

WAVE REPORT

The Forrester Wave™: Digital Operations Platforms For Manufacturing And Distribution, Q3 2022

The 13 Providers That Matter Most And How They Stack Up

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Summary

In our 26-criterion evaluation of digital operations platforms providers, we identified the 13 most significant ones — Aptean, Dassault DELMIAWorks, Epicor, IFS, Infor, Microsoft, Odoo, Oracle Fusion Cloud ERP, Oracle NetSuite, Plex Systems, QAD, SAP, and Workday — and researched, analyzed, and scored them. This report shows how each provider measures up and helps technology executives select the right one for their needs.

Topics

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Modern Operations Platforms Must Be Fast-To-Value, Intelligent, And Flexible

As technology executives modernize their old technology to meet modern business needs of agility and innovation, they are replacing their old enterprise resource planning (ERP) systems with modern choices — which are versionless, cloud-based, and built with AI at the core. These systems are more open, modular, cloud, and ecosystem-oriented than their predecessors, and they have support for modern development techniques such as low-code and no-code. Forrester uses the term digital operations platforms (DOP) to refer to this [new generation of ERP systems](#). These systems offer ready-to-go business functionality spanning finance, accounting, and other operational areas that run the enterprise — such as inventory management, procurement, and resource planning.

As a result of these trends, DOP for manufacturing and distribution customers should look for providers that:

- **Are truly committed to modernization in their platform and architecture.** The old ERP market has been slowly transitioning to the cloud and to a more modular architecture. While most vendors use industry standard marketing terms like cloud and AI, we still see wide variation in the maturity and adoption of cloud and software-as-a-service (SaaS) versions as well as the

the one hand, leading DOP vendors are making their solutions more ready to go, dramatically shortening the time to deploy. This standardization leads to more reuse, more simplification that drives speed, and less technical debt. On the other hand, leading DOP vendors know that some customization is always necessary and are adopting and facilitating modern approaches such as marketplaces, better API libraries, code reuse, and low-code tools.

- **Have a roadmap and ecosystem to foster future success.** Given the heft and cost of DOP deployment, the long-term outlook matters tremendously. This is not a short-term, throw-away investment. Thus, the vendor’s ability to stay relevant in the long run matters. Great providers have a hefty magnitude of investment (such as R&D, developers, and financial wherewithal); investment toward innovative areas rather than catch up; corporate focus on and commitment to your chosen solution; and a cultivated ecosystem to further enhance growth and investment.

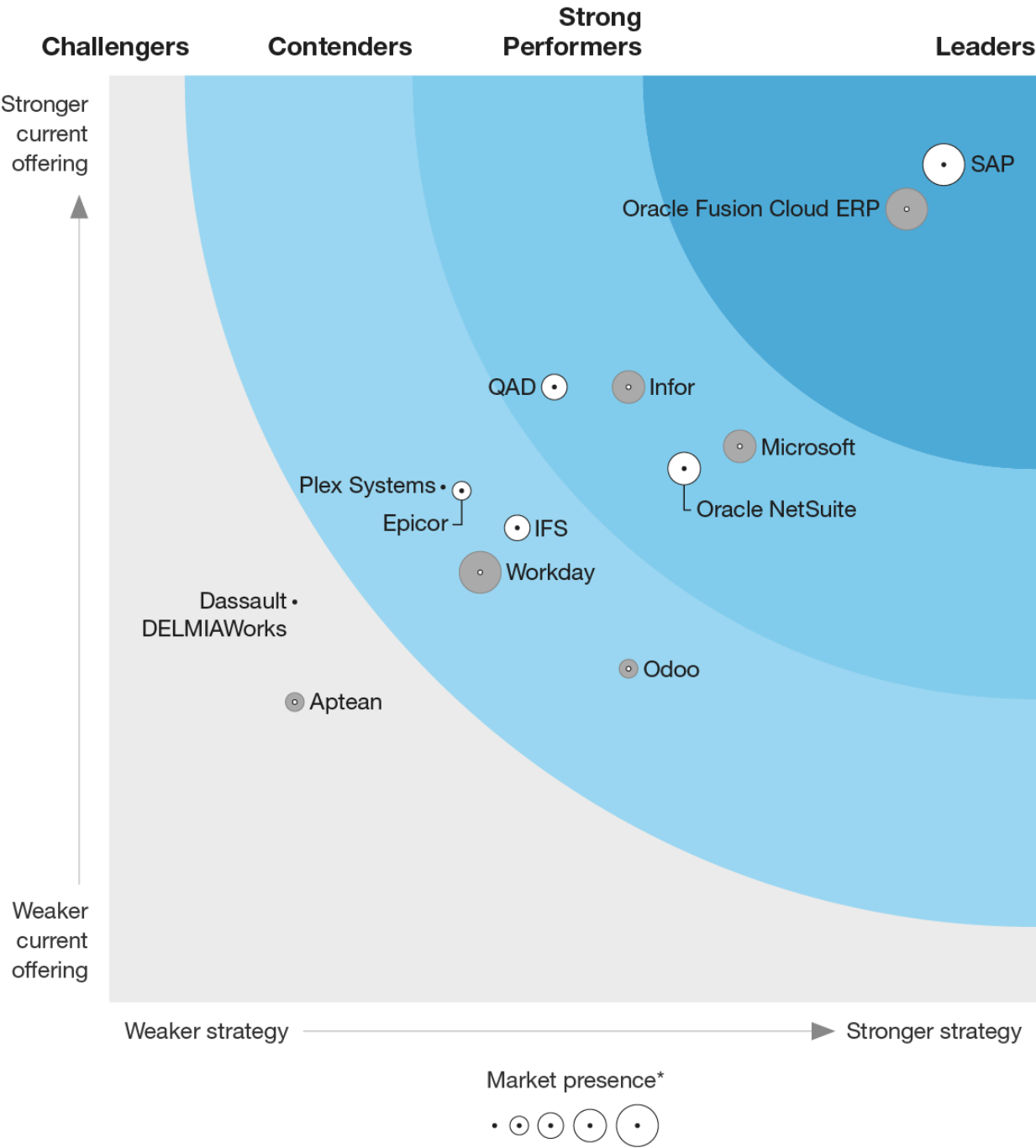
Evaluation Summary

The Forrester Wave™ evaluation highlights Leaders, Strong Performers, Contenders, and Challengers. It’s an assessment of the top vendors in the market; it doesn’t represent the entire vendor landscape. You’ll find more information about this market in our reports on [Now Tech: Digital Operations Platforms, Q2 2022](#).

We intend this evaluation to be a starting point only and encourage clients to view product evaluations and adapt criteria weightings using the Excel-based vendor comparison tool (see Figure 1 and see Figure 2). Click the link at the beginning of this report on Forrester.com to download the tool.

Figure 1
Forrester Wave™: Digital Operations Platforms For Manufacturing And Distribution, Q3 2022

Q3 2022



*A gray bubble or open dot indicates a nonparticipating vendor.

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Figure 2

Forrester Wave™: Digital Operations Platforms For Manufacturing And Distribution Scorecard, Q3 2022

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		Forrester's Wave	Aptean*	Dassault DELIA	Epicor	IFS	Infor*	Microsoft*	Odoo*
Current offering	50%	1.62	2.16	2.76	2.56	3.32	3.00	1.80	
Finance and accounting	7%	1.00	1.00	3.00	1.00	3.00	3.00	1.00	
Financial planning and analytics	4%	1.00	1.00	3.00	1.00	3.00	3.00	1.00	
Procurement	4%	1.00	1.00	3.00	3.00	3.00	3.00	1.00	
Planning	7%	1.00	3.00	3.00	5.00	3.00	3.00	1.00	
Execution	8%	1.00	5.00	3.00	3.00	3.00	3.00	1.00	
Inventory	7%	1.00	3.00	3.00	3.00	3.00	1.00	3.00	
Warehouse management	7%	1.00	3.00	3.00	3.00	5.00	3.00	1.00	
MRO/route optimization	7%	5.00	1.00	3.00	3.00	3.00	3.00	1.00	
Supply chain management	7%	1.00	3.00	1.00	3.00	3.00	3.00	1.00	
Order management	4%	3.00	3.00	3.00	1.00	5.00	3.00	1.00	
Service and support	4%	3.00	1.00	3.00	3.00	3.00	5.00	3.00	
Billing and revenue management	4%	3.00	1.00	3.00	1.00	3.00	1.00	3.00	
Approach to industry	5%	3.00	3.00	3.00	3.00	5.00	1.00	1.00	
Cohesive portfolio	5%	1.00	3.00	3.00	3.00	3.00	5.00	3.00	
Architecture	5%	1.00	1.00	3.00	3.00	3.00	3.00	3.00	
Integration	5%	1.00	1.00	3.00	1.00	3.00	5.00	3.00	
Developer tools	5%	1.00	1.00	1.00	3.00	3.00	5.00	3.00	
Ability to support global business	5%	1.00	1.00	3.00	1.00	3.00	3.00	3.00	
Strategy	50%	1.00	1.00	1.90	2.20	2.80	3.40	2.80	
Product vision	20%	1.00	1.00	3.00	1.00	3.00	5.00	3.00	
Execution roadmap	20%	1.00	1.00	1.00	3.00	3.00	3.00	1.00	
Commercial model	10%	1.00	1.00	3.00	3.00	1.00	1.00	5.00	
Market approach	20%	1.00	1.00	1.00	1.00	3.00	1.00	3.00	
Performance	15%	1.00	1.00	3.00	3.00	3.00	5.00	5.00	
Partner ecosystem	15%	1.00	1.00	1.00	3.00	3.00	5.00	1.00	
Market presence	0%	2.00	1.00	2.00	3.00	4.00	4.00	2.00	
Customers with more than \$500 million in annual revenue	50%	2.00	1.00	2.00	4.00	4.00	4.00	3.00	
Total revenue in category	50%	2.00	1.00	2.00	2.00	4.00	4.00	1.00	

All scores are based on a scale of 0 (weak) to 5 (strong).
*Indicates a nonparticipating vendor

		Forrester's weighting	Oracle Fusion Cloud ERP*	Oracle NetSuite	Plex Systems	QAD	SAP	Workday*
Current offering	50%	4.28	2.88	2.78	3.32	4.52	2.32	
Finance and accounting	7%	5.00	3.00	1.00	3.00	5.00	3.00	
Financial planning and analytics	4%	5.00	3.00	1.00	1.00	3.00	5.00	
Procurement	4%	5.00	3.00	1.00	3.00	5.00	3.00	
Planning	7%	3.00	1.00	3.00	3.00	5.00	5.00	
Execution	8%	3.00	1.00	5.00	3.00	5.00	3.00	
Inventory	7%	3.00	5.00	5.00	5.00	5.00	0.00	
Warehouse management	7%	3.00	3.00	3.00	5.00	5.00	0.00	
MRO/route optimization	7%	5.00	1.00	3.00	3.00	5.00	0.00	
Supply chain management	7%	3.00	3.00	5.00	5.00	5.00	0.00	
Order management	4%	5.00	3.00	3.00	5.00	5.00	1.00	

General performance		5%	5.00	5.00	1.00	3.00	3.00	5.00
Architecture		5%	5.00	1.00	1.00	1.00	3.00	5.00
Integration		5%	5.00	3.00	3.00	3.00	5.00	1.00
Developer tools		5%	5.00	3.00	1.00	3.00	5.00	3.00
Ability to support global business		5%	5.00	3.00	1.00	3.00	5.00	3.00
Strategy		50%	4.30	3.10	1.80	2.40	4.50	2.00
Product vision		20%	5.00	3.00	3.00	3.00	5.00	3.00
Vendor	Product evaluated		Product version evaluated			Version release date		
Aptean	ERP		N/A			N/A		
Dassault Systèmes	DELMIAWorks		2022			January 2022		
Epicor	Industry ERP Cloud		2022.1			May 2022		
IFS	Cloud		22R1			April 2022		
Infor	CloudSuites		N/A			N/A		
Microsoft	Dynamics 365		N/A			N/A		
Odoo	Odoo		N/A			N/A		
Oracle	Fusion Cloud ERP		N/A			N/A		
Oracle	NetSuite		N/A			N/A		
Plex Systems	Smart Manufacturing Platform		N/A			N/A		
QAD	Adaptive Applications, Adaptive ERP		2022			April 2022		
SAP	S/4HANA		2021			October 2021		
Workday	Enterprise Management Cloud		N/A			N/A		
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Vendor Profiles

Our analysis uncovered the following strengths and weaknesses of individual vendors.

Leaders

- **SAP S/4HANA provides a full DOP suite for complex businesses across many industries.** SAP remains the largest vendor in the DOP market and services dozens of industries in nearly every geography. SAP S/4HANA is built on a next-generation technology foundation (HANA) that provides cloud options, AI and automation, and real-time process management. In addition to the S/4HANA product, SAP provides key functionality through its portfolio of cloud solutions including SAP Ariba for procurement, SAP SuccessFactors for human capital management, and SAP Concur for travel and expense. Key strengths include their product vision and execution roadmap as they’ve laid out a very clear, modern vision for helping customers get to the “intelligent enterprise.” It continues to invest in not only the right features but also customer adoption and success. Its track record of shifting companies to the cloud is more mixed, as is their commercial model and ability to align pricing to customer outcomes. SAP’s top product strengths include finance and accounting, procurement, and operational execution; they are well-suited for the largest and most complex global enterprises in these areas. One key area of weakness is that its current architecture consists of multiple different elements across functional and technology areas, which causes customer headaches in areas like integration, deployment, and management. Customer references praised SAP as a good partner committed to innovation but stated challenges with integrations, performance, and the public cloud model. SAP S/4HANA is best suited to larger, complex enterprises seeking a

major modules it offers running Fusion architecture on Oracle Cloud Infrastructure. Oracle has a differentiated vision centered on its “intelligent apps” strategy to power outcome-oriented AI throughout the enterprise and has a quarterly release schedule to bring new features to its customers. Overall growth rates remain strong. While some customers gripe about Oracle pricing, its overall commercial strategy is generally transparent — both in terms of a granular price list and their terms and conditions. Oracle Fusion Cloud’s top product strengths are its cohesive cloud architecture and ability to support complex global businesses. Oracle Cloud is also a strong choice for both finance and accounting and finance-oriented planning and analytics. Areas where Oracle is more moderate and aligned with what peers are doing include inventory management, warehouse management, and supply chain. Overall, Oracle is best suited to midsize and large enterprises seeking a modern, SaaS solution and who want to get a wide breadth of application modules and cloud infrastructure capabilities from a single vendor on a cohesive architecture. Oracle Fusion Cloud ERP declined to participate in the full Forrester Wave evaluation process.

Strong Performers

- Microsoft’s DOP, built on its modern cloud platform, will appeal to Microsoft shops.** Microsoft currently offers Microsoft Dynamics 365 Finance and Microsoft Dynamics 365 Supply Chain Management for larger enterprises as well as Microsoft Dynamics 365 Business Central for smaller deployments. Microsoft has a strong vision for this market that is supported by its broader Microsoft tech vision in areas such as experience (e.g., HoloLens and Cortana) and platform (e.g., Power BI and Azure). Microsoft continues to invest in its large enterprise solution, including in areas such as billing, finance, and globalization. Overall growth remains strong. However, despite having its own solution in the market, Microsoft also markets for, has a strong partnership with, and uses SAP S/4HANA. Microsoft’s top product strengths are its leading cloud platform, with world-class developer tools and a leading CRM product built on the same platform. Weaker areas compared to peers include billing and inventory management. Overall, Microsoft is most attractive to midsize firms and divisions of larger enterprises, especially existing Microsoft shops. Microsoft declined to participate in the full Forrester Wave evaluation process.
- Infor offers a cross-industry suite of broad DOP functionality, based on the cloud.** Infor is an approximately \$3 billion enterprise software vendor who offers an alternative to the two market giants (SAP and Oracle). The heritage of Infor includes Lawson, MAPICS, GEAC, and other cross-industry ERP solutions as well as industry-specific acquisitions such as hotel software. Today, Infor goes to market with its modern, cloud-based CloudSuites product line. Infor has some good direction and momentum toward cloud but lacks market awareness and ecosystem strength compared to Leaders in this space. Infor is strongest at warehouse management and order management as well as in providing deep functionality tailored to industries. Infor is aligned with peers we evaluated in major areas of the DOP suite such as finance and accounting, and planning and analytics. Infor is a good fit for midsize and large deployments seeking a cloud-based alternative to SAP or Oracle that is more commercially friendly. Infor declined to participate in the full Forrester Wave evaluation process.
- Oracle NetSuite provides an all-in-one suite targeted at small to midsize deployments.** Oracle NetSuite is a separate product line from the Oracle Cloud (i.e., Fusion) suite of applications. It provides an all-in-one suite spanning finance and accounting, billing, commerce, and more on Oracle Cloud Infrastructure. NetSuite continues to invest in modern features such as AI and analytics on a versionless, automatic upgrade, cloud platform. NetSuite operates with a large partner network of resellers, ISVs, and industry specialists — as well as larger services

flexible subscription billing. Weaker areas include manufacturing planning and manufacturing execution, where the system is not as advanced as the peers evaluated. Reference customers praised NetSuite for its ability to scale and to support multicurrency as well as for its comprehensive nature but complained about the product's analytics and Brazil-specific localization. NetSuite is a good fit for smaller and midsize deployments seeking an all-in-one cloud native solution.

- **QAD offers manufacturing-centric DOP, best-suited for midsize deployments.** QAD is a longstanding ERP company with revenues of approximately \$340 million. QAD was taken private by Thoma Bravo in 2021. QAD is currently undergoing a transformation to achieve its vision of offering a more adaptive and cloud-native solution that aligns with modern buyer needs. QAD also has strong investments related to sustainability for themselves and for customers who run QAD. QAD does not have as much growth in hard dollars compared to larger peers and does not have as broad or notable of a partner ecosystem as top peers in this evaluation. QAD has strong capabilities for manufacturers, especially in areas such as inventory, warehouse management, and order management — as well as solid capabilities in line with peers in other major areas of DOP such as finance and accounting. QAD does not have an advanced financial planning and analytics module versus peers in this evaluation. Reference customers praised QAD for its manufacturing capabilities such as for costing. References cited performance and integration technology as areas for improvement. QAD is best suited to midsize manufacturers seeking a comprehensive suite of DOP functionality including manufacturing capabilities.

Contenders

- **Manufacturing-centric IFS is playing catch up as it shifts to the cloud.** IFS is a company of nearly \$400 million in DOP revenue with a mix of large and midsize enterprise customers. IFS has a strong roadmap to move the customer base and the product to the cloud, but a lot of these investments are catch up rather than market-making, versus leading peers. IFS is not as visible and well known in the market as peers and has a smaller sales and marketing presence compared to leading peers. IFS has broad capabilities across the DOP suite and especially stands out in manufacturing planning. While it offers comprehensive functionality, IFS is not as modern or market leading as peers in several core modules of DOP. Additionally, IFS does not have as strong order management capabilities or as strong support for global business as measured by number of countries and localizations. Reference customers we spoke to are not live yet on the current product, though they were happy overall with IFS as a vendor partner. IFS is best suited to midsize deployments in sectors such as manufacturing, utilities, and telecommunications.
- **Epicor provides a broad DOP suite geared toward smaller deployments in product firms.** Epicor's revenues from software and SaaS are approximately \$500 million, and it is currently owned by private equity firm Clayton, Dubilier & Rice (who purchased it from KKR in 2020). Epicor is on a journey to migrate older established ERP customers (and new ones) to the cloud, but trails on executing the cloud and next-generation ERP shift versus the field evaluated. Epicor has a smaller ecosystem of enterprise-oriented partners compared to the field we evaluated. Epicor has good functionality across major areas such as finance and accounting, planning, and procurement but is not as modern or comprehensive for large enterprise compared to leading peers. Epicor trails in developer tools (including breadth of developer resources) and supply chain management. Reference customers praised its customer-centricity but raised concerns about performance and customization. Epicor is best-suited to small and midsize product-centric organizations.

most major industries. Odoo has a broad community of 20,000 developers and impressive growth. Odoo also has published pricing through a transparent module- and user-based calculator on its site. On the downside, Odoo does not have as much of a bold or market-making vision or frequent release schedule for major releases compared to peers. Odoo has a broad range of capabilities across major DOP modules such as finance and procurement but not as much advanced or modern functionality for large enterprises versus leaders in this evaluation. As an open source product, Odoo has a very open, ecosystem-oriented approach and flexible, modular architecture. Odoo is a good fit for small and midsize deployments seeking an open source product that is modular and flexible. Odoo declined to participate in the full Forrester Wave evaluation process.

- Plex Systems is a cloud-native, manufacturing-centric ERP for smaller deployments.** Plex Systems, owned by Rockwell Automation since 2021, is one of the smaller DOP vendors in our report. Plex Systems mostly serves smaller and midsize clients but has some penetration into larger enterprises as well. Plex Systems has some good investment in modern areas such as ML and sustainability but as a smaller and more focused vendor, it is more pragmatic and less visionary compared to others in this evaluation. Plex Systems has a less ambitious roadmap and smaller ecosystem versus others in this report. Plex Systems has a strong commercial model in terms of flexibility, transparency, and generally lower total cost of ownership. Plex Systems has a full suite of DOP capabilities but stands out most for supply chain, manufacturing execution, and inventory management. Plex Systems also does not have as advanced of a platform for extending and customizing compared to larger providers in this space. Reference customers praised the vendor's manufacturing execution systems specialization but cited room for improvement in areas such as technical support, performance, and reporting. Plex Systems is best suited to smaller manufacturing businesses seeking a cloud-native solution.
- Workday provides a DOP cloud solution heavy on business appeal and lighter on tech.** Workday has been building on its strong HCM appeal to broaden into more and more areas of the DOP suite, including finance and accounting, procurement, and planning. For manufacturing and distribution sectors, Workday has more limited investment due to its strategy to pursue an ecosystem approach and support a more limited footprint with its own solutions. Workday considers customer feedback through the Workday Brainstorm when planning releases, which it rolls out in a versionless, automatic way. Workday has strong appeal to business buyers but still lags in its story and roadmap for technology and IT needs. Workday's top product strengths are planning and analytics and its modern, cloud architecture. Weaker areas include its developer capabilities and depth of industry-specific capabilities. Workday is a good fit for midsize and large deployments seeking an easy-to-use, business-friendly solution. Workday declined to participate in the full Forrester Wave evaluation process for manufacturing and distribution customers.

Challengers

- Dassault DELMIAWorks is a manufacturing-centric DOP suite for smaller entities.** DELMIAWorks is one of the smallest DOP vendors in this report but is complemented by the large multibillion-dollar portfolio of Dassault Systèmes. DELMIAWorks has smaller investment and more catch-up on its roadmap compared to some of its larger, deeper-pocket peers. DELMIAWorks also has a smaller partner network, although this continues to expand by leveraging Dassault's network — which is underway now. Compared to peers, DELMIAWorks does not have as much breadth or depth of DOP functionality for large enterprises seeking a modern, AI-led platform. One bright spot is its manufacturing execution functionality. The

smaller manufacturing deployments.

- **Aptean is a collection of deep industry-specific DOP suites.** Aptean provides a range of DOP solutions for specific microverticals such as food and beverage, process manufacturing, and fashion and apparel. Aptean is a privately held company owned by private equity firms TA Associates, Vista Equity Partners, and Charlesbank Capital Partners. Aptean’s primary strategy is to preserve its legacy deep industry functionality — comprised of multiple legacy product acquisitions — while making some advancements in new areas, including cloud. Aptean has some interesting partnerships, including its food industry solution built on Microsoft Dynamics 365 Finance and Operations (a solution which is also featured in this report). Due to its focus on being deeply industry specific rather than shifting to a new product suite like so many of its industry brethren are doing, Aptean does not offer as advanced or modern functionality — which is what we emphasized in our report. The products do cover all major areas of ERP but are not as modern in terms of being cloud, versionless, AI-infused, and having modern UX. Aptean is best suited for smaller manufacturing and distribution companies or divisions seeking a deeply specialized product for their specific subindustry. Aptean declined to participate in the full Forrester Wave evaluation process.

Evaluation Overview

We evaluated vendors against 26 criteria, which we grouped into three high-level categories:

- **Current offering.** Each vendor’s position on the vertical axis of the Forrester Wave graphic indicates the strength of its current offering. Key criteria for these solutions include finance and accounting, financial planning and analytics, procurement, planning, execution, inventory, warehouse management, MRO/route optimization, supply chain management, order management, service and support, billing and revenue management, approach to industry, cohesive portfolio, architecture, integration, developer tools, and ability to support global business.
- **Strategy.** Placement on the horizontal axis indicates the strength of the vendors’ strategies. We evaluated product vision, execution roadmap, commercial model, market approach, performance, and partner ecosystem.
- **Market presence.** Represented by the size of the markers on the graphic, our market presence scores reflect each vendor’s number of customers that have over \$500 million in annual revenue and the vendor’s total revenue in the category.

Vendor Inclusion Criteria

Forrester included 13 vendors in the assessment: Aptean, DELMIAWorks, Epicor, IFS, Infor, Microsoft, Odoo, Oracle Fusion Cloud ERP, Oracle NetSuite, Plex Systems, QAD, SAP, and Workday. Each of these vendors:

- Has more than \$100 million in annual revenue from DOP.
- Focuses on large enterprise customers in this space, including DOP customers with more than \$500 million in annual revenue (even if divisional).
- Focuses on and has customers in relevant services industries.
- Has a broad suite of DOP functionality, including finance.
- Is of interest to Forrester’s client base.

Supplemental Material

beginning of this report on Forrester.com. We intend these scores and default weightings to serve only as a starting point and encourage readers to adapt the weightings to fit their individual needs.

The Forrester Wave Methodology

A Forrester Wave is a guide for buyers considering their purchasing options in a technology marketplace. To offer an equitable process for all participants, Forrester follows [The Forrester Wave™ Methodology Guide](#) to evaluate participating vendors.

In our review, we conduct primary research to develop a list of vendors to consider for the evaluation. From that initial pool of vendors, we narrow our final list based on the inclusion criteria. We then gather details of product and strategy through a detailed questionnaire, demos/briefings, and customer reference surveys/interviews. We use those inputs, along with the analyst's experience and expertise in the marketplace, to score vendors, using a relative rating system that compares each vendor against the others in the evaluation.

We include the Forrester Wave publishing date (quarter and year) clearly in the title of each Forrester Wave report. We evaluated the vendors participating in this Forrester Wave using materials they provided to us by June 27, 2022 and did not allow additional information after that point. We encourage readers to evaluate how the market and vendor offerings change over time.

In accordance with [The Forrester Wave™ And New Wave™ Vendor Review Policy](#), Forrester asks vendors to review our findings prior to publishing to check for accuracy. Vendors marked as nonparticipating vendors in the Forrester Wave graphic met our defined inclusion criteria but declined to participate in or contributed only partially to the evaluation. We score these vendors in accordance with [The Forrester Wave™ And The Forrester New Wave™ Nonparticipating And Incomplete Participation Vendor Policy](#) and publish their positioning along with those of the participating vendors.

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