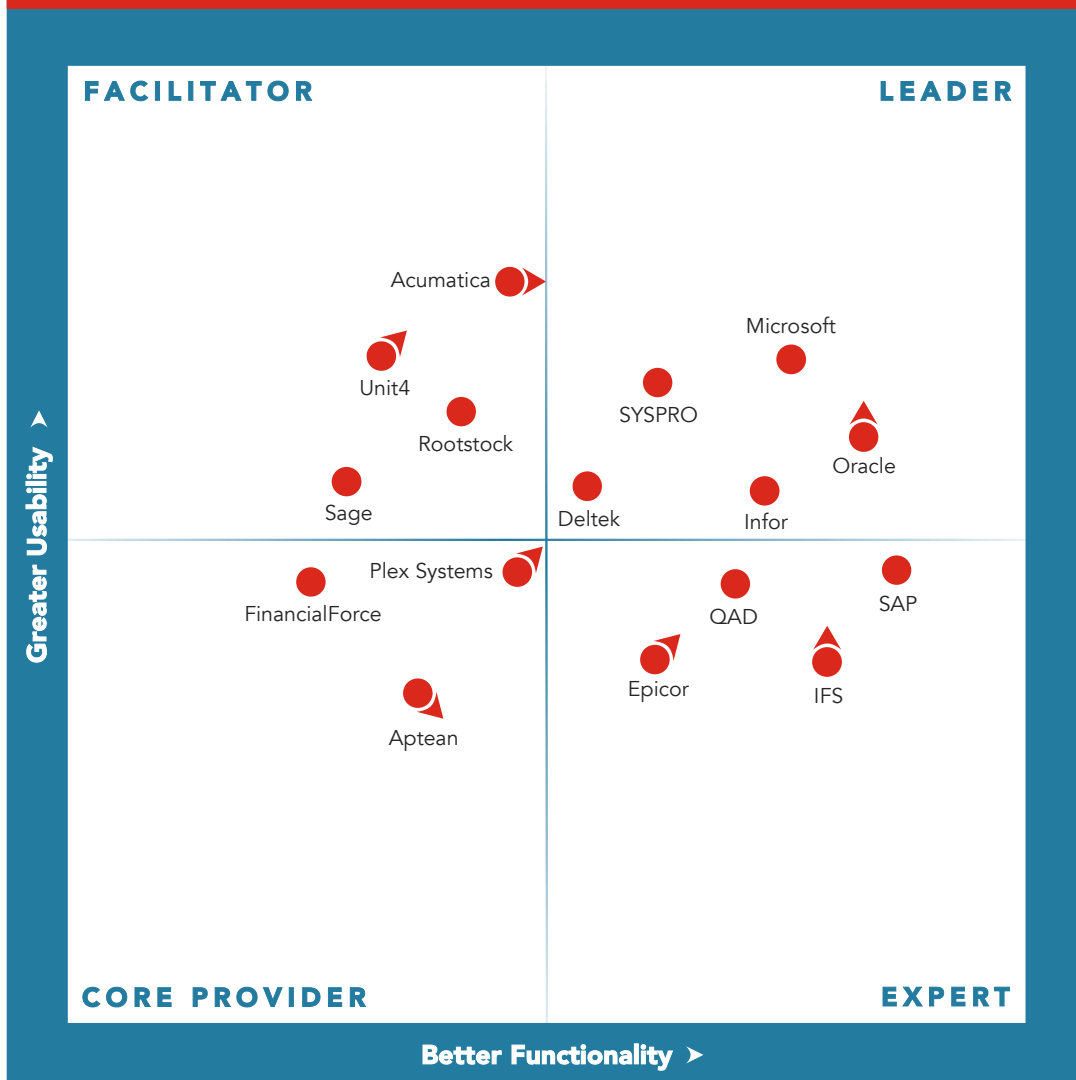**NUCLEUS RESEARCH**

ERP TECHNOLOGY VALUE MATRIX 2021

ANALYST

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THE BOTTOM LINE

Despite the disruption wrought by last year's pandemic, Nucleus Research saw increased demand for ERP solutions across all industries, especially among midmarket companies. With workforces transitioning to work-from-home and hybrid set-ups, the pains of on-premises solutions, disjointed systems, or manual processes now outweigh the costs of an ERP cloud migration for many businesses. ERP vendors are turning to a Platform-as-a-Service (PaaS) delivery model, where customers can build their own applications on top of a microservices layer for core capabilities including analytics, chatbots, data management, and API management tools. AI and IoT capabilities are table stakes at this point, and vendors compete on the extensibility of their platforms via no-code customization and application development.

ERP Value Matrix | June 2021 — NUCLEUS RESEARCH

FACILITATOR | LEADER

Greater Usability ▶

- Acumatica
- Unit4
- Rootstock
- Sage
- Microsoft
- SYSPRO
- Oracle
- Deltek
- Infor
- Plex Systems
- FinancialForce
- QAD
- SAP
- Epicor
- IFS
- Aptean

CORE PROVIDER | EXPERT

Better Functionality ▶

OVERVIEW

As an integral component of any IT ecosystem, the enterprise resource planning (ERP) system is the general ledger to track financials and the central repository for operational data, connecting sales, finance, operations, marketing, and HR departments. Going beyond out-of-the-box connectors with third-party applications, many ERP vendors are expanding their offerings to adjacent solution classes such as human capital management (HCM), customer relationship management (CRM), supply chain management (SCM), field service

management (FSM), and eCommerce, all on a single platform. This approach allows vendors to expand the functionality scope of their platforms, encompassing a greater number of business processes that span across departments.

A PaaS deployment may be an attractive option for customers because consolidating multiple solutions from a single vendor often has significant cost-saving, deployment speed, and performance implications. Solutions natively built on a platform require less data management and upfront configuration and experience fewer breakdowns than bolted-on applications via custom-built connectors. Cash-strapped businesses that cannot accommodate long-tailed implementation projects will prefer a centralized ERP platform that can add applications as needed. In addition to a modular deployment, modern platforms support micro-services that further extend solution benefits. The PaaS approach is prevalent with large enterprises, and Nucleus believes it will soon become the norm among SMBs as vendors gear offerings to new midmarket customers.

To further differentiate their PaaS offerings, vendors are placing greater importance on the flexibility and extensibility of their platforms. Customers are prioritizing phased implementations that allow for greater control over solution configurations. Vendors that can provide this flexibility will establish themselves as growth partners that will deliver long-term value. Some vendors have added an OpenAPI layer to provide developers with the tools to build and manage APIs with greater efficiency and quality. Specifically, OpenAPIs provide developers with a common framework to better understand the requirements and documentation of a REST API. This helps developers accelerate the development and configuration of APIs that connect with disparate systems for automation and analytics. Low and no-code features join the ranks of AI and Industry 4.0 functionalities as table stakes in the ERP market, but not all low-code tools are created equal. Low and no-code offerings run the gamut from simple visual configurations to the design, development, and deployment of enterprise-level applications, all built with minimal hard coding. ERP customers have the option to address functionality gaps independently with significant cost-savings as they avoid third-party developers and recurring license fees.

Some businesses have leveraged their cloud ERP solutions to great effect through 2020, maintaining pre-pandemic operational levels while working from home. However, many companies, financially crippled by the disruption, are placing themselves up for sale. As the market shakes out, Nucleus has observed an increase in ERP adoption to streamline the merger and acquisition (M&A) process. The benefits of an ERP system are two-fold in that users can leverage the solution to streamline operations, and organizations must standardize databases and processes during the implementation. Therefore, many organizations will first deploy the ERP to facilitate an M&A as they lack the bandwidth to format the new company's data and operations without a clear picture of their own processes. Having standardized workflows and databases also increases the value of an acquired company since the amount of upfront configuration and standardization is already reduced.

In this Technology Value Matrix, Nucleus assesses the ERP market based on the value customers realize from the product usability and functionality that vendors are delivering with their solutions (Nucleus Research V67 – Understanding the Value Matrix, April 2021). The Matrix is a snapshot of the market designed to help customers and prospects understand where vendors are differentiating in how they deliver value and where vendors are making significant product investments.

LEADERS

Leaders in the ERP Technology Value Matrix include Deltek, Infor, Microsoft, Oracle, and SYSPRO.

DELTEK

Deltek is a Leader in the 2021 ERP Value Matrix as its expertise in project-centric ERP systems continues to drive value and win contracts for its customers. With a comprehensive set of ERP offerings, the vendor provides dedicated solutions designed for small to large government contractors (including manufacturers), architecture and engineering firms, construction firms, consulting firms, and marketing agencies. Customers select Deltek for its project-based ERP to manage the entire project lifecycle and digitize their business processes to drive operational efficiency while meeting security, legal, and financial compliance requirements. Given the unique nature of each project, Deltek emphasizes the scalability and flexibility factors through a modularized ERP approach to best match customers' functionality needs while providing no-code customization tools and on-premises, hybrid, or cloud deployment options.

Over the last year, the impacts of COVID-19 have driven customers towards Deltek's cloud offerings with a nearly 40 percent increase in its cloud customer base. As companies seek out technology that enables users at any location, Deltek is invested in meeting this demand with improved mobile capabilities, comprehensive security and compliance measures, and innovations to solution extensibility and no-code capabilities. The vendor released several AI and ML updates in its Costpoint solution: Users can now leverage AI-assisted BI, enabled by IBM's Watson Platform, to surface KPIs, analysis, and priority areas that need attention with voice commands; Customers can now leverage improved character recognition for mobile expense reporting to cut down on manual data input and human error. Deltek continues to release compliance tools to help contractors meet the newest cybersecurity compliance requirements, such as CMMC and ITAR, assisting customers in managing their cloud deployments and winning government contracts.

Deltek's partnership with UiPath has lent to several new automated workflows via RPA functionality, further streamlining labor-intensive or repetitive low-value tasks for increased employee productivity. Customers can also deploy new vendor portals to digitize the entire source-to-pay process, from supplier selection to invoicing. Additional out-of-the-box dashboards give customers a greater number of KPIs while reducing reliance on reports and time-consuming data querying. As customers continue to choose Deltek for its leading project-based ERP systems and the vendor's expertise in its targeted verticals deepens, Nucleus expects Deltek to secure its position in future editions of the Value Matrix.

INFOR

Infor is a Leader in the 2021 ERP Technology Value Matrix for its various industry-specific ERP systems offered through its CloudSuite platform. The vendor primarily specializes in automotive, aerospace and defense, distribution, industrial machinery, manufacturing, heavy equipment, fashion, food and beverage, healthcare, and public services industries. In addition to core financial capabilities, Infor CloudSuite's natively connected solutions address supply chain management, CRM, asset management, human resources planning, and product lifecycle management needs for the middle and enterprise markets. As Infor offers privately hosted cloud, publicly hosted on AWS, hybrid, and on-premises deployment options, its SaaS business maintains year-over-year growth. Nucleus estimates that Infor CloudSuite now accounts for nearly a third of the vendor's revenue. With flexibility in deployment options and best-of-breed ERP functionality, Infor presents an increasing challenge to SAP, Microsoft, and Oracle.

Since its acquisition by Koch last spring, Infor has released several new user experience updates and solution features, primarily centered around application development and AI. Infor has added additional security and mobile deployment features and updated the user interface to provide consistency across tools, regardless of skillset. AI predictive maintenance updates enable more complex degradation models and patterns for failure prediction. No-code and set-up wizards for Machine Learning help users customize algorithms to interpret data as they see fit. While Infor subscribes to an industry-centric development approach, its Agility 2.0 Deployment Framework has led to new preconfigured packages for micro-verticals. For example, Infor now provides these 'industry accelerators' to dairy companies within the food and beverage industry to streamline implementations. In March 2021, Infor announced a partnership with C3 AI, an AI software specialist, to augment their existing data and AI solutions to complement and extend Infor Cloudsuites into new data areas. Customers can expect innovations to Infor's Enterprise Asset Management solution soon, along with new embedded analytics functionality into new verticals, as Infor expands its industry focus. With Koch's investments delivering on partnerships and product development, we believe Infor stands to continue taking market share from other prominent

full-suite enterprise application vendors, primarily in the mid-market where ease of deployment and core functionalities are prioritized.

MICROSOFT

Microsoft is a Leader in the 2021 ERP Technology Value Matrix. As a comprehensive enterprise application vendor, Microsoft goes beyond SaaS and offers its integration-platform-as-a-service along with its Azure cloud hosting service. The vendor has extensive reach worldwide, marketing its solutions and services in over 65 countries to both SMBs and large enterprises. Nucleus believes that innovations to Power Platform services and core Dynamics 365 offerings drives the value that customers extract from their solutions and will continue to justify Microsoft's position as a Leader.

MICROSOFT DYNAMICS 365 FOR FINANCE AND SUPPLY CHAIN MANAGEMENT

Microsoft continues to expand the capabilities of its ERP solution suite for large organizations, Dynamics 365 Finance and Dynamics 365 Supply Chain Management. The company has focused on improving product capabilities through external integration of apps to support users in retail, talent, field service, marketing, sales, project service automation, and customer service. The company provides users with performance insights for manufacturing processes and procedures, business logistics and supply chain management functions, and a regulatory compliance engine, all on a user-friendly platform. Major product improvements were seen in the new 2021 release wave 1 across Dynamics 365 and the Power Platform (Power BI, Power Apps, and Power Automate).

The Microsoft Dynamics 365 for Finance and Microsoft Dynamics 365 for Supply Chain Operations solution suites saw several key updates over the past year. New Cloud and Edge scale unit add-ins support production and warehouse processes during peaks to avoid downtime and negative performance impacts. Businesses can transition workloads with defined processes, data, and any rules, validations, and ownership criteria onto these scale units to run on the cloud or edge environments. These units can temporarily disconnect from the central cloud hub while workers continue leveraging solutions within the defined workload to avoid placing a drain on cloud resources. Microsoft enhances its inventory management functionality with a new Inventory Visibility add-in. The tool can process millions of transactions every minute to give an accurate view of cross-channel inventory in real-time. The Warehouse Management mobile application saw a complete user experience redesign, improving usability to help the warehouse streamline daily operations intuitively. On the finance side, accountants will benefit from updates to cash flow forecasting capabilities. For example, out-of-the-box machine learning features can predict when customers are likely to pay, forecast budgets, and forecast cash positions based on current

financials and predicted outcomes. The Dynamics 365 Project Operations solution has updated scheduling functions that enable users to define calculations for task assignments, depending on the need of individual projects. Project managers can now specify the amount of work needed for an assignment to calculate the amount of time required and vice-versa. Alternatively, project managers can define a deadline or the amount of work to determine resource allocation to meet specifications, allowing organizations to maximize asset utilization, meet deadlines, and control costs in granular detail.

With the Power Platform, Microsoft continues to be a key leader in business automation. In Power BI, the vendor focused on improving the visibility of user data through workspace level insights on utilization rates leading to improved cost management. Microsoft now offers flexible per-user and capacity licensing models for Power BI to help customers minimize costs and maximize usage. Flexibility enhancements were the key theme for feature updates in Power Apps. Low-code development capabilities allow managers and administrators to customize dashboards and address business needs without IT intervention. Updates can be automatically integrated into a mobile platform, further emphasizing the capacities of the vendor's user-friendly solutions. Signature detection and signing location detection are among the recently upgraded AI-driven capabilities offered through the AI Builder feature. UI improvements for the company's ERP platform have also been facilitated by the Power Automate feature, which leverages automated analytics to identify time-consuming and repetitive processes. The solution then suggests which of these tasks would be best suited for automation.

MICROSOFT DYNAMICS 365 BUSINESS CENTRAL

Microsoft Dynamics 365 Business Central is Microsoft's ERP answer for the SMB market. The solution provides flexibility to its SMB users through on-premises, hybrid, or cloud deployment options, and all are centered on the Microsoft NAV platform. Since the last Value Matrix's release, the vendor has focused on strengthening modern development tools and seamless API integration, enhancing interface functionality and automation for users. Remote access to massive data sets via Microsoft Dataverse solidify the vendors' global position capable of supporting multi-national organizations. The comprehensive platform will empower users to streamline sales, inventory management, warehouse management, customer service, project management, manufacturing, regulatory compliance, and finance operations in over 52 countries.

Microsoft leverages a customer feedback model that allows the vendor to continue its customer-first approach through numerous community channels and user studies. Updates throughout the year have centered on improvements to core functionalities and IT compatibility. The simplifying of dimension editing for tasks such as general ledger entries was initiated in response to past difficulties in correcting errors inputted by users. At-home

employees were among the most to benefit as the update allowed for rapid remediation without the need for IT personnel. The vendor continued efforts towards a user-friendly approach by enabling personalized app integration through improved VS Code and extension lifecycle telemetry for ISVs as part of the app submitting process onto the AppSource platform. As of April 2021, Microsoft Dynamics 365 Business Central expanded general availability for users into India, Greece, Romania, and Turkey.

ORACLE

Oracle is a Leader in this year's ERP Technology Value Matrix. To address every department's technology requirements, the vendor offers a comprehensive library of enterprise applications across the full range of solution classes, including ERP, CRM, SCM, and HCM. Oracle is recognized for its support of businesses in virtually all industries with its NetSuite and Oracle Fusion Cloud ERP offerings. Nucleus believes that vertical-specific innovations and overall improvements to UX and UI design will secure Oracle's positioning in future editions of the ERP Value Matrix.

ORACLE FUSION CLOUD ERP

Oracle Fusion Cloud ERP is Oracle's flagship ERP product for organizations with annual revenues over $250M. Customers select Oracle Cloud ERP to address a wide range of business scenarios with robust database management functionality capable of supporting organizations with complex accounting structures and high volumes of daily transactions. Oracle Cloud ERP comes out-of-the-box with core financial and master data management capabilities for financial and professional services, high tech, education, healthcare, retail, communications, manufacturing, and consumer goods organizations. In addition to reporting and analytics, project and risk management, no-code application development, and industry-specific tools, Oracle Cloud ERP's modular and flexible architecture support deployments to niche verticals or use-cases. Additionally, native integrations to other Oracle Fusion Cloud Applications provide a strong value proposition for ERP users to extend IT investments into the CX, EPM, HCM, and Supply Chain and Manufacturing solution suites.

Oracle saw continued growth with both existing and net-new customers throughout the pandemic as digitization initiatives were prioritized, regardless of business size or vertical. Product investments, likewise, were continuously released. Kicking off 2021, Oracle released several new features and updates across the entire Oracle Fusion Cloud Applications platform. Improvements to Accounting Hub further automate account reconciliations and eliminate manual journal entry. Performance boosts mean international multi-entity organizations can track and manage millions of daily transactions with little to no downtime. Out-of-the-box models, report forms, and KPIs have also been extended to retail, telecom, media, and ISP verticals. Centering on the user experience, Oracle launched a new UI titled

Redwood. Users will migrate onto Redwood in a stepwise approach and can currently launch select modules and processes, including the Oracle Accounting Hub Cloud suite with the new UI. For asset-intensive industries, customers can expect improvements to joint venture accounting and project management capabilities to track and manage the finances of joint venture and high-cost operations. Customers will also be able to automate the acquisition and payment for more complex services. US government entities leveraging Oracle Cloud ERP have greater customization capabilities and new native connections to the Department of Treasury to simplify cross-agency accounting and reconciliation tasks. Oracle's government-specific datacenters have already received their FedRAMP certifications.

ORACLE NETSUITE

Typically, servicing customers between $1M to $250M in annual revenue, Oracle NetSuite is Oracle's ERP for mid-size and fast-growing companies. NetSuite does service companies larger than $250M who often start with NetSuite at a smaller revenue base and grow into much larger organizations. Additionally, some larger organizations choose NetSuite as it better fits their needs. NetSuite's customer base spans the globe as it supports deployments in 27 languages, 190 currencies, and over 215 countries and dependent territories. Despite a focus on smaller organizations than its enterprise counterpart, Oracle NetSuite is a comprehensive ERP system capable of managing the financial and operational processes for both service and product-centric businesses. Multi-national tax, currency, and reporting compliance capabilities make NetSuite a regular contender of Microsoft's and SAP's ERP products among international companies. With out-of-the-box and partner-developed industry functionalities, NetSuite's supported verticals include advertising, media and publishing, software, professional, administrative, financial services, nonprofit, manufacturing, wholesale distribution, and retail.

As part of this year's first major update release, Oracle announced Netsuite 2021 Release 1 in February. The product update package centered on automation and artificial intelligence for analytics. Customers can expect upgrades to their Financial, Analytics, Projects, and WMS modules within the first half of 2021. New centralized subsidiary purchasing and billing functionality enable users to automatically consolidate purchases across multi-subsidiary organizations generate payments from a single location to reduce purchase order volume. In addition, users can now leverage the BankFeeds SuiteApp with banks in Asia, Australia, and New Zealand to automatically import financial data. Oracle also unveiled SuiteProjects, a professional service automation tool, which incorporates project resource, budgeting, and accounting management capabilities from a single command center location. Asset-intensive businesses also have access to new features. One of them is NetSuite Pack Station, a mobile solution that helps users build cartons and pallets to drive warehouse efficiency

and order accuracy. Other WMS improvements enable wave picking automation, tally scans, cart put-away, and bulk picking.

SYSPRO

SYSPRO is recognized as a Leader in the 2021 ERP Technology Value Matrix. The vendor has over 40 years of experience delivering last-mile industry-specific functionality within the manufacturing and distribution fields. SYSPRO differentiates itself with its industry expertise, often winning deals in niche verticals by demonstrating deep knowledge and the ability to manage the entire organization's financial, manufacturing, and distribution processes. Customers typically range from SMBs to large organizations from the automotive, food and beverage, industrial machinery, packaging, plastics and rubber, electronics, and fabricated metal verticals. In addition, SYSPRO has a certified partner network, where implementation and specialist consultants help users make extensive customizations to best match requirements. Support for on-premises, hybrid, and cloud deployments, extensive API library, and low and no-code tools further impart flexibility to the platform, both during and post-deployment.

SYSPRO 8 is currently the latest version of SYSPRO's ERP offering. Customers can expect major releases twice a year. The newest release, 2021 R1, centers on the user experience design, web-based user interface, and new feature functionalities. Users can navigate with GeoLocation, open webpages directly from the system, and interface customization options without the need for the Visual Designer tool. SYSPRO released a new Order Picking tool available on SYSPRO Espresso to provide shopfloor operators with mobile capabilities to conduct order pickings efficiently. Sales Order processing and transaction functions have been updated for greater accounting flexibility to streamline general ledger activities. Accurate reporting and analysis of Work in Progress have been made available at the branch level for companies to assess variances across all business units. Customers can now process group payments from multiple companies and send group payments to suppliers. Regulatory compliance features have been updated for Canada, UK, and EU: Customers in Canada can automatically include total tax amounts on Sales Order documentation; EU users received enhancements to Intrastat reporting; Updates to the Digital Tax Tool accelerates the gathering, analysis, and reporting of tax-related information in the UK. Innovations to the user experience and core ERP functionality continue to position SYSPRO favorably in the Value Matrix and in the market as more manufacturers search for digital transformation partners that understand their business.

EXPERTS

Experts in the ERP Technology Value Matrix include Epicor, IFS, QAD, and SAP.

EPICOR

Epicor is an Expert in the 2021 Value Matrix. The vendor offers comprehensive ERP solutions for various industries, including automotive, distribution, building supply, manufacturing, and retail. The vendor partners with Microsoft Azure for its cloud ERP solutions. Across the industries served, Epicor's ERP functionalities include financial and supply chain management, planning and scheduling, CRM, product and production management, project management, business intelligence, and analytics. The solution offers a service-based platform with configuration capabilities that leverage no- and low-code methods and Epicor Functions for shared modifications. The vendor has updated its user experience with the Epicor Design System and various Industry 4.0 capabilities to its cloud deployments to bolster the value proposition of migrating off on-premises implementations. Customers can leverage native integrations to Epicor's large library of modules for extended functionality, including eCommerce, configure, price, quote (CPQ), QMS, HCM, PLM, EDI and B2B integration, BI and analytics, and virtual agent.

In October 2020, the vendor expanded home-based work functionality by enhancing the Epicor Enterprise Content Management (ECM, formerly known as DocStar). The prevalence of at-home work was exacerbated during the pandemic as employers transitioned many core operational processes to their off-site employees.

In November 2020, the company released Epicor ERP 10.2.700 for manufacturing. The release came with UX design changes and a web browser interface to attract users to its cloud offerings. It also introduced Application Studio, a low-code solution for configuring and personalizing the user experience to meet workers' needs and improve workforce efficiency in ERP. Customers can also leverage a new Advanced Unit of Measure (AUOM) functionality, which incorporates extensive measurement capabilities to help businesses manage dimensional inventory and traceability for metal fabrication and metal service centers.

In April 2021, Epicor introduced a cloud offering for Medical Device Manufacturers to support their unique requirements for FDA CFR 21 Part 11 software validation needs. This offering, the Validation Bundle for Life Sciences, provides for additional time needed for validation efforts alongside required documentation.

Most recently, Epicor acquired KBMax, a CPQ software company that makes selling complex products a seamless process for their customers in many different verticals. Epicor's approach to serving customers with specialized needs in manufacturing verticals will

resonate among companies that are ready to move away from generalist software vendors. Nucleus expects the vendor to continue driving value in the cloud for its manufacturing customers in 2021 and beyond.

IFS

IFS is an Expert in the 2021 ERP Technology Value Matrix. The vendor is an end-to-end manufacturing ERP provider that also covers other service areas, including customer relationship management (CRM), human capital management (HCM), asset management (EAM), and field service (FSM). The vendor supplies a comprehensive platform tailored to specific industries, including aerospace, energy, engineering, construction, and manufacturing. IFS can deploy solutions to fit each customer's exact needs, from on-premises options to hybrid and cloud deployments. As a regular competitor of Oracle, Microsoft, and SAP, customers choose IFS for its deep industry expertise and flexibility to pick and choose from an extensive library of manufacturing solutions to match the organization's functionality requirements.

In March 2021, IFS acquired Axios Systems, an IT Service Management and IT Operations Management provider known for its omnichannel service management solutions, to extend its platform integration capabilities. The acquisition will complement existing IFS solution offerings by providing a single point of contact to facilitate communication demands between users and IT staff. The same month, IFS launched IFS Cloud, which combines all applications under a single modular cloud-native platform. IFS Cloud is equipped with improved IT logistics tools, which are expected to support users in common troubleshooting areas, including incident management, handling service requests, and problem management. IFS also offers a new way to connect multiple cloud solutions onto a single data-sharing network through IFS Cloud. The connector platform reduces human error by seamlessly integrating essential information within the unified environment. IFS also embeds an additional layer of customizability by allowing over 3000+ API integrations onto the IFS dashboard. As a result, developers can leverage IFS Cloud with greater flexibility in customizing KPIs and dashboards to meet the unique visibility requirements of each business while reducing the dependence on IT by managers and administrators. Nucleus is confident that IFS Cloud customers will benefit from the cloud platform as they connect siloed departments and business units and bring their businesses closer to their trading partners.

QAD

QAD is an Expert in this year's ERP Technology Value Matrix for the demonstrated value of QAD Adaptive ERP for manufacturing businesses. The vendor specializes in streamlining and enabling core financial, asset management, supply chain management, customer and

service management, scheduling, capacity planning, and manufacturing operations through the QAD Adaptive ERP and other QAD Adaptive Applications. The QAD Enterprise Platform sits at the center of the cloud-native platform with various extensible solutions to address customers' specific needs in the automotive, food and beverage, consumer products, industrial, high tech, and life science industries.

Nearly all net new QAD Adaptive ERP deployments are deployed in the QAD Cloud or QAD-certified partner clouds. The QAD Cloud is based on several cloud service providers IaaS in a multi-cloud scenario that QAD manages for its customers. Customers in the midmarket and enterprise organizations choose QAD for the flexibility and functionality offered on the platform via Industry 4.0 capabilities, low-code application development, multi-instance management, and modularized components to help businesses quickly implement, adapt, and scale. Supporting customers' digital transformation journeys to become an "Adaptive Manufacturing Enterprise," QAD's innovations over the past year center on improving business agility to address unforeseen disruptions, increase supply chain resilience, and drive process efficiency. In January 2021, QAD acquired Allocation Network, a supplier management and procurement systems specialist. Nucleus expects QAD to incorporate the Allocation Network technology to help round out QAD's supply chain offering and help manufacturers work more effectively with suppliers.

The March release of QAD Adaptive ERP and related applications include updates to the Adaptive UX, QAD's user experience, and functionality improvements across the product line with notable innovations for Financials, QAD CRM for Manufacturers, QAD Enterprise Asset Management, QAD Precision GTTE (Global Trade and Transportation Execution), and QAD DynaSys DSCP (Digital Supply Chain Planning). QAD has added what it calls "contextual insights" to its embedded analytics, which include real-time generated analytics based on the process and data context of a user versus role-based dashboards. This allows users to better measure and perform discovery around exceptions. In the QAD Enterprise Platform, QAD has recently enhanced its mobile development platform and security around segregation of duties. Nucleus believes QAD's innovations to financial management, supply chain management, and manufacturing based on industry best practices present a strong value proposition to growing companies that require the depth of functionality with the platform flexibility for quick configuration and deployment.

SAP

SAP is an Expert in this year's ERP Technology Value Matrix. The vendor's three ERP systems, SAP Business One, SAP ByDesign, and SAP S/4HANA, support the range of small to enterprise-scale organizations for both discrete and process manufacturing and service-centric industries. The development of its cloud solutions and platforms continues to be a priority for SAP with new user experience design updates, migration services, and

enhancements to core functionalities over the past year. Nucleus believes the solution giant stands to improve positioning in future editions of the Value Matrix as users capitalize on usability and functionality upgrades.

SAP S/4HANA

SAP S/4HANA is the vendor's flagship enterprise ERP product designed for large organizations with annual revenues of over $500M. As the central component of SAP's "Intelligent Enterprise" framework, SAP S/4HANA is highly configurable, best suited for complex deployments for companies operating across multiple geographies and business lines. SAP commonly shares the shortlist with Microsoft, Oracle, Epicor, and Acumatica. Still, features such as universal parallel accounting, sustainability management, supplier and distributor portals and management tools, industry 4.0 capabilities are often deciding factors for SAP's customers. SAP S/4HANA provides functionalities for finance, manufacturing, professional services, procurement, supply chain, commerce, asset management, sales, and HR verticals through a modular development approach. One of the key decision criteria and differentiator for SAP S/4HANA is the broad and deep industry capabilities based on the collaboration with industry experts over many decades. SAP S/4HANA's customer base of over 16,000 clients is mainly on-premises, but the rate of net new customers selecting a cloud or hybrid deployment has increased year over year. Currently, SAP S/4HANA Cloud services over 3200 cloud customers.

S/4HANA Cloud's growth is partly driven by the RISE with SAP program, which combines various solutions and services to guide users through a digital transformation journey for a set fee instead of piecemealing options; thereby, cutting costs and accelerating implementations. Announced in January 2021, RISE with SAP is now optionally included with every new SAP S/4HANA Cloud deployment and is also available to on-premises customers seeking to adopt SAP cloud products. This business-transformation-as-a-service offering allows customers to experience live cloud environments like business networks, including connections with suppliers and distributors, assets for analytics, and establishing a digital twin. SAP continues its investments in Industry 4.0 capabilities to increase automation for back-office, factory floor, and freight forwarding processes. This includes greater platform extensibility for IoT devices and partner solutions, RPA to automate multiple scenarios, and automated scheduling and dispatching to optimize timing and travel. With SAP's deep production expertise and new financial management capabilities on the horizon, Nucleus believes S/4HANA will continue to serve as a leading choice for massive and complex ERP deployments.

SAP BUSINESS BYDESIGN

SAP ByDesign is a cloud-native ERP platform that targets midmarket customers undergoing digital transformation or growth efforts. As such, SAP ByDesign provides a highly scalable platform suitable for 5 to 10,00 users. With core financial management, CRM, supply chain management, supplier relationship management, sales, project management, and workforce management capabilities, SAP ByDesign services a broad spectrum of service and asset-centric organizations. The ERP platform is best suited for wholesale distribution, manufacturing, professional services industries, and its over 250-large certified partner network enable implementations to additional verticals. With a single web-based user interface, users can streamline the 38 built-in business processes with real-time embedded analytics, personalized extensions, and native connections to SAP's extensive library of product offerings.

While it cut its teeth with professional services, SAP ByDesign has matured to deliver modern functionality to product-centric businesses. Within the past year, the vendor has added agile production order and task management capabilities and improved visibility across purchasing, production, warehouse, and delivery KPIs. For convergent product and service-centric businesses, users can now project and service stock orders in a pre-delivery scenario from 3rd party logistics sites and automate service execution and time recording for employees. AI investments have returned new Intelligent mobile expense reports and supplier invoice scanning. SAP continues to refine its package offering and customization capabilities to help partners personalize use-case-specific deployments, thereby reducing upfront configuration, lowering the TCO, and shortening implementation times.

SAP BUSINESS ONE

SAP Business One is an end-to-end financial management, warehouse management, procurement, inventory management, CRM, project management, reporting, and analytics platform for small businesses. Deployed in an on-premises, private cloud, or SAP's public cloud environment across 170 countries, SAP Business One serves over 70,000 customers in healthcare, financial services, manufacturing, higher education, agriculture, and professional services. Through its 50 country localizations, 28 supported languages, SAP Business One has achieved a large international presence that lends to its expertise in regional legal requirements, compliance measures, and cross-border functionalities for tax compliance and automatic multi-currency translation.

Since last year's value matrix, SAP Business One has received quarterly updates with notable enhancements to the core and legal functionalities. More capabilities have been added to the WebClient, including sales and CRM-related tasks. A new Tenant Configurator tools help partners manage the user ecosystem and streamline implementations. The vendor continues its localization efforts for digital invoicing and reporting to remain up-to-date on

regional standards. Investments in cloud infrastructure deliver tighter connections with SAP's HANA database and additional solutions.

FACILITATORS

Facilitators in the ERP Technology Value Matrix include Acumatica, Rootstock, Sage, and Unit4.

ACUMATICA

Acumatica is recognized as a Facilitator in the 2021 ERP Technology Value Matrix for its continued innovations to its midmarket solution offerings. The vendor has established a significant presence in the ERP market through its integrated financial management applications that address distribution, project accounting, and CRM. Acumatica follows the industry trend of a developer-centric approach, empowering users with customization capabilities, both during and after deployment. This platform flexibility is underpinned by robust OpenAPI library and configuration tools that, when combined with low-code configuration, allows for quick integration of multiple cloud systems for a connected solutions environment. While Acumatica is only sold through partner channels, primarily within commerce, construction, distribution, field service, and manufacturing verticals, its ERP products are often considered alongside those from Oracle and Sage. Customers often select Acumatica for its usability factor. Benefits such as a complete web-based interface, customizable dashboards, and real-time data sharing across the company promote collaboration, operational efficiency, and a unified effort towards business growth.

Acumatica's recent product updates include enhanced account reconciliation, additional AI/ML applications, and improved KPI tracking. Ideally, companies would have a streamlined monetary collection process that would better focus on their core competencies. However, significant time and personnel are often allocated to remedying cash balance inconsistencies between corporate balance sheets and bank statements. Improvements to the Acumatica Bank Integration solution eliminate importing and processing discrepancies by connecting over 11,000 financial institutions into the Acumatica platform for automated transaction downloading, allowing consumers to reconcile troubled bank accounts swiftly. Updates to the Reconciliation Statement Report tool grant users access to the list of total unreconciled disbursements and reconciled disbursements, leading consumers to identify patterns in deficient accounts, reduce the time for consolidation processes, and improve close reporting quality. Improvements in functionality have been matched with Acumatica's intent on providing convenience for its customers through AI/ML updates such as enhanced mobile image and form recognition. New at-a-glance KPIs and

KPI personalization capabilities enable prompt decision-making and provide users with visibility and control over daily operations. Nucleus expects Acumatica to improve its position in future editions of the Value Matrix as potential customers prioritize usability in their digital transformation initiatives and innovations to core financial and industry-specific modules boost functionality.

ROOTSTOCK

Rootstock is a Facilitator in the 2021 ERP Technology Value Matrix. The vendor provides cloud-based ERP services for mid-sized manufacturing companies. The solution covers functionalities for core financials, sales order processing, production, inventory, supply chain, distribution, and engineering, and all are provided on the Salesforce Lightning platform. Rootstock's user-friendly self-service features make it an appealing choice for customers familiar with Salesforce technology. With tight integration with the Salesforce platform, users can leverage their customer and sales data for analytics and cross-departmental collaboration; thereby, enabling Sales and Operational Planning (S&OP) and ensuring the organization is aligned on company objectives.

Since the last Value Matrix, Rootstock has deepened its investments in providing highly customizable solutions through low-code integrations. The platform's minimal integration demands simplify the deployment of finance, field service management, and CRM applications available on the Salesforce marketplace. In addition, the partnership provides an environment that flattens the learning curve for new users through intuitive design and dashboard manipulation. The low-code features reduce the need for IT personnel intervention and result in Rootstock driving thousands of hours of time savings for its customers.

In August 2020, Rootstock released its latest low-code ERP offering for manufacturers. Updates included streamlined workflow options, data visibility extensions, and various AI-driven enhancements. In May 2020, Rootstock also released a Freight and Landed Costs feature, enabling manufacturers to monitor costs associated with products and shipments better. The release will help customers control costs over freight, import, and customs duties, taxes, and tariffs. Customers can also identify expense bottlenecks and operational inefficiencies through personalized dashboards and configure cost models to align with precise business needs. Rootstock's customer-centric approach to delivering manufacturing ERP on the Salesforce Lightning platform will continue to drive value for its customers in 2021 and beyond.

SAGE

Sage is a Facilitator in the 2021 ERP Technology Value Matrix, recognized for its ERP offerings for SMBs. The vendor provides comprehensive enterprise applications for virtually all industries, with Sage Intacct as the service-centric ERP and Sage X3 as the product-centric ERP. As Sage focuses on its SaaS products and cloud offerings, Nucleus believes Sage will continue to be a leading presence in the midmarket. Upgrades to Sage's vertical-specific functionalities improve its value proposition with every release and stand to improve positioning in the future editions of the ERP value matrix.

SAGE X3

Sage X3 is the vendor's flagship product-centric ERP known for servicing medium-sized to larger businesses. The vendor segments its deployment packages for specialized coverage of discrete manufacturing, process manufacturing, wholesale distribution, and business service verticals. The solution can also be extended for agriculture, food and beverage, chemicals, and retail businesses. Customers choose Sage X3 for end-to-end digital transformation, addressing financial management, CRM, supply chain management, and production management from a single platform. Suited for global businesses, Sage X3 supports multilanguage, multi-national, multi-currency deployments in over 80 countries across six continents.

Since June 2020, Sage has been releasing quarterly updates for Sage X3. In December 2020, Sage released a new Visual Process Designer that enables customers to design personalized processes and solution maps. In the February 2021 release, Sage X3 saw notable improvements to its core financial capabilities, providing users with more granular detail to revenue recognition and general ledger reports. Sage X3 Project Management has been enhanced to support multiple billing and transactional models. Manufacturers can use the recently added New Product Introduction (NPI) capabilities to develop and manage the introduction of new products. This includes a dedicated sandbox environment for users to create new Bills of Materials and test new products and materials to automatically add new inventory items into production and reflect the impact of real-time costing updates. With the Project Management and NPI modules, customers can manage the life cycle of products from beginning to end.

Sage continues to invest in new API technologies for Sage X3. The introduction of the new GraphQL Web API framework provides a simple to use and secure service to build real-time (synchronous) responsive application design and integration. This new API technology also enables Sage to deliver new capabilities designed to enhance the user experiences and drive operational improvements. Sage has also been working on rearchitecting the Sage X3 Automated Data Collection, ADCs, onto this new technology stack. Built around an adaptive user experience, the user can access the ADC capabilities on any device through any

browser. This supports a responsive design and leverages native device capabilities, such as RFID scanners and geolocation. The user experience has also been designed to facilitate embedded workflow capabilities and management by exception. These capabilities enable Sage partners to tailor the screens, processes, and features to each customers' unique requirements.

SAGE INTACCT

Sage Intacct is the vendor's financial management solution for the mid-market, encompassing core financial, dashboards and reporting, budgeting, and spend management functionalities. With the flexibility to service a range of industries, Sage Intacct users typically come from accounting and financial services, construction and real estate, healthcare, nonprofits, professional services, software, and wholesale distribution verticals. With an emphasis on ease of implementation, Sage Intacct subscribes to a modular approach, providing natively integrated out-of-the-box tools to supplement ERP functionality. For example, customers can quickly implement adjacent Sage applications for project accounting, multi-entity and global consolidation, and financial planning and analysis.

Over the past few years, Sage Intacct has been consistently breaking into new geographical markets outside of the US. In August 2020, Sage rolled out Sage Intacct in South Africa, adding the country to the list of supported regions, including the USA, Canada, Australia, and the UK. In September 2020, Sage added Sage Intelligent Time, a timekeeping tool to help professional services reduce revenue leakage by automating timekeeping and reducing the complexity behind billing with AI capabilities. As of March 2021, Sage Intacct customers can leverage Corporate Spending Innovation's billing platform to extend their payment management and processing functionality. In May 2021, Sage announced the availability of Sage Intacct on the AWS marketplace to help streamline the configuration and deployment of the SaaS product on the cloud hosting platform.

UNIT4

Unit4 is a Facilitator in this year's ERP Technology Value Matrix, recognized for its expertise in "people-centric" enterprise applications. The vendor provides an end-to-end business management platform, Unit4 People Platform, underpinned by a modular micro-service architecture. Users can quickly implement ERP, FP&A, HCM, and Student Management functionality with natively integrated solutions to drive process efficiencies while keeping IT costs low. A robust library of APIs and the People Platform Extensions Kit enables customers to connect with users' solution ecosystem and customize their Unit4 applications, extending functionality with low and no-code tools without reliance on third-party consultants and developers. Supporting the full range of deployment options, Unit4 continues to see

success in its growing cloud user baser and has geared product development to a SaaS-first philosophy. In October 2020, Unit4 launched its new cloud-native flagship ERP, ERPx, joining ERP, FP&A, and HCM functionality under a single unified solution platform and offering.

In March 2021, Unit4 announced its acquisition by TA Associates, a global private equity firm specializing in consumer, healthcare, high tech, and financial and professional service industries. Advent International, the previous majority investor, has sold its stake, and Partner Group remains an investor. While still early in the acquisition, Unit4 customers can expect the influx of capital to drive product enhancements following the launch of ERPx through in-house development and acquisitions soon. As of April 2021, Unit4 announced the general availability of ERPx. Currently, businesses in the US, Canada, UK, Ireland, Central Europe, Nordics, and parts of APAC can deploy Unit4 ERPx, with roll out to the rest of the world expected by the end of the year. Unit4 ERP7 users still benefit from product updates. With the launch of ERPx, ERP7 users can also leverage Instant Apps. These new lightweight modules apply machine learning methods to automate and improve manual processes when combined with Smart Automation Services. For example, Smart Invoicing leverages machine learning to automate invoice processing and settlement while continuously self-learning to enhance its accounting predictions. As existing users migrate and net-new users onboard onto Unit4 ERPx, Nucleus believes they will extract value from the interconnectivity of complimentary solutions specialized for professional services. Unit4's investments in unifying its applications will improve its standing in future editions of the ERP Value Matrix.

CORE PROVIDERS

Core Providers in the ERP Technology Value Matrix include Aptean, FinancialForce, and Plex Systems.

APTEAN

Aptean is a Core Provider in the 2021 Value Matrix, recognized for its focus on SMB and asset-centric ERP solutions. Aptean segments its ERP offerings by Food and Beverage, Industrial Manufacturing, and Distribution and Retail verticals while providing reporting and analytics, distribution, logistics, capacity planning, and core financials functionality. ERP is a central component of the Aptean platform, and the vendor offers a comprehensive set of complementary solutions to address its users' supply chain needs. As a result, customers across several industries, including chemical, retail, automotive, electronics, retail, and wholesale distribution, can leverage enterprise asset management (EAM), manufacturing

execution system (MES), and warehouse management system (WMS) to streamline operational and financial processes.

Aptean continues to expand its offerings through strategic acquisitions and service enhancements. In November 2020, Aptean expanded its cloud-native solution offering through the acquisition of Lascom, a company focused on providing product lifecycle management solutions for food and beverage manufacturers. The vendor's growing presence in Europe was a critical factor in the procurement, as Lascom has shown proficiencies in streamlining business processes and rapidly bringing consumer products to market. In December 2020, Aptean continued its European expansion through the acquisition of Modula, an ERP vendor focused on product development in the German-speaking manufacturing market. Modula's strong market presence in the medical technology, automotive, electronics, plastics, metals, and logistics industries largely influenced the decision for the acquisition. The addition will deepen Aptean's expansion into the German, Austrian, and Swiss markets, focusing on food and beverage manufacturing companies. In February 2021, the vendor continued to improve solution capabilities for manufacturing companies through the release of the Industrial Manufacturing ERP. The offering aimed to promote user productivity by automating operational tasks such as managing spreadsheets, tracking on-time delivery rates, and monitoring company costs. This enables users in the manufacturing space to realize improved budgeting visibility, accuracy in planning, and reduced risk in unplanned expenses.

FINANCIALFORCE

FinancialForce provides business applications, including ERP and professional services automation (PSA) to customers in service-based verticals. The vendor offers a strong value proposition to Salesforce users as an ERP natively built on the Salesforce Platform. FinancialForce automates the integration of real-time data into comprehensive financial reports and contract, billing, and revenue management features, which are also critical elements within Salesforce's CPQ engine. FinancialForce combines its customer-centric approach to automated financial management with Salesforce's Einstein Platform and Tableau CRM technology to drive productivity increases across all departments. Since the last Value Matrix, the vendor has made significant strides in improving its analytical automation capabilities and data visibility.

In Summer 2020, FinancialForce added additional KPIs to track SaaS metrics, such as annual recurring revenue, monthly recurring revenue, customer renewal rate, and customer churn. In Fall 2020, the vendor launched a series of dashboard updates focused on improving forecasting capabilities for its users. Analytical tools such as cash flow forecasting provide a detailed outlook of projected cash flow movements based on historical budgeting patterns

and future goals. Service revenue forecasting dashboards take solution capabilities a step further by suggesting actionable steps to reaching organizational milestones, transforming static forecasting into a strategic roadmap for improvement. Enhanced budget and forecasting visibility allow users to leverage greater control over costs and eliminate underperforming suppliers through novel procurement and inventory dashboards. In the Spring 2021 release, FinancialForce released several updates centered on streamlining financial close and consolidation activities for multi-company organizations. For example, customers can now perform multi-currency revaluation and translation, automate intercompany eliminations, and perform soft and final close across companies. The vendor also added Customer Insights, a tool that allows users to closely monitor the impact of end-user contribution to the overall revenue stream. Product, service, and subscription data for individual customers can now be viewed on a single platform allowing users to track end-user trends. Nucleus believes that FinancialForce's investments in PSA and user-friendly capabilities will strengthen its value proposition to the Salesforce customer base.

PLEX SYSTEMS

Plex Systems is a Core Provider in the ERP Technology Value Matrix. Founded in Michigan, USA, the privately held mid-sized technology vendor primarily targets aerospace, automotive, food and beverage, high-tech, electronics, and manufacturing industries. The vendor offers the cloud-based Plex Smart Manufacturing Platform that supports a wide range of functionalities, including ERP, CRM, HCM, Manufacturing Execution and Automation, Quality Management, Supply Chain Planning, Analytics, and Industrial Internet of Things (IIOT). The solution has native integrations and API connectors to third-party applications for CRM, HCM, and third-party ERP solutions to support two-tier scenarios. Overall, Plex provides process and discrete manufacturers with the ability to connect, automate, track, and analyze every aspect of their business to increase operational accuracy and precision, as well as drive business transformation.

In February 2021, Plex acquired Kors Engineering for its proprietary plant floor connectivity and manufacturing process automation software, including its product, Mach2. This acquisition will provide Plex Smart Manufacturing Platform users with greater data visibility across production floors and eliminate human errors to produce more accurate and actionable insights down to the machine level. In April 2021, Plex announced and released Plex Quality Management System (QMS) – which has been and still is part of its ERP and MES packages – as a standalone offering to assist customers in complying with industry regulations and standards such as FMEA, PPAP, SQF, and BRC. Plex QMS follows a four-step model for quality management for users, which includes planning with a digital control plan to document measurements, inspections, and quality checks; doing inspections and documenting with in-process digital check sheets to ensure products meet requirements; checking quality and production data for compliance or certifications; and acting to improve

processes with collected data. Plex QMS ensures that the same methods, skills, and controls are applied, and quality is maintained to assist users with making decisions faster and with more confidence.

In May 2021, Plex hosted its annual PowerPlex conference, where it announced several key enhancements on the horizon. The vendor launched a new Developer Portal with several upgrades, including a sandbox environment to test APIs, improved search functions, and support for multiple versions of APIs. Plex Smart EDI is a new module that digitally connects customers to their trading partners to automate the dispatching and receiving of documents, such as purchase orders and invoices. While the tool is currently in beta, customers can expect to improve their interactions with suppliers and distributors by streamlining the flow of information as it generally becomes available this year. Plex is responding to customers' needs with the migration of more capabilities and processes onto the mobile UI, enabling workers on the go or shop floor. User experience enhancements are in the pipeline to provide users with greater dashboard, forms, and reporting customization options. As Plex continues to deliver functionality that has been traditionally reserved for the large enterprise to the midmarket, the vendor establishes itself as a challenger to legacy enterprise application vendors, such as Oracle and SAP. If Plex delivers on platform improvement goals, we believe the vendor will improve its relative placement in the 2022 ERP Value Matrix.