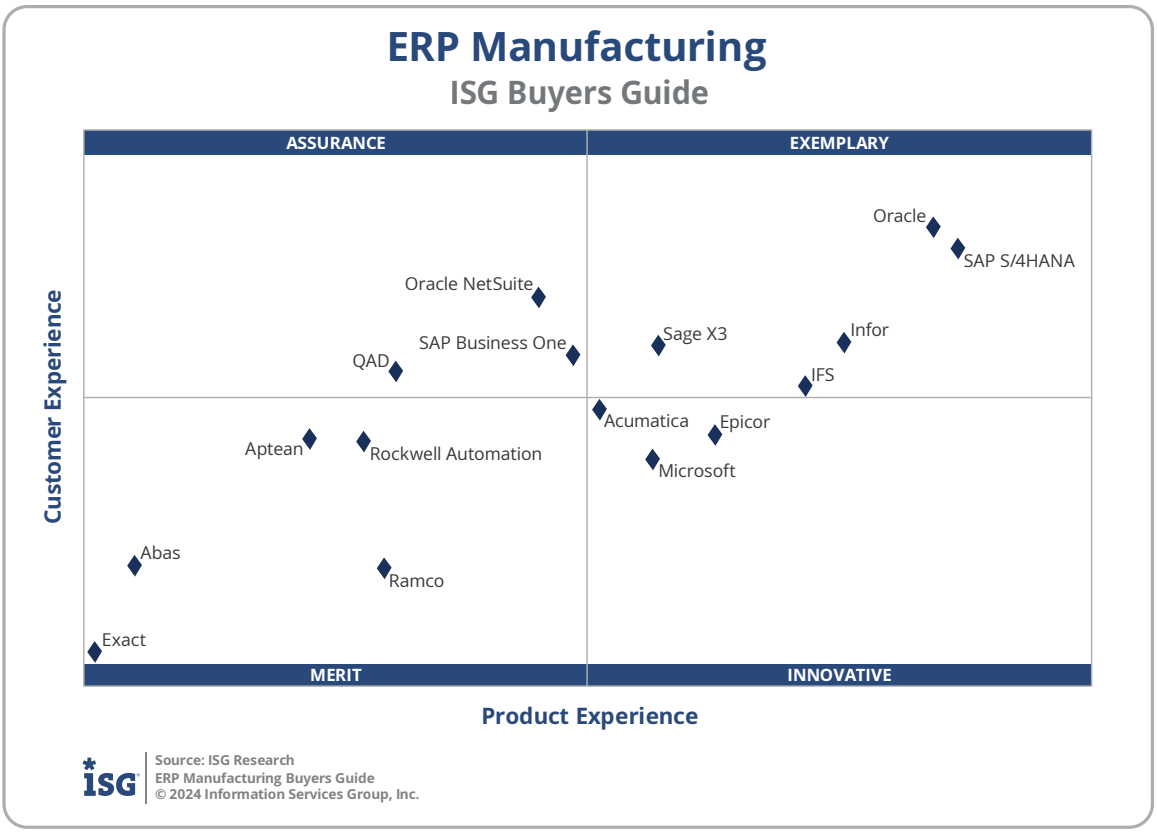
The overall representation of the research below places the rating of the Product Experience and Customer Experience on the *x* and *y* axes, respectively, to provide a visual representation and classification of the software providers. Those providers whose Product Experience have a higher weighted performance to the axis in aggregate of the five product categories place farther to the right, while the performance and weighting for the two Customer Experience categories determines placement on the vertical axis. In short, software providers that place closer to the upper-right on this chart performed better than those closer to the lower-left.

The research places software providers into one of four overall categories: Assurance, Exemplary, Merit or Innovative. This representation classifies providers' overall weighted performance.




**Exemplary**: The categorization and placement of software providers in Exemplary (upper right) represent those that performed the best in meeting the overall Product and Customer Experience requirements. The providers rated Exemplary are: IFS, Infor, Oracle, Sage X3 and SAP S/4HANA.

**Innovative**: The categorization and placement of software providers in Innovative (lower right) represent those that performed the best in meeting the overall Product Experience requirements but did not achieve the highest levels of requirements in Customer Experience. The providers rated Innovative are: Acumatica, Epicor and Microsoft.

**Assurance**: The categorization and placement of software providers in Assurance (upper left) represent those that achieved the highest levels in the overall Customer Experience requirements but did not achieve the highest levels of Product Experience. The providers rated Assurance are: Oracle NetSuite, SAP Business One and QAD.

**Merit**: The categorization of software providers in Merit (lower left) represents those that did not exceed the median of performance in Customer or Product Experience or surpass the threshold for the other three categories. The providers rated Merit are: Abas, Aptean, Exact, Ramco and Rockwell Automation.

We warn that close provider placement proximity should not be taken to imply that the packages evaluated are functionally identical or equally well suited for use by every enterprise or for a specific process. Although there is a high degree of commonality in how enterprises handle manufacturing ERP, there are many idiosyncrasies and differences in how they do these functions that can make one software provider's offering a better fit than another's for a particular enterprise's needs.

We advise enterprises to assess and evaluate software providers based on organizational requirements and use this research as a supplement to internal evaluation of a provider and products.

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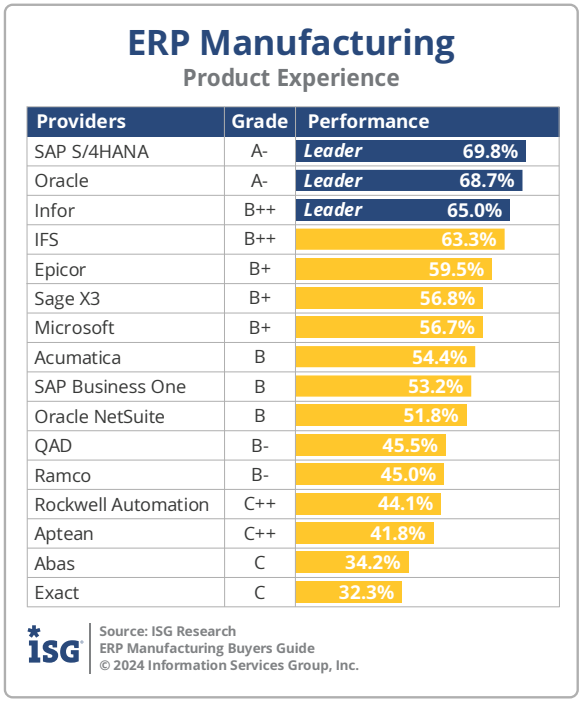
## Product Experience

The process of researching products to address an enterprise's needs should be comprehensive. Our Value Index methodology examines Product Experience and how it aligns with an enterprise's life cycle of onboarding, configuration, operations, usage and maintenance. Too often, software providers are not evaluated for the entirety of the product; instead, they are evaluated on market execution and vision of the future, which are flawed since they do not represent an enterprise's requirements but how the provider operates. As more software providers orient to a complete product experience, evaluations will be more robust.




The research results in Product Experience are ranked at 80%, or four-fifths, of the overall rating using the specific underlying weighted category performance. Importance was placed on the categories as follows: Usability (10%), Capability (35%), Reliability (15%), Adaptability (10%) and Manageability (10%). This weighting impacted the resulting overall ratings in this research. SAP S/4HANA, Oracle and Infor were designated Product Experience Leaders.

## Customer Experience

The importance of a customer relationship with a software provider is essential to the actual success of the products and technology. The advancement of the Customer Experience and the entire life cycle an enterprise has with its software provider is critical for ensuring satisfaction in working with that provider. Technology providers that have chief customer officers are more likely to have greater investments in the customer relationship and focus more on their success. These leaders also need to take responsibility for ensuring this commitment is made abundantly clear on the website and in the buying process and customer journey.

The research results in Customer Experience are ranked at 20%, or one-fifth, using the specific underlying weighted category performance as it relates to the framework of commitment and value to the software provider-customer relationship. The two evaluation categories are Validation (10%) and TCO/ROI (10%), which are weighted to represent their importance to the overall research.

The software providers that evaluated the highest overall in the aggregated and weighted Customer Experience categories are Oracle, SAP S/4HANA and Oracle NetSuite. These category leaders best communicate commitment and dedication to customer needs.

**ERP Manufacturing**

**Customer Experience**

| Providers | Grade | Performance |
|---|---|---|
| Oracle | A | *Leader* 17.9% |
| SAP S/4HANA | A- | *Leader* 17.5% |
| Oracle NetSuite | A- | *Leader* 16.5% |
| Infor | B++ | 15.5% |
| Sage X3 | B++ | 15.3% |
| SAP Business One | B++ | 15.2% |
| QAD | B+ | 14.9% |
| IFS | B+ | 14.1% |
| Acumatica | B+ | 14.0% |
| Epicor | B | 13.5% |
| Aptean | B | 13.4% |
| Rockwell Automation | B | 13.4% |
| Microsoft | B | 13.0% |
| Abas | C++ | 10.7% |
| Ramco | C++ | 10.7% |
| Exact | C | 8.7% |

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Software providers that did not perform well in this category were unable to provide sufficient customer case studies to demonstrate success or articulate their commitment to customer experience and an enterprise's journey. The selection of a software provider means a continuous investment by the enterprise, so a holistic evaluation must include examination of how they support their customer experience.

# Appendix: Software Provider Inclusion

For inclusion in the ISG Buyers Guide™ for ERP Manufacturing in 2024, a software provider must be in good standing financially and ethically, have at least $40 million in annual or projected revenue verified using independent sources, sell products and provide support on at least two continents and have at least 40 customers. The principal source of the relevant business unit's revenue must be software-related, and there must have been at least one major software release in the past 12 months. This report includes providers that only support manufacturing or product-related industries and only evaluates the capabilities designed for these enterprises as detailed below.

The research is designed to be independent of the specifics of software provider packaging and pricing. To represent the real-world environment in which businesses operate, we include providers that offer suites or packages of products that may include relevant individual modules or applications. If a software provider is actively marketing, selling and developing a product for the general market and it is reflected on the provider's website that the product is within the scope of the research, that provider is automatically evaluated for inclusion.

All software providers that offer relevant manufacturing ERP products and meet the inclusion requirements were invited to participate in the evaluation process at no cost to them.

Software providers that meet our inclusion criteria but did not completely participate in our Buyers Guide were assessed solely on publicly available information. As this could have a significant impact on classification and ratings, we recommend additional scrutiny when evaluating those providers.

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## Products Evaluated

| Provider | Product Names | Version | Release Month/Year |
|---|---|---|---|
| Abas | Abas ERP Cloud Edition | 2024 | October 2024 |
| Acumatica | Acumatica ERP | 2024 R2 | October 2024 |
| Aptean | Aptean Industrial Manufacturing ERP, Made2Manage Edition | 2024 | October 2024 |
| Epicor | Epicor Kinetic | 2024.2 | Fall 2024 |
| Exact | Exact Globe+ Online | Product Update 502 | July 2024 |
| IFS | IFS Cloud | 24R2 | October 2024 |
| Infor | Infor CloudSuite ERP | 2024 | October 2024 |
| Microsoft | Microsoft Dynamics 365 | Release Wave 2 | October 2024 |
| Oracle | Oracle Fusion Cloud ERP | Update 24C | July 2024 |
| Oracle NetSuite | NetSuite ERP | 2024.2 | October 2024 |
| QAD | QAD Adaptive ERP | 2024 | August 2024 |
| Ramco | Ramco ERP | 2024 | October 2024 |
| Rockwell Automation | Plex ERP | 2024 | October 2024 |
| Sage X3 | Sage X3 | 2024 R1 (12.0.35) | April 2024 |
| SAP Business One | SAP Business One 10 | FP 2208 | June 2024 |
| SAP S/4HANA | SAP S/4HANA Cloud Public Edition | 2408 | July 2024 |

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## Providers of Promise

We did not include software providers that, as a result of our research and analysis, did not satisfy the criteria for inclusion in this Buyers Guide. These are listed below as "Providers of Promise."

| Provider | Product | Good Standing | Revenue | Geography | Customers |
|---|---|---|---|---|---|
| Priority Software | Priority ERP | No | Yes | Yes | Yes |
| Rootstock Software | Manufacturing ERP | No | Yes | Yes | Yes |
| Syspro | Syspro ERP | No | Yes | Yes | Yes |

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ISG Software Research provides expert market insights on vertical industries, business, AI and IT through comprehensive consulting, advisory and research services with world-class industry analysts and client experience. Our ISG Buyers Guides offer comprehensive ratings and insights into technology providers and products. Explore our research at www.isg-research.net.

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