



NUCLEUS
RESEARCH

LCAP TECHNOLOGY VALUE MATRIX 2023

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THE BOTTOM LINE

The Low Code Application Platform (LCAP) market is maturing, and the offerings from large ERP and CRM platforms are catching up with standalone vendors. The expansion of low- and no-code tools for citizen and professional developers along with the technical upskilling of a new generation entering the workforce have increased the adoption of LCAPs. In addition, the complexity of applications being developed has risen in tandem. With the adoption of generative AI across virtually all LCAPs, users can expect the technology to aid and automate development and be embedded in the applications they build. Other common investment areas include support for government agencies and contractors, self-service analytics, process mining, and DevOps governance.



OVERVIEW

The LCAP market has traditionally marketed itself to the citizen developer, claiming that non-technical business users can build enterprise-grade applications with no-code tools. In reality, a business leveraging an LCAP must outsource development back to its vendor consultants or rely on a team of professional developers. This shortcoming of LCAP

offerings was often the limiting factor to adoption. Still, as vendors iterate upon their citizen developer IDEs and no-code builders, Nucleus has observed an uptick of organizations self-building complex applications. In turn, adoption has increased across the board, especially in APAC and LATAM markets, where a lack of representation and support by larger US and EU technology vendors has led to companies building out their own functionality.

LCAP vendors have embraced generative AI, embedding the technology or adding it to their roadmaps at the very least. Generative AI has two primary use cases in LCAP where vendors are either supporting development with generative AI-enabled tools or deploying applications with generative AI functionality. For example, leading vendors are likely to enable their platforms to autonomously create workflow designs, contextual suggestions, application blueprints, and database schemas through voice and text inputs. Generative AI use cases in developed applications can range from chatbots to use-case-specific text generators for emails, product descriptions, and job descriptions, among others.

The complexity of applications developed by an LCAP has steadily increased. Over the past year, Nucleus has noted full-fledged ERP, payroll system, customer and supplier portal, and project management solutions being developed in-house with low and no-code tools. In addition, ERP and CRM platform vendors are quickly catching up with dedicated LCAPs in terms of functionality and the complexity of developed applications. The low-code application development capabilities of leading ERP and CRM vendors stemmed from the need for self-service configuration and platform extensibility. Now, the LCAP offerings of ERP and CRM platforms are maturing to the point where users should consider the existing tools of their enterprise platforms first before looking outwards. (Nucleus Research X141 – *Enterprise platforms battle for low-code supremacy* – July 2023)

Dedicated LCAPs still have a distinct edge in their ability to independently deploy applications, whereas most applications developed on a pre-existing platform remain dependent on the underlying infrastructure. This distinction and the ability to create websites with custom domain mapping is a key differentiator enabling users to monetize their applications to a broader global audience. Another functionality differentiation is process mining. Where LCAPs excel at workflow design, select vendors have implemented process mining capabilities to enable continuous process improvement and performance analytics. Process mining allows management to track adoption and usage, ensuring developed applications are developed, implemented, and used correctly.

In this Technology Value Matrix, Nucleus assesses the LCAP 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 LCAP Technology Value Matrix include Appian, Creatio, Mendix, Microsoft Power Apps, Oracle APEX, and Zoho Creator.

APPIAN

Appian is a leader in the 2023 LCAP Technology Value Matrix. Appian provides a comprehensive low-code platform that allows rapid development of enterprise-ready applications and automation of end-to-end processes. Its visual design tools and pre-built components enable collaboration between business and IT teams to build apps and workflows faster. Appian supports organizations of all sizes within Retail, Automotive & Manufacturing, Financial Services, Education, Professional Services, Transportation, Healthcare, Energy & Utilities, Life Sciences, Government, and Telecom industries.

Appian's cross-platform architecture allows apps to be designed once and deployed natively across web, mobile, and other digital touchpoints. This reduces development time compared to building native apps for each platform. Appian seamlessly connects data and systems without migrations, so developers can access data wherever it resides, whether in the cloud, on-premises systems, or legacy environments. Complex business rules and process automation can be incorporated into workflows. The platform scales securely in demanding environments with enterprise-grade availability, global coverage, and robust security. Additionally, automated testing and one-click deployment enable continuous delivery and integration.

Updates in the last 12 months:

- In June 2023, Appian announced the expansion of its low-code platform with new AI capabilities like generative AI and machine learning tools to boost developer productivity, while maintaining a focus on data privacy and security through private AI models. These innovations will enable customers to rapidly build intelligent applications by combining low-code development with leading AI technologies in a governed enterprise environment.
- In May 2023, Appian released the latest version of its low-code automation platform, introducing new AI capabilities like AI Skill Designer for building custom machine learning models, as well as enhancements for process automation, user experience, and data management. This release also includes Appian Contract Writing, a new solution that streamlines federal contract creation to complement Appian's existing government acquisition management offerings.
- On March 15th, 2023, Appian launched Appian Protect, a new set of security offerings including encryption, monitoring, and compliance features to provide

enhanced data protection and meet rigorous requirements for highly regulated industries. With advanced security capabilities like bring-your-own-key encryption and white glove auditing services, Appian Protect allows customers to customize their security posture and achieve certifications like FedRAMP, HITRUST, and StateRAMP.

- In March 2023, Appian has released the latest version of its low-code automation platform with enhancements for portals, data management, and end-to-end process orchestration to drive digital transformation. These capabilities help IT teams rapidly deliver new applications and experiences while providing business users with unified data, workflow automation, and analytics to optimize operations.
- In 2023, Appian launched Appian Connected Underwriting, a new solution that streamlines and automates the insurance policy underwriting process using Appian's low-code platform capabilities for process automation, data unification, and AI. By optimizing underwriting workflows, the solution enables insurers to improve efficiency, accelerate policy quoting, and deliver an enhanced customer experience.

CREATIO

Creatio is a leader in the 2023 LCAP Technology Value Matrix. Offering an array of pre-built solutions for marketing, service, and sales paired with robust low-code customization and process automation capabilities, Creatio provides functionality out of the box while enabling organizations to address specific needs. The intuitive drag-and-drop designer empowers citizen developers to quickly build applications, views, workflows, integrations, and more to digitize processes and bridge technology gaps. Creatio offers tailored solutions for financial services, government, telecom, manufacturing, transportation, pharma, and retail industries. Advanced process automation functionality includes monitoring, analytics, low-code workflows, dynamic case management, and process libraries. By unifying pre-built solutions, easy customization, and workflow automation, Creatio accelerates digital transformation and process improvement through rapidly deployable applications.

Updates in the last 12 months:

- In December 2022, Creatio 8.0.6 introduced a revolutionary composable architecture for no-code app design, a redesigned UI, and new AI-assisted workflow capabilities. The composable approach enables reusing ready-made components to accelerate building applications and products.
- Released in September 2023, Creatio 8.1 Quantum fully transitions Creatio's products to the no-code composable architecture. It adds new composable apps, governance automation, integration with generative AI, and a universe of reusable

components. Quantum aims to empower rapid no-code development leveraging composable elements, AI, and robust governance.

MENDIX

In the 2023 LCAP Technology Value Matrix, Mendix is ranked as a leader, recognized for its low-code application development platform that supports public cloud, private cloud, on-premises, and hybrid setups with user-directed scaling. Companies can create and deploy applications without heavy coding or IT intervention using Mendix Studio Pro. The Mendix Platform provides a visual construction environment in which users can drag-and-drop applications and manipulate elements such as application pages, data structures, microflows, and workflows via simple menus. Mendix also includes connectors for a variety of enterprise systems, simplifying application integration with ongoing business processes.

As of 2023, Mendix's IDE for citizen developers, Mendix Studio, was merged with Mendix's professional developer IDE, Mendix Studio Pro. The merging of the two IDEs incorporates many Mendix Studio capabilities into Mendix Studio Pro. Mendix Studio is currently supported with a N-2 policy, where Mendix will provide support for the previous two versions of Mendix Studio.

Recent product updates and enhancements include:

- On June 22, 2023, Mendix announced the introduction of enhanced AI and machine learning capabilities set to be available with the release of Mendix 10. The new features include a Machine Learning Kit, allowing enterprises to incorporate custom AI models into applications. This kit supports models from multiple common AI frameworks adopting the Open Neural Network Exchange (ONNX) standard. This ease of integration aims to reduce AI deployment times, ensuring that AI-enhanced applications run efficiently.
- Mendix introduced the Mendix Assist Best Practice bot, an AI-driven tool that offers real-time feedback to developers, ensuring that applications align with Mendix's development best practices. This bot aims to assist both novice and experienced developers, streamlining the development process and enhancing the quality of applications. The new AI tools were designed to increase productivity and application quality across various developer skill levels.
- Mendix also introduced Mendix Chat, a generative AI prompter that users can ask contextualized Mendix Platform questions related to application development. Mendix Chat will then respond with the corresponding language and steps.
- On June 8, 2023, Mendix announced a strategy aimed at developing a comprehensive technology partner community. This initiative is intended to help enterprises and software startups speed up digital transformation processes. The

focus is on enhancing its ecosystem with a new wave of technology partners and integrated solutions. Additionally, these solutions and software components will be available in both the Mendix and Siemens marketplaces. The Mendix Independent Software Vendor (ISV) Partner Program offers tools, intellectual property protection, and a marketplace for ISV partners to develop and profit from software using the Mendix platform. ISVs can modify customer solutions while still ensuring prompt and smooth upgrades. The increasing demand for reusable software components has led to a variety of offerings in the Mendix Marketplace, such as connectors, templates, widgets, and other accelerators for application development. ISV partners can also access free components from the Mendix Marketplace to enhance their products. Given Mendix's role within Siemens Xcelerator, Mendix ISV partners can also list their solutions and components in the Siemens Xcelerator Marketplace.

- On June 1, 2023, Mendix announced that its Mendix Cloud for Government is progressing toward achieving full authorization through the Federal Risk and Authorization Management Program (FedRAMP). Sponsored by the Centers for Disease Control and Prevention, Mendix Cloud for Government has been granted the "In Process" designation, moving it a step closer to the "Authorization to Operate" status. FedRAMP provides a uniform method for assessing security and risk for cloud technologies. Currently, the Centers for Disease Control and Prevention's National Institute for Occupational Safety and Health (NIOSH) employs Mendix. Running on AWS GovCloud (US) and managed by Siemens Government Technologies (SGT), Mendix allows public sector entities to implement their technology via various configurations, including public or private clouds, on-site, at the edge, or hybrid setups. Mendix Cloud for Government offers these features as a solution at the FedRAMP Moderate impact level.

MICROSOFT POWER APPS

Microsoft is a leader in the 2023 LCAP Technology Value Matrix, recognized for Power Apps, its flagship suite of cloud-based application development tools and services. A core component of Power Apps is its visual interface and pre-built templates that enable citizen developers to develop web and mobile apps, connect data sources, and automate workflows without needing to write code. Applications built on Power Apps can integrate with Microsoft services like Azure, Office 365, and Dynamics 365. AI-assisted modeling and process automation features are included to further simplify app creation. Microsoft supports various publication environments, including standalone, mobile, or as an extension of users' Microsoft tech stack. Users can also leverage other parts of the Power Platform to embed Power BI for data analytics and reporting, Power Automate for workflow automation, and Power Virtual Agents for chatbots within the applications they develop. The Power Apps suite and developed applications benefit from Microsoft Azure's enterprise-grade

cloud provisioning, data management, AI/ML, governance, and security features. This amalgamation of offerings positions Microsoft as a prominent player in the LCAP landscape, showcasing its commitment to providing innovative solutions for a dynamic technological landscape.

Updates from the past year include:

- In October 2023, Microsoft announced the general availability of Copilot for Power Apps. Copilot for Power Apps is a generative AI-enabled digital assistant that supports app makers by create context, data, and preference based suggestions. Copilot for Power Apps provides tips and feedback along the development cycle to communicate best practices.
- With the addition of Copilots to the Microsoft Power Platform, users will now be able to customize their own AI-assistants with Power Apps by extending their information sources to less-structured or unstructured data.

ORACLE APEX

Oracle is placed as a leader in the 2023 LCAP Technology Value Matrix as recognized for its Oracle Application Express (APEX) offering. A fully-supported, no-cost complement to the Oracle Database, Oracle APEX is a low-code development platform that empowers organizations to rapidly create and deploy web applications using a graphical user interface. Oracle APEX supports both technical and non-technical users with various pre-built templates, intelligent wizards, and drag-and-drop page design capabilities to expedite application development.

The platform offers a comprehensive suite of features, including a declarative development environment, a SQL database engine, RESTful web services integration, responsive and customizable user interfaces, and dynamic data visualizations. It enables developers to easily build complex applications with features such as authentication and authorization controls, interactive reporting, and automated data validation. APEX also supports integration with other Oracle technologies, allowing for seamless access to cloud services, AI/ML capabilities, and advanced data processing. Furthermore, its rich set of APIs and extensibility options facilitate the creation of custom plugins and extensions, making it a versatile choice for businesses seeking rapid application development and innovation. The vendor also offers Oracle Visual Builder for use in tandem with Oracle APEX to support front end design and forms.

Product updates over the past year include:

- APEX Assistant, integrated into the APEX development platform to facilitate Text to SQL translation. This feature enables developers to create SQL statements based on textual or spoken descriptions of their requirements, streamlining the process of

chart creation and page development. The APEX Assistant utilizes Retrieval Augmented Generation (RAG) to enhance prompts with context and database information, improving the accuracy of generated SQL statements. The architecture includes the APEX Assistant, NL2SQL infrastructure, and the Oracle Database for data storage. Future plans include expanding APEX Assistant's capabilities for data model creation, API generation, and business process creation within the Oracle APEX platform.

- Integrated workflow and process automation capabilities that can invoke actions trigger approvals, send emails and more, saving developer time previously spent on mundane or routine tasks.
- Oracle APEX, version 23.1, introducing several enhancements and new features including template Components, which enable the creation of reusable UI components with actions, menus, and custom attributes; PWA Push Notifications for easy desktop and mobile user notifications; a modernized Object Browser for more accessible database object management; improved APEX Administration with an Admin Digest and auto provisioning restrictions; enhancements to Page Processing, REST Data Sources, and the Approvals Component; and various updates within APEX Builder. Additionally, it offers features like copying pages, running pages in Page Designer from code editor dialogs, extended plugin attributes, native support for Property Graphs, and more.

ZOHO CREATOR

In the 2023 LCAP Technology Value Matrix, Zoho is ranked as a leader. It is recognized for its Zoho Creator platform that features low-code and no-code tools for both the professional and citizen developer. Zoho Creator presents an affordable avenue for businesses aiming for rapid custom application development without deep coding expertise, adaptable for cloud or on-premises deployment. The platform allows applications to be deployed standalone or as extensions of the Zoho platform and supports native mobile compatibility and web portals. The intuitive drag-and-drop interface, integrated database, ideation and blueprint design tools, and large selection of ready-made components and integrations are significant draws to Zoho Creator.

Users of Zoho Creator benefit from developer governance, platform compatibility, and auto-scaling for a variety of architectures. The platform makes it easy to create forms, pages, dashboards, and reports while also improving associated workflows, customer interactions, and integrations through process mining functionality. Businesses can embed sophisticated functionality within developed applications through drag-and-drop custom AI-modeling, augmented reality, and self-service analytics functionality. In terms of governance, Creator

strengthens corporate protocols by supporting SAML, LDAP, and OAuth2 for robust access management. Furthermore, ready-to-use REST APIs eliminate the need to create endpoints.

Recent product updates and enhancements include:

- Zoho announced the inclusion of a custom AI Modeler as a Microservice to their platform. While Zoho Creator has supported pre-built AI models in its applications since 2020, the new AI Modeler allows users to design, train, and deploy custom models across applications. Presently, these models cater to functions like keyword extraction, sentiment analysis, prediction, OCR, and object detection.
- The vendor introduced Canvas for Zoho Creator, underscoring their dedication to streamlined custom application development. Canvas is a builder equipped with a drag-and-drop interface that lets users visually design their data presentation. Users have an array of formatting options—ranging from icons to colors—to choose from, aligning the data representation with their business requisites. Canvas also empowers users to devise designs for various sequences and to control data visibility based on specified conditions. Different modes are available, including pre-built designs, self-constructed layouts, and marketplace components.
- Zoho released a feature termed "Metrics," a centralized dashboard that provides users with immediate insights into trends and anomalies in user activity across applications. This visual dashboard blends comprehensive statistics with clear visuals, shedding light on application engagement over time and assisting users in swift decision-making. Users can pinpoint trends, delve into detailed datasets, and execute necessary actions directly from this dashboard.
- The vendor unveiled augmented reality (AR) capabilities for their platform, catering to both marker-based and markerless 3D models. Users can now incorporate 3D models into an AR library for utilization via an AR catalog or an AR viewer. Furthermore, Zoho supports annotations on these 3D models for additional processing.
- Zoho announced the launch of Blueprint Analytics. This feature aids users in crafting and refining business processes. With blueprints, organizations can enhance their processes and activate automation, validation, and collaboration. The added process analytics functionality over the blueprint feature lets stakeholders derive insights from real-time data, which is displayed as graphical reports.

EXPERTS

Experts in the LCAP Technology Value Matrix include Infor Mongoose, Nintex K2, OutSystems, and Salesforce.

INFOR MONGOOSE

Infor is recognized as an expert in the 2023 LCAP Technology Value Matrix for its Mongoose low-code application development platform, which streamlines both the creation and launch of software applications. Mongoose works seamlessly with Infor ION, a middleware integration hub, to ensure smooth connections between various enterprise systems and Infor CloudSuite, their cloud-based ERP platform. As an integral component of the broader Infor OS platform, Mongoose can be leveraged to extend the functionality of existing solutions, design workflows to match precise business needs, or deploy standalone applications. Mongoose supports the creation of a wide range of applications, from business applications and mobile applications to web portals and widgets. Form, report, and data maintenance tools are among the platform's core features.

Recent product updates and enhancements include:

- Infor announced a Combined and Collapsible Toolbar, introducing a streamlined toolbar option that seamlessly integrates with the OS toolbar, maximizing available screen space.
- The vendor released an update moving toolbar messaging to toast messages, enhancing message visibility and ensuring they are temporary.
- Infor introduced the implementation of Infor Analytics for the cloud, broadening its analytical capabilities.
- The vendor unveiled a full browser-based script editing feature with Intellisense. This eliminates the need for a desktop version of Visual Studio, allowing users to detect and debug all syntax and compilation errors directly in the browser. This feature also provides extensive editing tools, facilitating low-code development for .Net.
- Infor announced UI/UX improvements for the Web Client developer, offering enhanced search and editing functionalities.
- The vendor introduced an "Automatic get more rows" feature. When users scroll through a data grid, the grid fetches additional rows from a dataset, ensuring continuous scrolling without interruptions.
- Infor released a UI Themes Personalization feature now accessible in the web client, providing users with customizable theme options.

- The vendor announced that the cloud now supports zero downtime, enhancing operational efficiency and minimizing disruptions.
- Infor introduced a new all-in-one data archive reporting wizard, streamlining the creation of DataLake reports and DataViews.

NINTEX K2

Nintex K2 is an expert in the 2023 LCAP Technology Value Matrix for its easy-to-use process automation solutions. Organizations can use Nintex K2 on-premises or in the cloud to manage, automate, and improve business processes. Nintex K2 supports organizations within the Financial Services, Healthcare, Energy, Government, Education, Technology, Food and Beverage, and Manufacturing verticals. The drag-and-drop workflow designer on Nintex K2 visually maps processes and integrates with systems of record, content repositories, and communication channels crucial to a business. Nintex K2 drag-and-drop connectors can integrate workflows with existing systems, whether on-premises or cloud. It provides connectors for diverse systems like Salesforce, Google, and Microsoft. Custom connectors can also be built for any system using the OpenAPI-based Xtensions framework. Advanced workflows automating complex, end-to-end processes can be built quickly, without code. Key platform capabilities include forms automation, RPA bots, document generation, and eSignatures are all integrated into one platform. This enables organizations to digitize and automate paper-based and manual processes faster and more affordably.

Updates in the last 12 months:

- In the second half of 2022, Nintex K2 Cloud added migration tools for SharePoint on-prem customers, advanced form styling, task delegation, support for custom on-prem connectors, a UK data center, RPA integration, DocGen for Salesforce Lightning, and eSign integrations. These updates help customers migrate to the cloud, enhance forms, delegate tasks, connect on-prem systems, meet data residency needs, integrate RPA, and leverage DocGen and eSign.
- In the first half of 2023, updates included a forms plugin SDK, a new SharePoint subscription edition, data retention management, an improved eSign experience, Salesforce data capture for eSign, eSign bulk sending, and more. These will enable customized forms, a new subscription option, enhanced data management, an updated eSign workflow, Salesforce integration, and scalability of eSign.

OUTSYSTEMS

OutSystems is an expert in the 2023 LCAP Technology Value Matrix, recognized for its low-code development platform. This platform provides users with a visual development

environment as well as a number of pre-built components, thereby streamlining the software development life cycle. Banking, insurance, professional services, government, education, high tech, consumer goods, energy and utilities, healthcare, and logistics are just a few of the industries that use OutSystems. The platform's ability to handle complex use cases while maintaining advanced security, availability, and performance contributes to its popularity in technical transactions. While OutSystems traditionally catered to the professional developer, it now provides a simplified environment and toolset that enable citizen developers to partake in the ideation and design phases of app development to boost employee productivity and enhance cross-departmental collaboration.

Recent product updates and enhancements include:

- OutSystems announced its initiative to develop a version of its platform that complies with FedRAMP standards. This platform, which is designed for high-performance application development, uses a container-based architecture to facilitate swift deployment of workloads. This design also accommodates auto-scaling, ensuring adaptability to demand fluctuations, promises consistent uptime due to its high availability, and emphasizes stringent security measures to protect data. The platform's capabilities are showcased by its use in the US Air Force and Army, both of which have developed key applications using OutSystems. Given the pressing demand for cloud-native applications in these agencies, OutSystems is working with a third-party FedRAMP consultancy to evaluate the platform's alignment with Revision 5 controls.
- OutSystems announced a new partnership agreement with global IT service provider, FPT Software, aimed at delivering services and solutions in the United States and Canada. This collaboration builds on the established relationship between the two entities in the Asia Pacific region over the past three years. FPT Software, having over 600 certified OutSystems developers, has been acknowledged as an OutSystems Partner of the Year in APAC for three years running.
- OutSystems announced new AI features, including its connector for Azure OpenAI developed in collaboration with Microsoft. Stemming from OutSystems' AI research center, these tools aim to enhance code quality, accelerate the development process, and bolster security. The connector for ChatGPT facilitates the creation of AI-driven applications, enabling diverse functions such as virtual assistants and language translations. "Project Morpheus" empowers developers to generate applications tailored to specific needs, with AI offering real-time best-practice suggestions. This process involves a swift initial AI-generated version, which developers can then adjust. Key features of OutSystems' AI roadmap include rapid app creation via conversational prompts, allowing for natural language descriptions which the AI translates into applications. An AI-infused editor provides all-

encompassing suggestions, from data to user interface, backed by OutSystems' vast application suite. To clarify the intricate workings of generative AI, OutSystems offers transparent visual representations of AI actions. A vast array of connectors, including those for major platforms like Microsoft and Google, ensures seamless app development. Ultimately, OutSystems aims to streamline AI-based application development while maintaining enterprise-grade standards and adaptability to complex IT requirements.

SALESFORCE

Salesforce is an expert in this year's LCAP technology value matrix, recognized for its various applications that can be used to address the various stages of the DevOps cycle. The Salesforce Platform hosts a comprehensive set of low-code and no-code tools to build customized applications and experiences. At the core is the Lightning App Builder, providing an intuitive drag-and-drop interface and pre-built templates to develop responsive web and mobile apps. Salesforce enables integration with internal and external data and systems leveraging its Cloud Information Model for structured data representation. Pre-built connectors and APIs facilitate integration with the Salesforce CRM platform, while MuleSoft provides connectivity to legacy systems. Workflow automation is enabled through Salesforce Flow, the vendor's workflow and process automation engine. It allows users to create multi-step workflows, approval processes, and logic-driven interactions without code. AI capabilities are natively embedded to guide workflow creation. For customer and user experiences, Salesforce provides Experience Builder for rapid development of customer portals and sites with drag-and-drop simplicity. It seamlessly integrates with Salesforce CRM data.

Built on the enterprise-grade Salesforce Platform, the suite of low-code tools is designed for security, scalability and compliance. Sandbox instances, encryption, and automation testing enable developers to build and deploy innovations safely. Salesforce AppExchange provides pre-built components and solutions to further accelerate development. With its extensive low-code application platform, Salesforce aims to empower businesses to digitally transform and unite data silos through intuitive point-and-click development tools provided alongside enterprise services. This enables IT teams to deliver solutions rapidly while maintaining robust governance.

FACILITATORS

Facilitators in the LCAP Technology Value Matrix include Betty Blocks, Kissflow, and Quixy.

BETTY BLOCKS

Betty Blocks is a facilitator in the 2023 LCAP Technology Value Matrix, distinguished for its no-code platform that offers non-technical users a user-friendly interface for constructing and launching business applications. Betty Blocks, as a browser-based SaaS solution, ensures simple deployment without the need for installation. Betty Blocks' core offering is a library of modules known as "Blocks." These blocks can be seamlessly integrated into the development blueprint, allowing users to create comprehensive applications by leveraging front-end UI, workflow creation, back-end connections, and process automation tools. Betty Blocks allows customers to choose between public and private cloud operations. During development, the platform encourages data model reusability from previous applications. Betty Blocks supports a hybrid approach if necessary, allowing developers to manually code unique connections.

Recent product updates and enhancements include:

- On August 8th, 2023, Betty Blocks introduced its Low-Code AI Toolkit. This toolkit allowed organizations to integrate AI into their solutions without deep technical expertise. It streamlined the process of building and testing solutions, reducing the need for extensive IT projects and ensuring compliance with company standards.
- On May 1st, 2023, Betty Blocks announced a collaboration with Fadata, a provider of software solutions for insurance companies. As part of this collaboration, Betty Blocks developed custom portals that integrated with INSIS. The initial offerings included configurable client portals, agent portals, and provider portals. Fadata's ecosystem provides insurance companies with access to pre-integrated third-party software solutions and services that complement the INSIS core insurance suite. Within Fadata's ecosystem, Betty Blocks offers cloud-based application development services to insurance companies looking to digitize their operations.

KISSFLOW

Kissflow is a facilitator in this year's LCAP Technology Value Matrix, recognized for its app builder, process builder, and governance solutions. The LCAP vendor supports organizations within the IT services, Financial Services, Education, Telecommunications, Computer Software, Automotive, Retail, Oil and Energy, and Logistics industries. Kissflow offers an intuitive low-code platform that empowers both business users and developers to rapidly build applications and automate processes. The no-code interface allows non-technical users to assemble applications, forms, and workflows using drag-and-drop, pre-built components, and simple logic-based process design. For IT teams, Kissflow provides low-code capabilities to customize apps, integrate data, and rapidly prototype solutions. Developer tools and APIs enable complex logic and extensions. Kissflow includes a form

builder, personalized UX configuration, Kanban project boards, and embedded collaboration features to unify departments. The platform offers role-based access, development governance capabilities, and enterprise-grade security to safeguard data integrity. Scalable architecture and DevOps pipelines support continuous delivery from build to production. With an end-to-end low-code suite spanning no-code, low-code, collaboration, automation, and governance, Kissflow aims to drive digital transformation and workflow optimization while eliminating shadow IT risks. The integrated platform capabilities empower both business and IT teams to innovate faster together and maximize productivity.

Notable product updates in the last 12 months:

- Kissflow launched an AI Co-Pilot feature. This new capability uses AI to automatically generate form fields, rules, and workflows based on descriptive prompts. Benefits include faster design of forms and processes, less repetitive configuration work for developers, and leveraging AI to build workflows more intelligently. Overall, it aims to streamline low-code development.
- In 2023, Kissflow introduced a Governance Layer feature. The dedicated governance features provide granular control and visibility for IT over security, access, data policies, and application performance. This enables managing and securing Kissflow apps in compliance with enterprise IT guidelines. The main benefit is reducing shadow IT risk through better oversight.
- With new native analytics features, Kissflow customers can generate data-driven insights without external tools. This improves visibility into workflows and application data to optimize processes. The main advantage is unlocking data intelligence faster.
- Kissflow now supports multiple languages capabilities. By supporting multiple languages for forms, Kissflow enables global usage and localization. Companies can provide forms and self-service experiences localized for their international customers and employees.
- Kissflow announced a new set of enterprise connectors. The new set of connectors simplifies integrating Kissflow to commonly used enterprise systems like ERPs, CRMs, marketing applications etc. This helps customers connect their workflows and data across systems faster.

QUIXY

In the 2023 LCAP Technology Value Matrix, Quixy is recognized as a facilitator. Quixy provides a no-code app development platform tailored for citizen developers, empowering business users to spearhead technology initiatives within their organization. The company serves a wide range of industries, including government, professional services, manufacturing, and high-tech, and it supports both small and large global corporations.

While the Indian market is its primary focus, Quixy has expanded its reach to APAC, the Middle East, the United States, and South Africa. Most users use Quixy to create internal departmental tools, such as cargo and asset management or payroll management systems. However, the platform is adaptable to support the creation of external-facing customer and partner portals. Several businesses also use Quixy to bring new technological solutions to the market for the general public. Quixy distinguishes itself through its low total cost of ownership (TCO) and rapid deployment capabilities. The platform offers a full-fledged LCAP solution that includes project management, report generation, workflow creation, database handling, dashboard development, and integration management tools.

Recent product updates and enhancements include:

- Quixy announced Payment Gateway Integrations within its platform, allowing users to conduct seamless online transactions directly from Quixy apps for account receivable cases. This feature primarily facilitates efficient money collection based on specific needs.
- The vendor released a redesigned Data Source Creation system that visually showcases relationships between data tables, similar to Entity-Relationship diagrams. This update introduces both Inner Joins and Left Joins for more comprehensive data relations.
- Quixy introduced a revamped experience for managing apps. This reimagined interface consolidates all app-related functionalities on a single App View Page, enhancing user accessibility. Additionally, the new App Analytics offers insights into the number of app transactions over specific periods.
- The vendor announced the introduction of Sharable Links that enrich user experiences with apps. By supporting Query Parameters, users can now make URL experiences more contextual.
- Quixy released a Document Parser element in the Advanced Form Elements section, simplifying and enhancing the reliability of data acquisition from Aadhar Card, PAN Card, and Passport into apps. This allows admins to define the Document Parser's properties, enabling users to efficiently extract legal document data.
- The vendor announced a feature to validate transactions using OTPs before submission. This layer of validation enhances security, especially for sensitive transactions within both generic and public apps.
- Quixy introduced a fresh approach for app developers to present users with unique methods to interact with the form builder's subsections.

- The vendor released a redesign of Events within the platform, improving app development and management efficiency by offering a clearer view of events related to specific workflow steps.
- Quixy announced a groundbreaking feature, allowing users to create a data source using SQL Queries. This enhancement grants users greater control and precision over their data manipulations.
- The vendor introduced Connected Records (Foreign-Key Relations) to data tables, allowing users to establish more efficient data linkages and maintain referential integrity across the entire database.
- Quixy released a significant database system update with the introduction of Indexes. This feature optimizes the performance of database queries, offering faster and smoother data operations.
- The vendor announced Inline Edit action, enabling users to modify data directly within the record, enhancing real-time data management efficiency.
- Quixy introduced a revamp of Business Rules complemented by Natural Language Processing (NLP) capabilities. This enhancement simplifies rule creation across multiple platform components.

CORE PROVIDERS

Core Providers in the LCAP Technology Value Matrix include OpenBots, Quickbase, ServiceNow, and TrackVia.

OPENBOTS

In the 2023 LCAP Technology Value Matrix, OpenBots is ranked as a core provider. Catering to eCommerce, healthcare, real estate, oil and gas, insurance, manufacturing, and finance industries, OpenBots delivers its Robotic Process Automation (RPA) platform both on-premise and in the cloud. This platform empowers businesses to develop low-code robotic processes to elevate efficiency and streamline workflows. Users of OpenBots Studio have access to over 1,000 ready-to-use commands, allowing them to automate web, desktop, Citrix, API, databases, and mainframe applications. Furthermore, the platform's recording feature records user actions and quickly converts them to code, reducing development time and effort.

OpenBots Server enables business professionals to monitor automation activities and handle anomalies without incurring the high costs of IT operational support. Data extraction

is enabled with OpenBots Documents, which covers model setup, classification, preprocessing, and extraction verification across a wide range of formats. Furthermore, OpenBots Business Apps includes tools for creating low-code applications and e-forms, which simplify data collection for automated operations. Other products in the OpenBots suite include Assistant, Enterprise Server, Cloud Server, Business Center, Business Apps, Documents, Discovery, Support, Academy, and Ninja. Their Zero Bot Licensing Model is one of their distinguishing features, where businesses are charged based on usage rather than traditional per-bot licensing.

Recent product updates and enhancements include:

- OpenBots announced the launch of OpenBots Documents with GPT, utilizing large language models to offer out-of-the-box data extraction capabilities, eliminating the need for intricate machine learning model creation.
- The vendor released Document Assistant, enabling business users to establish a document library to analyze business data, including data relationships and event timelines.
- OpenBots introduced the Low Code OpenBots BusinessApps tool to its Cloud platform, facilitating the design of custom forms on hosted sites for process intake.
- The vendor announced key upgrades to attended automations (user-initiated automations) and augmented human-in-the-loop features for unattended automations.
- OpenBots released an overhaul of Surface Automation in the OpenBots Studio, boosting accuracy and markedly improving performance.
- The vendor introduced command packages/connectors for several third-party platforms, including Google Workspace, Microsoft Azure, Encompass, Salesforce, and ABBYY Automation.
- OpenBots added native support for Java application automation.
- The vendor released the Library feature in OpenBots Studio, promoting the sharing of reusable code snippets across projects.
- OpenBots announced that the OpenBots Assistant is now backwards compatible with all automations from version 1.7.0 onwards.
- The vendor added support for the dynamic scaling of Agents using templating.
- OpenBots introduced the capability to record and review automation executions via native streaming functionality.
- The vendor released a Webhooks component for the Cloud Server.

QUICKBASE

Quickbase is a core provider in the 2023 LCAP Technology Value Matrix. Quickbase serves organizations within the IT Services, Software, Healthcare, Financial Services, Construction, Telecommunications, Advertising, Higher Education, Oil and Gas, and Retail industries. With Quickbase's low-code platform, both technical and non-technical users can tailor cloud-based applications for organizations of all sizes. Quickbase Builder feature is a user-friendly, no-code visual builder. It empowers users to create customized applications tailored to an organization's specific needs, whether its managing complex projects or optimizing specific processes. One of QuickBase's standout features is its Pipeline APIs, which enable users to establish connections between data sources and manage automated workflows and visual processes all within a central platform. Organizations often chose Quickbase due to its no-code governance capabilities that reduce communication barriers between teams and promote business to IT collaboration. For example, Quickbase's development framework safeguards data to ensuring that sensitive information remains secure while encouraging cross-functional teamwork.

Updates in the last 12 months:

- In September 2023, Quickbase launched its new Smart Builder that allows users to create custom apps by answering a few questions about their business needs. The tool generates tables, fields, relationships, reports, and dashboards based on user input, simplifying app creation.
- In July 2023, Quickbase acquired mobile data collection and analytics software vendor, Fastfield. Quickbase's acquisition of Fastfield brings an intuitive form builder into its ecosystem, streamlining data entry processes. This integration offers complete coverage, connecting back-office operations with mobile users and field services, enhancing overall workflow efficiency.

SERVICENOW

In the 2023 LCAP Technology Value Matrix, ServiceNow is ranked as a core provider. ServiceNow's Now Platform provides cloud-based enterprise app development solutions to industries such as IT, computer software, finance, healthcare, retail, insurance, oil and gas, higher education, and government. The platform provides opportunities for both professional and citizen developers. Users can quickly develop applications using ready-made templates with ServiceNow App Engine, while the ServiceNow Integration Hub ensures seamless system integrations. ServiceNow Studio assists professional developers in creating complex web and mobile applications. Tools such as the Guided App Creator and Flow Designer provide simple interfaces for users of all technical levels, ensuring efficient DevOps processes. The Now Platform includes templates and workflows for departments


such as human resources, information technology, legal, customer service, and finance. ServiceNow's unified platform approach is a standout capability, providing managers with tools for notifications, analytics, reporting, and dashboarding to effectively oversee projects, employee performance, and work distribution.

Recent product updates and enhancements include:

- ServiceNow announced an expansion of its Now Platform with the introduction of Now Assist features in its Vancouver release. This expansion covers Now Assist for IT Service Management (ITSM), Customer Service Management (CSM), HR Service Delivery (HRSD), and Creator.
- Now Assist for ITSM aims to enhance agent productivity and employee experiences by providing quicker solutions, using a live Virtual Agent that resolves issues without redundant interactions with users.
- Now Assist for CSM is designed to optimize the customer service process, potentially increasing agent productivity, reducing costs, and enhancing the customer experience. It achieves this by automatically summarizing cases and chats, thus reducing manual input and speeding up issue resolution.
- Now Assist for HR is tailored to boost productivity in HR operations by minimizing manual tasks and facilitating faster employee responses through live chat and Virtual Agent tools.
- Now Assist for Creator supports aims to boost accelerate app development on the Now Platform. Features like text-to-code aim to translate plain text into code suggestions or even complete code segments.
- ServiceNow's generative AI strategy focuses on offering customers comprehensive support for Large Language Models (LLMs), whether general-purpose or specifically developed by ServiceNow for its workflows. Regarding pricing, ServiceNow stated that customers who opt for the new Now Assist tools or possess industry solutions licenses can purchase Professional Plus or Enterprise Plus add-ons to access the generative AI features of Now Assist.

TRACKVIA

TrackVia is a core provider in the 2023 LCAP Technology Value Matrix. TrackVia offers a flexible low-code platform to rapidly build business workflow applications and digitize processes with minimal coding. The drag-and-drop interface allows citizen developers to visually assemble applications and workflows using pre-built components and templates. For more complex integrations and customizations, TrackVia provides pro developers with APIs, scripting capabilities, and access to backend infrastructure. The platform includes



capabilities for data modeling, reporting, collaboration, and mobile access to support full development cycles. Users can manage security, access controls, and policies on a unified platform. Key features like FastTrack accelerate app building by converting forms and documents into functional applications. Sandbox environments facilitate iterative development. With TrackVia, technical and non-technical users can collaborate to build solutions tailored to their needs. This aims to eliminate workflow gaps and digitize processes faster. The platform is designed for rapid time-to-value, business agility through IT democratization, and maximizing productivity across user roles. The platform can be connected to various existing ERP and CRM with over 300 pre-built connectors and features multiple security certifications, including ISO 9001, ISO 27001, SOC 1/SAW 3402, SOC 2, and HIPPA compliance.