

Magic Quadrant for Robotic Process Automation

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Robotic process automation remains the fastest-growing software market, as RPA is one of the most popular choices for improving operational efficiency with tactical automation. This Magic Quadrant evaluates the leading enterprise vendors to help you make the best choice for your needs.

This Magic Quadrant is related to other research:

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Strategic Planning Assumption(s)

By 2023, almost all major RPA vendors will offer a broader process automation and integration platform combining screen scraping with APIs.

By 2023, the attended form of RPA will evolve into voice, mobile app and/or other user-experience-driven automation.

Market Definition/Description

Gartner defines the robotic process automation (RPA) market as the market for licensed software platforms used for building scripts to integrate any application via a user interface and a control dashboard or orchestrator. RPA platforms automate repetitive, rule-based, predictable tasks.

RPA software platforms typically use a combination of user interface (UI) interactions and application programming interfaces (APIs) to integrate different enterprise applications, such as ERP applications, client/server systems, mainframes and other applications.

RPA automates repetitive human tasks by emulating the transaction steps traditionally taken by humans, mainly via orchestrated UI interactions. It maps a human process or task in RPA software language, for a software script — commonly known as a “robot” or “bot” — to follow, with runtime allocated to execute the script by a control dashboard or orchestrator. Bots can be developed by programming or by using intuitive low-code/no-code GUIs native to the RPA software platform.

At minimum, RPA software tools must:

- Enable citizen developers to build automation scripts
- Integrate with enterprise applications, primarily via UI scraping
- Have orchestration and administration capabilities, including configuration, monitoring and security

Some RPA platforms also offer advanced capabilities such as:

- Intelligent document processing
- Auto machine learning (Auto ML) and natural language processing (NLP) libraries with drag-and-drop models
- Process mining and discovery

Certain RPA platforms also have emerging features and capabilities, such as:

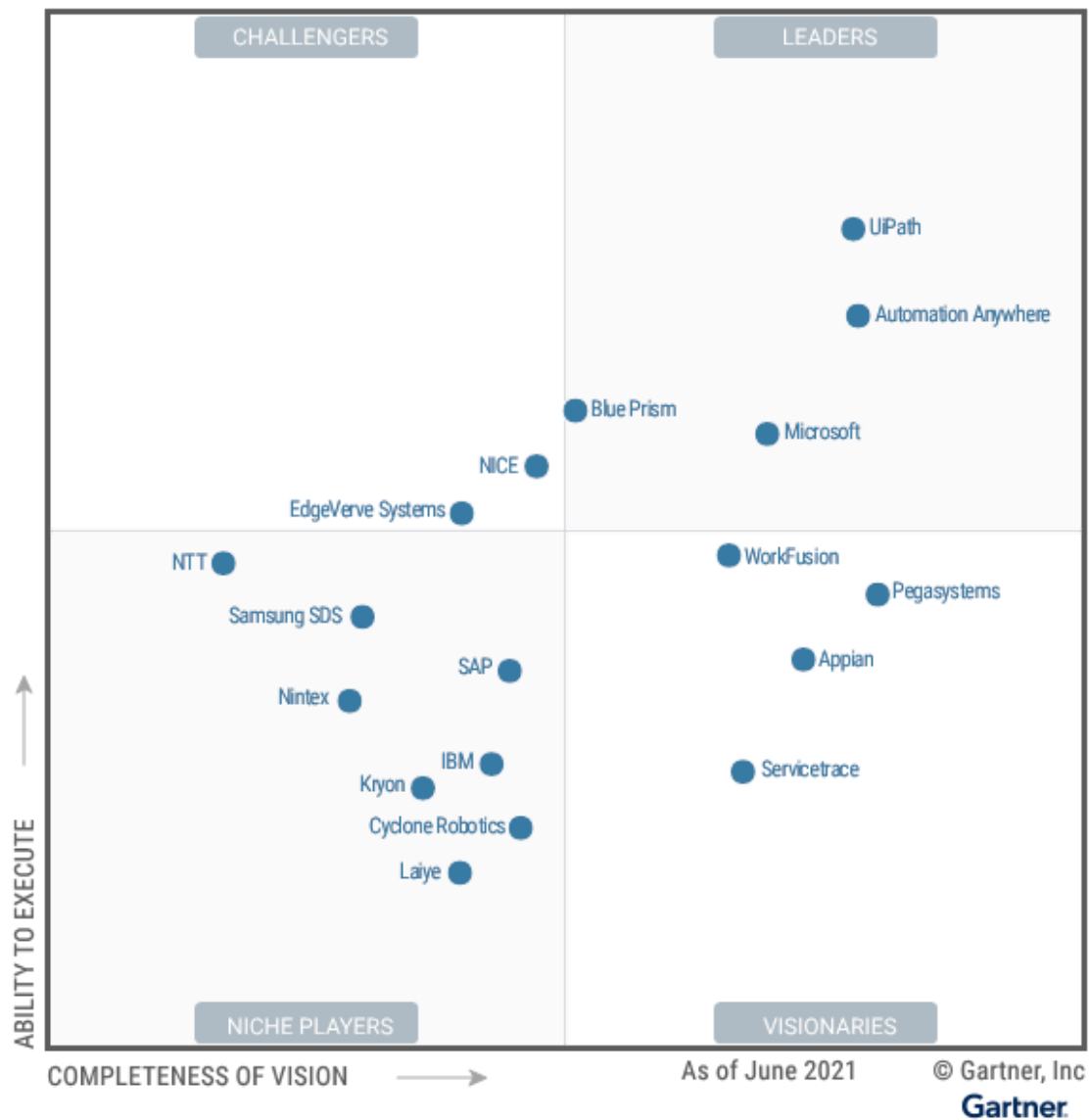
- API connectors that can be orchestrated along with UI scrapers
- A low-code user experience (UX) for building UI front ends for bots
- Headless or serverless orchestration of automation workflows (also described as “headless bots”)

The RPA market is growing rapidly, as incumbent vendors jockey for position and evolve their offerings. Through 2024, we expect this market to mature and consolidate. At present, it is still highly fragmented, as vendors in adjacent markets are beginning to offer RPA capabilities. Gartner finds that the 10 largest RPA vendors account for more than 80% of the market (up from 70% in 2020), and that the three largest vendors account for 52%.

This is the third edition of the Magic Quadrant for RPA. Each year, vendors raise the bar in terms of their viability, relevance, growth, revenue, innovation and vision for RPA software offerings. To reflect this dynamic market, we adjust our inclusion and evaluation criteria annually. This can result in shifts in the positioning of many vendors (and the exclusion of some that appeared in previous editions). This Magic Quadrant focuses on providers of RPA software products, not service providers that use RPA capabilities licensed from another vendor.

Magic Quadrant

Figure 1: Magic Quadrant for Robotic Process Automation



Source: Gartner (July 2021)

Vendor Strengths and Cautions

Appian

Appian is a Visionary in this Magic Quadrant. Its product, Appian RPA, stems from the acquisition of the Jidoka RPA platform from Novayre Solutions in January 2020. Appian offers an integrated RPA solution that focuses on augmenting and interacting with sophisticated processes, such as those involved in end-to-end case management. It also offers low-code application building, rich multiexperience capabilities, and business process and decision automation. Appian RPA runs as a cloud service.

Appian has a global presence. Its customers tend to be large enterprises.

Appian's product roadmap includes process mining, task mining, recording, discovery capabilities and multicloud support.

Strengths

- **Product portfolio:** Appian's platform focuses on business process automation and other high-value applications that require sophisticated rules and analytics. Its differentiating RPA features include full-stack automation capabilities such as automation planning, prebuilt integration with various artificial intelligence (AI)/ML services (for example, image recognition and AutoML), workflow orchestration, and end-to-end life cycle support for DevOps.
- **Viability:** Appian has a large ecosystem of customers and partners, along with a feature-rich product designed to meet large enterprises' automation requirements. Its RPA tool is tightly integrated with its low-code application platform (LCAP)/intelligent business process management suite (iBPMS) platform to deliver end-to-end automation.
- **Pricing and sales execution:** Appian bundles unlimited RPA licenses for all new customers of its LCAP, thus reducing cost-related barriers to entry. For existing clients, Appian offers its RPA platform as a fixed-price add-on with unlimited usage.

Cautions

- **Stand-alone RPA:** Appian primarily offers RPA functionality to augment its LCAP/iBPMS platform. Customers with simple, tactical RPA use cases may not see value in Appian's more strategic, end-to-end automation solution. Its overall automation pricing, considering potential customer investment in its LCAP/iBPMS platform, is likely too high to justify use solely for RPA.

- **Cloud-only RPA:** Appian RPA offers cloud-only orchestration and is not available as an on-premises service. Customers preferring on-premises deployment must look for other solutions.
- **Business model:** Appian has a relatively high proportion of professional services revenue associated with its software business, which implies that its solution is aimed at large-scale transformations within global enterprises.

Automation Anywhere

Automation Anywhere is a Leader in this Magic Quadrant. Its product, Automation 360, is an RPA platform that includes RPA as a service, the Automation Anywhere Robotic Interface (AARI), AI/ML (IQ Bot), process discovery (Discovery Bot), analytics (Bot Insight) and marketplace integration (Bot Store).

Automation Anywhere has geographically distributed operations. It has a balanced mix of large-enterprise and small and midsize business (SMB) customers.

In 2021, it plans to further develop AARI to expand the use of RPA with front-end user apps that invoke unattended automations.

Strengths

- **Innovation:** At the core of Automation Anywhere's innovation are components such as AARI and AISense computer vision. AISense is built on Google's TensorFlow, which augments Automation Anywhere's screen capture accuracy. AARI is Automation Anywhere's low-code platform for creating mobile, and web apps that can control and invoke its bots. The RPA product also offers a multipersona UX, guided navigation, reusable AI/ML libraries, strong native security and an intuitive analytics dashboard.
- **Cloud focus:** Automation 360 is one of the leading cloud-native RPA platforms that offers RPA development, governance and deployment across public cloud platforms such as those of Google (the Google Cloud Platform [GCP]) and Amazon Web Services (AWS). Automation 360 components are built using microservice design patterns. The services are packaged in containers and hosted and orchestrated by Kubernetes in a public cloud.

- **Pricing:** Automation Anywhere offers simple, fixed pricing for bundled solutions that include unattended bots, attended bots, capped document processing and analytics. Its solutions are well-suited to new customers looking to scale RPA capabilities. Automation Anywhere's Partner Pack, an entry-level solution, continues to provide high value, relative to its low cost, for SMB customers.

Cautions

- **Product upgrade:** Feedback from Gartner clients, received through Gartner's inquiry service, Peer Insights platform and/or other interactions during the past year, indicates that upgrading from Automation Anywhere's legacy platform (v11) to its new platform, Automation 360, can be challenging for some customers. Automation Anywhere says that it has included tools to inform customers about what to expect. Customers using v11 (or earlier versions) should work with the vendor to prepare for the upgrade to Automation 360 before support for v11 ends in September 2022, especially if they are using a library of complex automations.
- **Document processing:** Although Automation Anywhere's IQ Bot has powerful AI/ML capabilities that offer intelligent document processing, customers have indicated that accurately extracting data from images remains a challenge.
- **Sales operations in Europe:** During inquiry calls, some Gartner clients in the past year have pointed to challenges associated with Automation Anywhere's closure of some regional offices as it downsized its field sales team in Europe during the COVID-19 pandemic. These closures have been especially detrimental to its partners in those regions, which depend on direct interactions with regional sales offices. Automation Anywhere says that its Europe operations are supported by its support centers in Poland and Bangalore, India.

Blue Prism

Blue Prism is a Leader in this Magic Quadrant. Its RPA product, the Intelligent Automation Platform, includes the following major components: Blue Prism Cloud, Automation Lifecycle Management (ALM), Capture, Interact, Decipher IDP and Digital Exchange (DX). It also includes governance tools and security capabilities.

Blue Prism has geographically distributed operations. Its customers tend to be large enterprises.

Blue Prism's product roadmap includes improved architecture and integration for capture, dashboards that highlight the number of hours saved, and a categorical decisioning engine that teaches digital workers to make intelligent decisions using active learning.

Strengths

- **Partner and customer ecosystem:** Blue Prism has more than 168,000 active RPA users (including over 2,000 enterprise customers with RPA bots in production environments) and a community of more than 50,000 DX users across 5,000 companies. It also has more than 10,000 certified partners across all regions, which contribute to a well-developed implementation, technology and consulting ecosystem.
- **Industry strategy:** Blue Prism has a strong vertical-market strategy, with industry-focused experts, campaigns, partners and accelerator tools. It offers 42 industry-specific solutions and has a large customer base spanning most industries.
- **Product portfolio:** Blue Prism's RPA offering includes enterprise features, such as a wide variety of connectors to enterprise applications and centrally managed automation with strong security. Blue Prism listened to customer feedback requesting enhancements to its offering, which now includes intelligent document processing (Decipher IDP), human-in-the-loop automation (Interact), contact center automation (Service Assist), task mining and discovery (Process Assessment Tool, Capture), governance (ALM) and ERP accelerators. Blue Prism has also introduced a consumption-based pricing model for cloud customers to allow for bursting and scalability.

Cautions

- **Market understanding:** Blue Prism has been slower than some of its competitors to expand its capabilities into complementary areas, such as low-code app development and API integration. Blue Prism needs to accelerate its investment in hyperautomation capabilities, as the RPA market is evolving to include more of these as standard.
- **Responsiveness:** Feedback from some Gartner clients, received through Gartner's inquiry service, indicates that Blue Prism has, on occasion, responded late to their initial inquiries.

- **Pricing:** Over the past year, Gartner customers have indicated that Blue Prism's subscription costs seemed higher than those of its competitors. Some prospective Blue Prism customers have reported that they were offered only the more expensive Blue Prism Cloud SaaS platform, with its minimum requirement for five digital workers, instead of the on-premises offering. However, Blue Prism claims that the total cost of ownership of its product for long-term, high-volume RPA operations is lower than many of its competitors when solutions include all incremental components, such as optical character recognition (OCR), AI/ML, intelligent document processing (IDP) and process discovery.

Cyclone Robotics

Cyclone Robotics is a Niche Player in this Magic Quadrant and a new entrant for 2021. Its RPA product, Cyclone Robotic Process Automation, includes major features such as Cyclone Intelligent Robotic Interface (CIRI), Cyclone Mobile Assistant, Cyclone Chatbot, Cyclone Automation Centre, Cyclone Automation Marketplace, Cyclone Data Insights, Cyclone Swift and Cyclone AI Skill Platform. These can be run as software or as a service.

Cyclone Robotics' operations are mainly in Asia/Pacific. It has customers of all sizes across all industries.

Cyclone Robotics' roadmap includes enhanced cloud capabilities, process mining and a business rule engine, and the company continues to invest in AI research.

Strengths

- **Innovation:** Cyclone Robotics has invested heavily in AI to deliver services like CIRI and the Cyclone AI Skill Platform, while also providing a strong foundation for Internet of Things (IoT) and edge computing capabilities and supporting standards-based Business Process Model and Notation (BPMN) orchestration. CIRI is an AI-enabled and attended RPA feature, available on desktops and mobile devices, that can automate routine workflows.
- **Product strategy:** Cyclone Robotics is focused on offering end-to-end automation by expanding beyond standard RPA use cases. It delivers AI/ML features, low-code UI creation, and support for IoT and edge automation use cases.
- **Strong regional presence:** With more than 80% of its client base in Asia/Pacific, Cyclone Robotics has a significant market share in this region. It provides deep, localized industry expertise for its Asia/Pacific-based customers.

Cautions

- **Geographic strategy:** Cyclone Robotics does not have a strong geographic presence outside Asia/Pacific, though it plans to expand into North America and EMEA by the end of 2021. Customers outside Asia/Pacific must determine whether Cyclone Robotics can provide adequate product support and guidance in their region via its solution partners.
- **Marketing execution:** Cyclone Robotics is positioning itself as the largest automation vendor in China, but its market visibility outside Asia/Pacific remains low, compared with its competitors. This is to be expected, however, given that it entered the global market only recently.
- **Product maturity:** Despite Cyclone Robotics' strong innovation focus, its product still lacks some features, including web-based RPA development, data adapters for large-scale data/ERP platforms, integrated process mining, autodiscovery and an RPA runtime in the cloud. Nor does it support the greenscreen emulators common in IBM mainframe and AS/400 platforms. Cyclone does, however, plan to release a web-based development platform in 2021.

EdgeVerve Systems

EdgeVerve Systems is a Challenger in this Magic Quadrant. Its RPA product, AssistEdge, comprises a unified automation platform with process automation, process discovery and native AI features. In addition to AssistEdge RPA, EdgeVerve's automation portfolio includes AssistEdge Discover, AssistEdge Engage, AssistEdge Cloud RPA and the AssistEdge Community Edition.

EdgeVerve's operations are geographically distributed. Its customers tend to be large enterprises.

EdgeVerve's roadmap features expansion of its end-to-end process automation and orchestration with a low-code development platform and workflow, self-healing bots, predictive analytics, next-best-action recommendations, and anomaly detection algorithms.

Strengths

- **Large-enterprise focus:** EdgeVerve's engagement model draws on the existing system integration and outsourcing relationships of its parent company, Infosys, to meet the needs of large enterprises. EdgeVerve engages its customers via outreach programs that promise a product portfolio to deliver the functionality they desire. Its focus on governance, security, reliability and scalability also demonstrates a thorough comprehension of enterprise requirements.
- **Pricing:** EdgeVerve offers flexible pricing models, including pay per use, automation as a service and gain-sharing/outcome-driven models. These benefit customers looking to scale their automation programs with their choice of the best possible pricing model.
- **Professional services:** EdgeVerve has many active client engagements in more than 150 countries. These engagements have enabled it to build industry-specific automation accelerators that improve its professional services and support for its RPA software. This is a key differentiator from many of EdgeVerve's competitors.

Cautions

- **Sales strategy:** Compared with competing RPA products, EdgeVerve's offering has little visibility outside its core Infosys engagements. Although EdgeVerve offers end-to-end services, customers who do not already engage with Infosys may be unaware of EdgeVerve's RPA platform.
- **Business model:** EdgeVerve's customer engagement model incentivizes customers to adopt its professional services. Feedback from Gartner clients, received through Gartner's inquiry service, Peer Insights platform and/or other interactions during the past year, indicates that a few customers who did not use EdgeVerve's professional services and support faced some challenges with configuration and deployment.
- **Product experience:** EdgeVerve lacks a full-scale web development tool. Additionally, some Gartner customers who may be using older versions of AssistEdge have indicated that EdgeVerve's reporting and monitoring capabilities did not meet their requirements. EdgeVerve has, however, confirmed that these capabilities have been improved in the latest version. Customers who have similar reporting and monitoring issues are advised to check for the upgrade to the latest version of EdgeVerve's RPA product.

IBM

IBM is a Niche Player in this Magic Quadrant and a new entrant for 2021. Its product, IBM Robotic Process Automation (which stems from the acquisition of WDG Automation in June 2020), provides full-featured RPA capabilities that can be delivered in a multitenant SaaS (RPA as a service) or on-premises offering. IBM's RPA product can be purchased as a stand-alone offering or within all four of IBM's Cloud Paks for Automation, along with process-mining, task-mining and automation services for both business and IT.

IBM's operations are geographically distributed. Its customers tend to be large enterprises.

IBM's RPA roadmap includes expanded AI capabilities (driven by IBM Watson), task and process mining (following the acquisition of myInvenio), extended intelligent chatbot capability (with Watson NLP), increased application connectivity (via tools like IBM App Connect and those of Zapier and IFTTT), and container-based deployment for improved delivery.

Strengths

- **Viability:** IBM, which has a large ecosystem of partners and customers and a long history in the business and IT automation market, enters the RPA market as a viable vendor. The IBM Marketplace and IBM Cloud marketplace house a catalog of more than 650 products and services, including stand-alone SaaS and on-premises RPA offerings and IBM Cloud Paks for Automation that include RPA capabilities.
- **Business model:** IBM has been acquiring automation technologies, including RPA, to complement its existing automation portfolio and build an end-to-end platform. IBM is focused on heavy investment in AI and complex orchestration of end-to-end IT and business automation. In the long term, this focus promises to deliver a strategic automation platform featuring RPA among its capabilities for end customers. IBM charges for its RPA offering based on usage rather than bot installations, enabling customers to scale attended and unattended bot deployments without incurring unnecessary software subscription costs.
- **Built-in intelligent chatbot:** IBM's RPA product provides the ability to create NLP-driven bot assistants that can be used to interact with an end user and trigger bot scripts to complete work. This enables customers to create self-service automations to ease the workload associated with repetitive tasks.

Cautions

- **Marketing strategy:** Although automation is a major theme for IBM, its RPA messaging tends to get lost within that surrounding the broader portfolio. Many customers for whom IBM's RPA product might be suitable may not shortlist IBM simply because they are unaware of its RPA capabilities.
- **RPA features:** IBM's RPA as a service (SaaS) provides an RPA server in the cloud, but attended and unattended bots run within local client environments. Therefore, disaster recovery and/or application redundancy for these bots are managed by the customer. The product does not offer the native process discovery capability or autogeneration of process design documents (PDDs) found in other vendors' RPA products.
- **Offering strategy:** IBM includes RPA capabilities in its Cloud Paks for Automation, but it is hard to determine how many Cloud Pak customers are actively using these capabilities. As a result, it is difficult to assess whether IBM is focused on competing in the RPA market or, rather, the wider business and IT automation markets.

Kryon

Kryon is a Niche Player in this Magic Quadrant. Its product, the Full-Cycle Automation Suite, includes Kryon Studio, Kryon Console, and process discovery and analytics capabilities. It is available as a service.

Kryon, which has operations and R&D facilities in EMEA, has a global customer base that now extends to North America and Asia/Pacific. Its customers are mostly midsize enterprises, but there are also some large enterprises.

Kryon plans to introduce consumption-based pricing and a freemium model featuring its native process discovery capabilities. Its roadmap also includes flexible licensing models, process optimization, serverless bots and embedded testing for automation scenarios.

Strengths

- **Process discovery:** Kryon has embraced the idea of integrating process discovery and task mining with RPA to support scaled automation programs. Its process discovery component recommends the best path for customers seeking to execute a process, and even optimizes it. Kryon's focused value proposition resonates with buyers looking to simplify and accelerate the development and management of an automation program.

- **Value for money:** Kryon offers a relatively low price for an RPA product that bundles many key capabilities and features, such as those of the Full-Cycle Automation Suite deployed as-a-service. These include process discovery, a citizen-developer-friendly design studio, enterprise security, a central orchestration component (ConsoleX) and the ability to scale up to a large number of bots.
- **Operations:** With several International Organization for Standardization (ISO) standards under its belt and a focus on Payment Card Industry (PCI), General Data Protection Regulation (GDPR) and Health Insurance Portability and Accountability Act (HIPAA) certifications, Kryon is prioritizing quality and compliance. This focus should benefit clients in highly regulated industries.

Cautions

- **Service and support:** Kryon is one of the smaller RPA vendors by revenue and employee count. Feedback from Gartner clients, received through Gartner's inquiry service, Peer Insights platform and/or other interactions during the past year, indicates potential buyers' concerns about the relatively limited support resources and implementation partners available to help them get started with Kryon's platform.
- **Intelligent document processing:** Although Kryon offers a native OCR component based on its proprietary, patented computer vision technology, it does not offer the fully fledged native IDP capabilities found in competing solutions. Customers of Kryon's solution may need to use Kryon's API capabilities to integrate with third-party IDP solutions.
- **Viability:** Kryon faces strong competition from larger vendors that can invest more resources into their RPA capabilities. Kryon faces a challenge to scale up and compete with the disruptive pricing strategies of larger vendors.

Laiye

Laiye is a Niche Player in this Magic Quadrant and a new entrant for 2021. Its RPA product, Laiye RPA, complements its main RPA features with IDP, chatbots and pretrained AI models. The product is well-suited to the diverse Chinese OS market, as it can automate in Windows, Android and Linux environments.

Laiye has its headquarters in China, and its operations are mainly in China and the broader Asia/Pacific region. Its customers are mostly SMBs.

Laiye has limited visibility outside Asia/Pacific, but its revenue growth, investor capital and plans to expand across Asia/Pacific could easily disrupt the rapidly growing Asia/Pacific RPA market. In 2021, Laiye raised \$50 million to expand its intelligent automation platform.

Strengths

- **Innovation:** Laiye's platform includes RPA, IDP, conversational AI, process mining and other capabilities focused on end-to-end automation. Unlike competitors that add complementary capabilities through partnerships, Laiye developed its end-to-end platform from the ground up, which has simplified integration and support. Laiye has built-in integrations with Azure Cognitive Services and Google Cloud AI to support AI/ML models and AutoML.
- **Market understanding:** Laiye's platform features are targeted at the needs of customers primarily in China and some adjacent markets in Asia/Pacific. Laiye's roadmap reflects the direction of the RPA market in China and includes cloud-native orchestration, enhanced computer vision, IDP capabilities and a bot marketplace.
- **Partner and developer ecosystem:** Laiye's growth and expansion strategy relies on its large population of developers. Laiye has more than 500 partners and over 400,000 community developers, and it is expanding its training and presence at multiple universities.

Cautions

- **Geographic presence:** Nearly all of Laiye's revenue comes from customers in China. Although Laiye prioritizes the Asia/Pacific market and plans to expand into North America and Europe, customers in major markets outside Asia/Pacific who might have selected Laiye for its innovative features may be deterred by its lack of broad geographic presence.
- **Product offering:** Laiye's RPA platform does not support features such as web-based development tools, native process mining or mainframe/green-screen emulators. Laiye does, however, include these capabilities on its product roadmap.
- **Customer ecosystem:** The majority of Laiye's customers are SMBs. Laiye confirms that it has secured some large customers and is working to extend its global footprint. Large enterprises considering Laiye for RPA must make sure that the vendor can scale up to meet their requirements.

Microsoft

Microsoft is a Leader in this Magic Quadrant. Its RPA product is Power Automate, which includes Power Automate Desktop (PAD) augmented by Microsoft's SaaS-based automation platform on Azure. It also includes API integration and orchestration capabilities. Microsoft provides fully integrated features as part of the Power Platform, namely Power BI (for analytics), Process Advisor (process mining), Power Apps (LCAP), API connectors and Power Virtual Agents (chatbots).

Microsoft's operations are geographically diversified. Its customers tend to be large enterprises and SMBs.

Microsoft's roadmap includes more out-of-the-box API connectors, a richer recording experience, a more resilient runtime on virtual machines, an easier installation experience, and simplified document processing with embedded AI.

Strengths

- **Product strategy:** Microsoft's RPA value proposition includes RPA with API orchestration that can integrate multiple systems of record to automate routine data transcription work. Microsoft uses all the components of its Power Platform to create a single, unified, end-to-end platform that offers automation, integration, low-code application development and analytics capabilities in order to meet enterprises' business process automation requirements.
- **Microsoft ecosystem:** Microsoft has a large customer ecosystem, with 15.8 million deployed bots driving 1.5 million actions daily. Its Azure-based RPA offering is accessible to 1 billion people. Power Automate provides rich integration with Microsoft's ecosystem of widely used apps.
- **Sales execution and operations:** Microsoft offers a free version of PAD to all Windows 10 users. It also offers a paid premium offering that includes all additional capabilities, such as API connectors, process discovery/task mining and IDP on a per-user, per-month basis. The sales ecosystem for Power Automate includes more than 400 partners and continues to grow as Microsoft trains new partners and invests more in marketing.

Cautions

- **Windows dependencies:** Microsoft's RPA is heavily dependent on PAD as the RPA runtime, which is Windows-centric. At present, PAD requires local installation on desktop devices or virtual machines that are running on Windows 10 Home/Pro/Enterprise, Windows Server 2016 or Windows Server 2019. Microsoft does not support PAD installation on devices with ARM processors or other OSs.
- **Pricing:** Microsoft's per-user pricing model can be complex, especially for enterprise customers with a large user base. There are various different add-ons, plus limitations on storage, file capacity and daily requests. Microsoft's willingness to negotiate discounts as part of Office 365 licensing agreements is not always communicated clearly.
- **UX:** Navigation between Microsoft Teams, PAD and the Power Automate service on the cloud can be confusing for business and IT users. Although PAD is the cornerstone of Microsoft's RPA, the UX for automation design often starts with the Power Automate web portal. Additionally, some connectors and productivity apps are offered via Teams, which complicates navigation choices when designing and developing bots.

NICE

NICE is a Challenger in this Magic Quadrant. Its RPA product, NICE Robotic Process Automation, also includes NEVA, a desktop RPA assistant that focuses on attended automation for global contact centers. The product also includes Automation Finder (for process discovery), Automation Studio and OCR.

NICE's operations are geographically diversified. Its customers tend to be large enterprises.

The company's roadmap includes enablement of semisupervised learning to drive accurate prioritization of discovered processes. Additionally, NICE recently introduced the next phase of its integration of its AI with NEVA in order to provide guidance based on employee behavior, sentiment and phrase detection.

Strengths

- **Innovation:** NICE has expanded its Automation Finder snapshot capability and its "click to automate" capability for citizen developers. NICE's completely elastic cloud architecture is based on microservices that are fully dockerized and containerized with Kubernetes. NEVA can use voice analytics to pick up any phrase and recommend the next best action.

- **Workforce automation:** NICE targets global enterprises and contact centers by offering specialized attended bots to augment its workforce management functionality for a range of industries. Its automation community, open SDK and center of excellence enhance developer collaboration and are supplemented by a cloud-based automation studio and video-based courses and tutorials.
- **Pricing:** NICE offers a relatively low entry price for its RPA product. Its starter RPA kit includes NEVA on a three-month free trial, after which it provides all-inclusive, transparent pricing for NEVA Unlimited. Large enterprises looking for good-value RPA should consider NICE's offering.

Cautions

- **Market focus:** Although it supports unattended automation, NICE focuses on contact center and attended automation. NICE's contact center focus could be misunderstood as meaning that it lacks unattended capabilities, which may deter customers looking for generic RPA solutions. It is, however, the case that NICE may not always meet the requirements of customers seeking support for generic RPA use cases outside contact centers.
- **Product features:** Unlike many RPA vendors' products, NICE's RPA platform does not include native IDP and process-mining capabilities, although NICE does offer task mining via its Automation Finder. NICE depends on third-party components for OCR, ML and NLP for its IDP, which may require additional effort to configure and integrate.
- **UX:** Feedback from Gartner clients, received through Gartner's inquiry service, Peer Insights platform and/or other interactions during the past year, indicates that NICE's product has a relatively steep learning curve for automation beyond simple use cases. These customers, and particularly those who would have used older versions of NICE's RPA, want improvements to its development GUI to make it more intuitive. Also, some customers have reported intermittent connectivity issues with applications while using NICE's RPA. NICE, however, states that its completely new Automation Studio, released in January 2020, has improved the overall UX.

Nintex

Nintex is a Niche Player in this Magic Quadrant. Its product, Nintex RPA, depends on IT-centric RPA development and reliable computer vision. Nintex's product portfolio includes RPA, along with capabilities for workflow automation, digital forms, document automation, e-signatures, process mapping (Nintex Promapp), LCAP and iBPMS solutions. It also offers hundreds of prebuilt automation and process map templates via the online Nintex Solution Accelerator Gallery.

Nintex has more than 10,000 customers worldwide. They tend to be midsize and large enterprises. They come from all industries, but its RPA product is primarily used by financial services and banking organizations in North America and EMEA.

In October 2020, Nintex acquired K2 Software to support complex BPM and case management features. Additionally, in June 2021, Nintex acquired AssureSign to bring native e-signature capabilities to the Nintex Process Platform. The company also plans to create a new event-driven bot flow for file creation, introduce DevOps features and expand its support for government customers.

Strengths

- **Product portfolio:** Nintex offers an easy-to-build RPA solution that includes an intuitive web-based interface with strong security controls. Nintex RPA has specific features to automate processes residing on SAP ERP. Its RPA platform can support bidirectional workflows between RPA bots and Nintex Workflow. Nintex also offers a separately licensed product, Nintex Gateway, which is an on-premises application that enables Nintex Workflow Cloud, the company's next-generation platform, to access on-premises resources. Customers can build solutions that connect RPA bots and workflow automation for an end-to-end automation experience.
- **Sales strategy:** Nintex has a clear sales strategy with well-defined personas targeted at IT operations and per-workflow pricing. Its strategy draws on specific partnerships, such as one with Fiserv to support core banking RPA use cases.
- **Customer ecosystem:** Nintex Workflow and Nintex Workflow for SharePoint have strong name recognition, with 500 Nintex RPA customers. Existing Nintex customers may find value in Nintex's prebuilt automation templates while using its native RPA to perform task automation within their Nintex workflows.

Cautions

- **Product features:** As a new player in the RPA market, Nintex offers an RPA product somewhat lacking in important features found in many other vendors' products. Those gaps include native IDP, guided navigations for citizen developers, AI-assisted development, autorecovery of bots, and process discovery and mining.
- **Business model:** Nintex aims its platform at software engineers, IT staff and business technologists. It has a strong focus on industry-specific automation for the banking and finance sectors, which may not suit all organizations.
- **Operations:** Nintex has only a small (but growing) team focused on its RPA platform. This team's size may present challenges as the company pursues its plans to scale up to meet the demands of larger RPA initiatives. Nintex also needs to streamline its support for multiple workflow tools (including K2's) that may require RPA integration.

NTT

NTT is a Niche Player in this Magic Quadrant. NTT offers its WinActor RPA with WinDirector and WinActor Manager on Cloud for on-premises or cloud-based management, WinActor robot as a service (WinActor Cast on Call), and other WinActor components such as AI, library service and no-code storyboarding. NTT complements WinActor with other NTT services for process mining, low-code UI building and identity management.

NTT's business is primarily in Asia/Pacific, but it also supports customers in EMEA and North America through subsidiaries and partners. NTT's customers include large enterprises and SMBs.

The company's roadmap features an end-to-end RPA solution, scenario management optimization, self-healing bots and use of blockchain technology for security.

Strengths

- **Partnership ecosystem:** NTT is exploiting its business services and technology capabilities to sell RPA to many customers, including via distributors and partners. This model has been especially effective for driving sales growth outside Japan.
- **Sales strategy:** NTT's large base of clients and solution partners puts it in an advantageous position to sell RPA, compared with its traditional competitors. Its strategic partners include several major vendors of other RPA technologies.

- **Viability:** NTT is a major global vendor focused on AI, data science and automation for multiple vertical markets. Its extensive support for RPA and its investment in other automation technologies have enabled it to build a significant customer base. NTT's RPA business grew significantly in 2020, despite the impact of COVID-19, to make it the fourth-largest RPA vendor, according to Gartner's market share data.

Cautions

- **Market understanding:** NTT's system integration (SI) business also sells competitors' RPA products. This can be confusing to customers who choose to explore NTT's RPA via its SI services. NTT's SI approach can also impact RPA service comparisons — for example, NTT's disaster recovery plan and SLAs are defined per customer and at the customer's request.
- **Product navigation:** NTT provides a wide range of products for end-to-end automation, including WinActor's numerous components, as well as other solutions for business processes, AI and other, third-party products. Customers, especially those new to NTT, may have difficulty navigating these options.
- **Product strategy:** NTT intends to offer more flexibility to its solution partners, which may require integration with either NTT or third-party products, depending on customers' needs. In accordance with NTT's product strategy, its RPA product does not natively support many common features that are built into competitors' RPA products, such as IDP, AI/ML and real-time collaboration between developers.

Pegasystems

Pegasystems is a Visionary in this Magic Quadrant. Its RPA product, Pega Robotic Process Automation, is part of the Pega Infinity platform, which complements the vendor's feature-rich iBPMS, low-code app platform capabilities and other features, such as AI, CRM, and multiexperience and business rules support. Pegasystems' RPA product features a proprietary computer vision technology known as X-ray Vision.

Pegasystems has geographically distributed operations. Its customers tend to be large enterprises.

Pegasystems' product vision includes enhancement of its X-ray Vision technology, process mining, case management and automated decision making.

Strengths

- **Product portfolio:** Pegasystems' RPA tool includes a design studio, an orchestration manager and a bot manager for attended and unattended automations. The RPA offering is integrated tightly with the vendor's wider process automation products. Pegasystems provides a feature-rich platform for customers looking beyond RPA to event-driven, end-to-end automation.
- **Innovation:** Pegasystems' innovations include its X-ray Vision technology for mapping low-level screen objects to screen concepts, a process fabric layer for serverless orchestration, an iBMPS foundation within the Pega Infinity platform, and prebuilt AI/ML models for decision automation. In addition, Pegasystems offers composable and reusable business applications (also known as "microjourneys") that can be used in any end-to-end workflow.
- **Viability:** Pegasystems has a large ecosystem of customers and partners, a strong Pega Community and a feature-rich product designed to meet the end-to-end automation requirements of large enterprises.

Cautions

- **Pricing:** The Pega Infinity platform offers premium features, but at a premium price. Although Pegasystems has introduced several updates to its pricing model, it continues to target large enterprises with large budgets.
- **Product focus:** Pegasystems' RPA platform lacks the tactical focus of other RPA products that can help deliver a quick ROI from automation. Pegasystems has a large app footprint, with extensive configuration, integration, skills and development requirements. Customers focused on relatively small, targeted use cases may find suitable alternatives to Pegasystems' platform at a lower cost.
- **Pega experience:** Pegasystems' RPA offering tends to have both strong advocates and strong detractors, which results in disparate ratings. The occasional low-satisfaction ratings it receives on Gartner's Peer Insights platform are, however, usually associated with factors such as overly ambitious projects. Nevertheless, the value proposition for the broad Pega Infinity platform assumes significant commitment and investment by customers. Those investing in Pegasystems should be aware of the additional effort involved and the investment required in the large aftermarket of Pegasystems consultants.

Samsung SDS

Samsung SDS is a Niche Player in this Magic Quadrant. Its RPA product, Brity RPA, includes a conversational AI platform with native ML and RPA-as-a-service features.

Samsung SDS's operations are mostly in Asia/Pacific, but there are plans to expand into North America and EMEA in 2022. This vendor serves organizations of all sizes.

Samsung SDS's roadmap for 2022 includes a new platform-level iBPMS toolbox called Workflow Service. It also features enhancements to AI-driven design and development, OCR, data extraction through web scraping, and libraries and recordings to simplify development.

Strengths

- **AI/ML focus:** Brity RPA offers an intuitive experience for citizen developers, one that supports automatic design with recording and process discovery. Samsung SDS also includes a chatbot, integrated OCR and native AI in its RPA offering.
- **SMB focus:** Samsung SDS has a strong focus on creating an RPA solution for SMBs, in addition to its capability to support large enterprises. Customers, who often plan to start small and gradually expand the scope of their automation, should consider Samsung's RPA-as-a-service offering, which can be adopted quickly on a small scale. Samsung also offers a free trial of this offering.
- **Viability:** Although it operates primarily in Asia/Pacific, Samsung SDS's RPA business achieved year-over-year revenue growth of 88% in 2020 (as estimated by Gartner), which was higher than the RPA market average. Furthermore, many of its customers are highly satisfied with its online customer support portal and overall service.

Cautions

- **Product features:** Samsung SDS's RPA product is based purely on the Microsoft Windows platform and currently supports no other OS. Nor does it offer a web interface for development. Samsung SDS offers only a limited number of prebuilt connectors for applications from vendors such as Oracle and SAP, and for Microsoft Office 365. It offers limited or no support for some key features, such as IDP, bot autorecovery and continuous integration/continuous delivery.
- **Pricing:** Samsung SDS lacks an all-inclusive pricing strategy for its RPA offering. In addition to the price of its core RPA product bundle, customers may be charged incrementally for tangential components such as chatbots, analytics and process discovery. This runs contrary to Samsung's SMB focus, as its overall price may be higher than many SMBs expect.

- **Marketing strategy:** Samsung SDS has demonstrated impressive growth, but it lacks the visibility of many other vendors, and is not typically shortlisted for RPA by Gartner clients who contact us for advice. Samsung SDS is working to broaden its marketing outreach via social media and limited partner channels. Although it plans to expand into North America and Europe, its lack of a broader geographic presence may deter organizations outside Asia/Pacific.

SAP

SAP is a Niche Player in this Magic Quadrant. Its RPA product is SAP Intelligent Robotic Process Automation (iRPA), which extends SAP's ability to integrate disparate applications and automate business processes in finance, sales, customer services, human resources and other areas.

SAP's operations are geographically distributed. Its customers tend to be large enterprises.

SAP's roadmap includes multicloud and private cloud deployment options, support for Linux and macOS desktop agents, improved task and process mining, and new analytics dashboards.

Strengths

- **Market understanding:** SAP has a strong vision for application-focused automation. Its end-to-end capabilities include a wide range of technologies, such as process discovery, iBPMS, AI/ML and low-code tools, and it has a unique ability to execute with APIs using screen recording and cloud delivery. Following the acquisition of Signavio in March 2021, SAP is positioned to offer an end-to-end integrated solution, including RPA, process mining, BPM and cloud ERP capabilities, in order to deliver integrated enterprise business automation.
- **SAP ecosystem:** SAP iRPA is available as a SaaS offering on top of the SAP Business Technology Platform as part of the SAP Extension Suite. The citizen-developer-ready Cloud Studio, configuration and orchestration, monitoring, and triggering and notification are the main cloud-based features, along with connectors for SAP S/4HANA, the Advanced Business Application Programming (ABAP) language, SAP Fiori applications and non-SAP applications. SAP also offers a bot store with more than 200 free, prebuilt automations from SAP and its partners and customers.
- **Viability:** With more than 400,000 customers and a large-scale ERP ecosystem that features quite frequently in many RPA use cases, SAP's RPA business is viable.

Cautions

- **RPA focus:** SAP iRPA is especially appealing to SAP application customers. Although this product can connect to non-SAP applications, Gartner customers who have used it have stated that the first set of use cases is to automate routine data transcription work within the SAP ecosystem and migrate data to SAP S/4HANA.
- **Cloud-only orchestration:** SAP iRPA supports cloud orchestration only — it does not provide any on-premises orchestration component. Furthermore, its cloud capabilities do not include multicloud support, containerization or a bot runtime in the cloud. Customers should plan to use iRPA's cloud orchestration component with its desktop agents serving as the bot runtime. Cloud parts of the solution are automatically upgraded every month, whereas on-premises agents are upgraded only on demand, which can be confusing. Automated upgrading of agents from the cloud is on SAP's roadmap.
- **Product experience:** SAP's RPA product currently does not support features such as bot autorecovery and autoscaling of bots from its cloud orchestrator. It also lacks some advanced features offered by other leading RPA providers, such as AI-driven development and mobile/voice UI integration (which requires additional platform services like SAP Conversational AI). SAP's postacquisition integration of Signavio's process mining is still in progress.

Servicetrace

Servicetrace is a Visionary in this Magic Quadrant. Its RPA platform, XceleratorOne (X1), is focused on delivering a secure, end-to-end environment that combines RPA, BPM, AI and task-mining capabilities in a single offering.

Servicetrace's operations are mainly in EMEA. Its customers tend to be midsize and large enterprises.

Servicetrace's roadmap includes containerization of the platform, a web-based design studio, a process and template marketplace, and new decision model and notation (DMN) capabilities.

Strengths

- **Innovation:** Innovation is at the heart of Servicetrace's RPA product. It offers an impressive feature set, including AI/ML-based native OCR and computer vision with pattern recognition, an intelligent process recorder, an embedded BPM engine (powered by Camunda), native test automation, patented vertical scaling, ROI analytics, and an agile Kanban board. Servicetrace also plans to roll out a Docker-container-based architecture in 2022.
- **Value for money:** Servicetrace offers a rich set of innovative features at a relatively low price. It has a flexible pricing model with multiple options, such as per bot, per X1 module, per minute and per process type.
- **Self-building bot:** At the core of Servicetrace's innovative offering is the uniquely differentiating "self-building bot" capability, which involves autorecording of multiple user execution actions, such as mouse actions and keystrokes, to autocreate a workflow with a BPMN 2.0 path. Many process recordings can be linked to include possible exception handlings, depending on user decisions. Additionally, a recorder creates an XES file, so that process-mining tools can generate more predictive analytics from many recordings of different users.

Cautions

- **Marketing execution:** Although Servicetrace has a good understanding of the RPA market and a strong innovation focus, the fact that more than three-quarters of its customers are in EMEA means it has relatively limited market visibility, compared with many other vendors. Servicetrace states that it is well-positioned to support its growing customer base, but it reported revenue growth lower than the RPA market average in 2020.
- **Operations:** Servicetrace's market presence and operations have not changed much from 2020. Outside EMEA and some regions in Asia/Pacific, Servicetrace has no direct presence. Servicetrace delivers first- and second-level support to customers outside the regions where it operates through partners. Subsequently, these customers' direct support contact with Servicetrace is limited.
- **Cloud capabilities:** Although Servicetrace offers an RPA-as-a-service feature via Microsoft Azure, it does not yet offer containerization.

UiPath

UiPath is a Leader in this Magic Quadrant. Its RPA platform, the UiPath Platform, offers rich governance features, a citizen-developer-friendly UX, enhanced computer vision and cloud-orchestrated RPA as a service.

UiPath's operations are geographically distributed across the globe, and its customers tend to be large enterprises, midsize enterprises and SMBs.

Following its initial public offering in April 2021, UiPath has the resources and partnerships to further enhance its platform by enabling end-to-end automation programs. UiPath's March 2021 acquisition of Cloud Elements, an enterprise integration platform as a service (iPaaS) vendor, signals the importance of both UI-based and API-based integration for scalable process automation initiatives. UiPath's roadmap includes support for Linux and macOS, and low-code apps and data services for on-premises customers.

Strengths

- **Product strategy:** Aided by its strong brand awareness among RPA customers, UiPath is influencing the market's narrative about process automation. Its vision includes an integrated low-code platform with features including IDP, process mining, cloud delivery and iPaaS. UiPath targets a broad range of personas involved in the process automation life cycle — it caters to IT staff, business technologists and fusion teams. UiPath's RPA platform also includes what it calls "automation ops" to support enterprise-scale governance.
- **UX app for automation:** In addition to having a strong RPA focus, UiPath's product portfolio includes a low-code UX app builder, UiPath Apps, which helps create business value by interfacing with various cloud and on-premises applications, including ERP and legacy systems.
- **Viability:** UiPath demonstrates strong viability and stability with its \$29 billion IPO and strong revenue growth of 63% from 2019 to 2020, which was above the overall RPA market's growth rate. UiPath's marketplace offers more than 1,300 reusable components, which account for 2.5 million downloads. The vendor's community of more than 1 million users reflects its massive customer and partner ecosystem.

Cautions

- **Web-based development:** Despite its strong focus on cloud-based RPA, and its existing web based UX App builder, UiPath still lacks a web-based RPA development environment — a shortcoming that will limit adoption by enterprises that prefer a minimal hardware footprint. However, UiPath does offer cloud orchestration capabilities and plans to build a web-based developer environment soon.

- **End-to-end automation:** UiPath has built a narrative around hyperautomation and a range of complementary capabilities, including process mining, IDP, LCAP and iPaaS (via its acquisition of Cloud Elements). However, many competitors that have entered the RPA market from adjacent software sectors (especially the iBPMS and LCAP vendors) provide capabilities that may surpass or match UiPath's offering, especially in terms of complex orchestration, decision automation and case management.
- **Pricing:** New RPA customers often discover that UiPath's pricing model is more complex than those of other RPA products they evaluate. UiPath's pricing and packaging strategy also changes, as evidenced by its introduction of developer personas and subsequent elimination of them within one year. That said, UiPath has launched simplified starter packs for new customers and is piloting consumption-based pricing options (such as per-minute pricing), which may reduce entry costs for customers.

WorkFusion

WorkFusion is a Visionary in this Magic Quadrant. Its RPA product is WorkFusion Intelligent Automation Cloud, an integrated, end-to-end automation platform with native AI and best-in-class automated ML and NLP capabilities.

WorkFusion's operations are mainly in North America, but it also has some presence in Asia/Pacific and EMEA. Its customers tend to be large enterprises, especially in the banking, finance and insurance sector.

WorkFusion plans to expand its prepackaged solution for industry use cases such as "know your customer" and insurance underwriting, and to enhance its platform with ML and a human-in-the-loop designer.

Strengths

- **AI/ML focus:** Alongside its WorkFusion Intelligent Automation Cloud, WorkFusion has demonstrated superior AI/ML capabilities and product vision by augmenting its RPA capabilities with prepackaged, pretrained ML models for specific use cases, such as loan processing, end-customer account creation and claims intake.
- **Finance automation:** WorkFusion specializes in catering to the automation requirements of the banking and financial services industry. Its prebuilt AI/ML models, AutoML features and library of RPA components addressing financial use cases make it a particularly good option for organizations in the banking and financial services sectors.

- **Viability:** WorkFusion recently raised \$220 million in funding to support its plans to expand both geographically and into other industries. This investment underlines WorkFusion's potential to progress in the market and reduces the risk to customers of purchasing a WorkFusion RPA solution.

Cautions

- **Product UX:** Feedback from Gartner clients, received through Gartner's inquiry service, Peer Insights platform and other interactions during the past year, indicate that WorkFusion's product requires significant technical knowledge — there is a substantial learning curve. It requires some programming skills, such as in Java and advanced AI/ML with Python. WorkFusion confirms that it is focused on enabling easy extension of complex, high-value use cases, instead of enabling rapid small automations. Customers have also mentioned that WorkFusion's platform requires complex and effort-intensive infrastructure maintenance for all servers, app hubs and nodes. WorkFusion says that it plans to improve its infrastructure support in a major upcoming release.
- **Business model:** WorkFusion's focus on large organizations in banking, finance and insurance may deter customers in other major industries, such as manufacturing and retail. Additionally, WorkFusion has a much smaller geographic footprint and ecosystem of system integration partners than other major RPA vendors, and many of those partners also support competing RPA products. Customers may struggle to find effective support in their region.
- **Pricing:** WorkFusion's pricing is based on platform cost plus an incremental, per-process cost. Its average selling price may be higher than those of other vendors, but it does automate much more complex use cases than many RPA vendors.

Vendors Added and Dropped

We review and adjust our inclusion criteria for Magic Quadrants as markets change. As a result of these adjustments, the mix of vendors in any Magic Quadrant may change over time. A vendor's appearance in a Magic Quadrant one year and not the next does not necessarily indicate that we have changed our opinion of that vendor. It may be a reflection of a change in the market and, therefore, changed evaluation criteria, or of a change of focus by that vendor.

Added

- Appian
- Cyclone Robotics
- IBM
- Kryon
- Laiye
- Nintex

Dropped

- AntWorks
- HelpSystems
- Jacada
- Kofax

Inclusion and Exclusion Criteria

To qualify for inclusion, each vendor had to:

- Demonstrate an active go-to-market strategy for its RPA platform, as demonstrated by its website, Gartner's Peer Insights forum, social media and marketing that explicitly mentioned RPA.

- Offer a platform that, at a minimum, supported:
 - Design, development and deployment of UI interaction scripts/bots
 - Orchestration of bots and overall workflow (a central orchestrator or control panel/ administrative component was considered essential)
 - Automation capabilities for desktops, virtual machines (VMs) and servers/clouds – and not just any one of these environments (support for both desktops and VMs was considered essential)
 - Both attended and unattended forms of automation (attended and unattended bots)
 - Storage of data in a database native to the RPA platform

Each vendor's platform also had to have at least two of the following:

- **Augmented citizen developer capabilities:** Built-in, AI-driven smart workflow development capabilities with guided navigation or chatbot-assisted features for building usable bots without active scripting.
- **Process discovery/task mining:** Native process discovery/task mining capabilities to augment citizen development and automated process design document (PDD) generation (not via integration with third-party tools).
- **Intelligent document processing (IDP):** Built-in IDP capabilities with prebuilt, easily trainable AI/ML models that can intelligently classify and standardize data extracted by OCR (integration with third-party OCR was allowed, but the IDP had to be native to the platform).
- **API and integration support (other than UI interaction):** Native API and integration support to create serverless automation objects that can be integrated with any orchestration engine.

Lastly, each vendor had to either:

- Have generated at least \$15 million in revenue from RPA software and/or subscription licensing in 2020.*

Or:

- Have generated at least \$10 million in revenue from RPA software and/or subscription licensing in 2020; and at least 50% year-over-year growth in 2020; and at least 300 paying enterprise customer organizations (logos) for licensed RPA software and subscriptions in 2020, with a minimum 100 paying logos each in at least two of the following regions:*
- North America
- South America
- Europe
- Middle East and Africa
- Asia/Pacific, including Japan and China

** Annual revenue, growth and customer numbers were for RPA software and/or subscription licenses (excluding professional services, maintenance and other non-RPA software licenses) only, in 2020.*

Honorable Mentions

HelpSystems: HelpSystems was a Niche Player in the 2020 edition of the Magic Quadrant. It offers RPA, IT security, file transfer, IBM i automation and other infrastructure management tools as separate but complementary products, for both midsize customers and larger enterprises. HelpSystems did not meet the revenue and growth criteria for inclusion in the present Magic Quadrant.

Hyland: Hyland acquired Germany-based RPA vendor Another Monday in August 2020 to complement its content service platform and workflow software. Hyland provides professional discovery and design tools with a unique decentralized and highly scalable runtime environment. It has already deployed RPA projects integrated with its broader content services portfolio and continues to invest in the development of its RPA offering. Hyland did not meet the revenue criteria for inclusion in the present Magic Quadrant.

Jacada: Jacada was a Niche Player in the 2020 edition of the Magic Quadrant. Its RPA product focuses on contact center and customer service automation for midsize and large-enterprise customers. Jacada did not meet the revenue criteria for inclusion in the present Magic Quadrant.

Kofax: Kofax was a Challenger in the 2020 edition of the Magic Quadrant. It targets the automation needs of large organizations with a portfolio of capabilities including RPA, intelligent document ingestion, AI/ML, process discovery, iBPMS and analytics. We have not included Kofax in the present Magic Quadrant, as Kofax RPA is sold as part of the vendor's broader Intelligent Automation Platform.

ServiceNow: In March 2021, ServiceNow announced the acquisition of Intellibot, a vendor based in Hyderabad, India. As a leading provider of enterprise low-code, IT service management and digital workflow software, ServiceNow plans to integrate Intellibot into its Now Platform by early 2022. ServiceNow's RPA product did not qualify for the present Magic Quadrant, as the acquisition occurred after the 2021 cutoff for prequalification.

Workato: Workato is primarily an enterprise iPaaS vendor that also offers RPA. Workato's RPA strategy is to deliver end-to-end automation with an orchestration layer powered by its core iPaaS platform. Workato caters to large and midsize enterprises. It does not appear in the present Magic Quadrant as it did not reach the required minimum level of revenue attributable entirely to RPA.

Evaluation Criteria

In Magic Quadrants, Gartner evaluates vendors on two axes: Ability to Execute and Completeness of Vision. These axes include criteria that measure each vendor's 2020 performance and its future vision. Vendors receive scores according to Gartner's methodology for Magic Quadrants, and these scores define their positions in Figure 1. Vendors are invited to provide data for the evaluation criteria via questionnaires and briefings, but evaluations also reflect the results of Gartner customer surveys and information gathered from users of Gartner's client inquiry service.

Ability to Execute

Gartner evaluates technology vendors according to how well their processes, systems, methods and procedures enable them to be competitive, efficient and effective. Each vendor is evaluated for its Ability to Execute.

Table 1: Ability to Execute Evaluation Criteria

<i>Evaluation Criteria</i> ↓	<i>Weighting</i> ↓
Product or Service	High
Overall Viability	High
Sales Execution/Pricing	High
Market Responsiveness/Record	Low
Marketing Execution	High
Customer Experience	High
Operations	Medium

Source: Gartner (July 2021)

Completeness of Vision

Gartner also evaluates each qualifying technology vendor according to how well it articulates an understanding of the RPA market's current and future direction — including in relation to innovations, customer needs and competition — and how well each vendor's understanding matches Gartner's. Each vendor is evaluated for its ability to anticipate market forces and create new market opportunities.

Table 2: Completeness of Vision Evaluation Criteria

<i>Evaluation Criteria</i> ↓	<i>Weighting</i> ↓
Market Understanding	High
Marketing Strategy	High
Sales Strategy	Medium
Offering (Product) Strategy	High
Business Model	Medium
Vertical/Industry Strategy	Medium
Innovation	High
Geographic Strategy	Low

Source: Gartner (July 2021)

Quadrant Descriptions

Leaders

Leaders have an insightful understanding of a market's realities, a reliable track record, an ability to influence a market's direction, and an ability to attract and retain customers.

In the RPA market, Leaders demonstrate an understanding of enterprise customers' needs and of opportunities to expand functionality and add new products and services to their core RPA offerings. Simply put, a Leader must have a market-leading vision and the ability to deliver on that vision.

A Leader may not always be the best choice for every customer. A focused, smaller vendor that is not a Leader can sometimes provide superior support and commitment. Other vendors may provide a specialized capability that is essential for some organizations, such as enhanced security or specific features or functions (required, for example, by call centers and individual desktop use cases). A vendor that focuses on RPA for a specific vertical market or within a limited geographic area may not be a Leader in the overall market, but it may be a competitive option within its chosen market or area.

Challengers

A market's Challengers excel at attracting a large customer base, but are often limited to one part of the market.

In the RPA market, a Challenger may have a strong following for attended RPA, but lack traction, commitment or sophistication in the unattended RPA market. A Challenger must demonstrate sustained excellence in execution and a significant following – a combination that few vendors have achieved in this dynamic, nascent market.

A Challenger may become a Leader if it adopts aggressive, innovative strategies to expand its focus to encompass the entire market. It would also need to demonstrate exceptional insight into the market's direction and continue to execute excellently.

A Challenger may alternatively become a Visionary by sacrificing growth and instead focusing on developing innovative, differentiating features and capabilities.

Visionaries

Visionaries are a market's innovators. They propel a market forward by responding to emerging customer demands and offering customers new opportunities to excel.

Visionaries must also show insightful understanding of market trends and innovative strategies for marketing, sales and product and business management. Typically, these vendors appeal to leading-edge customers — they may have minimal mainstream presence or name recognition. A Visionary's ability to deliver sustained, dependable execution in the mainstream enterprise market has yet to be tested sufficiently.

In the RPA market, a Visionary may invest in leading-edge RPA offerings that are not yet readily adopted by mainstream enterprise customers. Visionaries excel in understanding the demands of enterprises that are looking for fully inclusive automation support, as they often provide related tools like AI, chatbots and process management.

A Visionary could eventually grow to become a Leader. Alternatively, a Visionary may become a Niche Player if it decides to limit its target market by focusing on its core competencies, technologies or existing customers.

A Visionary could also become a Challenger by developing its specialties in order to advance in terms of execution.

Niche Players

A market's Niche Players typically specialize in one vertical or functional area, or have a strong product that is limited to one part of the market.

In the RPA market, Niche Players also include vendors that focus on other software markets but are moving into the RPA market.

In the RPA market, Niche Players:

- Focus primarily on related tools, rather than RPA capabilities — for example, process discovery or ML tools.
- Have yet to demonstrate excellent execution and success.
- Have limited geographic reach.
- Exhibit an unclear vision or focus only on a subset of use cases.

Because of their relatively small size, Niche Players often represent the best choice for a specific category of customer or a particular use case. Niche Players typically offer specialized expertise, focused support practices, flexible terms and conditions, lower costs, and greater commitment to a particular market segment and its customers.

In this fast-evolving market, opportunities exist in all directions. Some Niche Players are poised to improve their execution and evolve into Challengers. Others may become Visionaries by developing innovative solutions that attract interest beyond their niche segments. Still others may strengthen and broaden their businesses to become Leaders eventually.

Context

RPA automates repetitive tasks by emulating transactional steps currently taken by humans, mainly via orchestrated UI interactions.

RPA platforms translate a human process or task into RPA software language to create a script to follow (commonly known as a robot or bot). Additionally, a runtime is allocated to execute the script by a control dashboard/orchestrator. Software engineering leaders can develop bots programmatically or by using low-code/no-code GUIs native to the RPA software platform.

Market Overview

The RPA software market remains one of the fastest-growing segments of the enterprise software market. Despite COVID-19 uncertainties, the RPA software segment's revenue grew by 38.9% in 2020, outpacing all other segments and far exceeding the 8.9% growth of the overall enterprise software market. ¹

The RPA software market includes more than 60 vendors as of mid-2021.

Organizations Scale Beyond RPA to Deliver Hyperautomation

Increasingly, software engineering leaders are scaling beyond tactical automation to deliver greater efficiency, efficacy and business agility with hyperautomation. Hyperautomation is a discipline that helps to combine several technologies in an orchestrated manner in order to deliver end-to-end, intelligent, event-driven automation.

RPA remains essential to achieving efficiency with hyperautomation, especially for business technologists who are not in IT departments. Gartner's 2021 Hyperautomation Survey found that these business technologists used an average of two vendor products, which indicates that a single tool may not be enough. ²

RPA Product Capabilities Are Expanding

RPA is moving beyond orchestrated screen-scraping technology. Offerings are rapidly evolving into a larger automation platforms with embedded process discovery, IDP, AI/ML, low-code development and complex workflow orchestration capabilities.

Many software providers are entering the RPA market with enterprise-grade automation platforms that include RPA as a key feature. At the same time, vendors of stand-alone RPA products are expanding the scope of their platforms to provide API integration, low-code development and complex orchestration.

RPA in the cloud is also gaining momentum by offering composable automation features as packaged business capabilities, including headless bots, serverless bots, nanobots and microbots.

New Pricing Models Reduce Barriers to Entry for SMBs

As more RPA vendors begin to offer consumption-based pricing, a growing number of SMBs can afford to adopt RPA. We have seen several SaaS pricing models emerge in the RPA market, including per-second and per-minute utilization of bots. Many vendors also include unlimited bots at a fixed price or offer free RPA components as a starter pack.

RPA Vendor Landscape Is Evolving

Collectively, the RPA vendors in the Leaders quadrant still outspend the rest of the market. However, the entry of large vendors with enormous spending power is transforming the market landscape — vendors such as Microsoft, SAP, IBM, Samsung SDS, NTT, Hyland, ServiceNow, Pegasystems and Appian. Notable vendors that have yet to enter the RPA market include Google, Amazon, Salesforce and Oracle.

As a result of these new entrants, some vendors in the Niche Players quadrant, with comparatively little revenue and limited geographic presence, may struggle to scale their business. These Niche Players may also become the targets of acquisitive vendors looking to enter the RPA market. Nonetheless, many vendors have emerged in China and Asia/Pacific by driving innovation focused on comprehensive AI/ML with RPA and low-code development capabilities.

Evidence

¹ [Market Share: Application Infrastructure and Middleware, Worldwide, 2020](#)

² Gartner's 2021 Hyperautomation Survey was conducted online during March 2021 among 558 business technologists from North America (n = 226), Europe (n = 146), Latin America (n = 78) and Asia/Pacific (n = 108).

To qualify to answer the survey, respondents had to:

- Have created, built or coded analytics or technology capabilities on their own or with input from others in the preceding 12 months.
- Have used at least one of the tools to produce analytics or technology capabilities for work.

Twenty-one tools were considered in four categories: application development tools, automation tools, integration tools and data science and AI tools.

The results of this survey do not represent global findings or the market as a whole. They reflect the sentiments of the respondents and companies surveyed.

Evaluation Criteria Definitions

Ability to Execute

Product/Service: Core goods and services offered by the vendor for the defined market. This includes current product/service capabilities, quality, feature sets, skills and so on, whether offered natively or through OEM agreements/partnerships as defined in the market definition and detailed in the subcriteria.

Overall Viability: Viability includes an assessment of the overall organization's financial health, the financial and practical success of the business unit, and the likelihood that the individual business unit will continue investing in the product, will continue offering the product and will advance the state of the art within the organization's portfolio of products.

Sales Execution/Pricing: The vendor's capabilities in all presales activities and the structure that supports them. This includes deal management, pricing and negotiation, presales support, and the overall effectiveness of the sales channel.

Market Responsiveness/Record: Ability to respond, change direction, be flexible and achieve competitive success as opportunities develop, competitors act, customer needs evolve and market dynamics change. This criterion also considers the vendor's history of responsiveness.

Marketing Execution: The clarity, quality, creativity and efficacy of programs designed to deliver the organization's message to influence the market, promote the brand and business, increase awareness of the products, and establish a positive identification with the product/brand and organization in the minds of buyers. This "mind share" can be driven by a combination of publicity, promotional initiatives, thought leadership, word of mouth and sales activities.

Customer Experience: Relationships, products and services/programs that enable clients to be successful with the products evaluated. Specifically, this includes the ways customers receive technical support or account support. This can also include ancillary tools, customer support programs (and the quality thereof), availability of user groups, service-level agreements and so on.

Operations: The ability of the organization to meet its goals and commitments. Factors include the quality of the organizational structure, including skills, experiences, programs, systems and other vehicles that enable the organization to operate effectively and efficiently on an ongoing basis.

Completeness of Vision

Market Understanding: Ability of the vendor to understand buyers' wants and needs and to translate those into products and services. Vendors that show the highest degree of vision listen to and understand buyers' wants and needs, and can shape or enhance those with their added vision.

Marketing Strategy: A clear, differentiated set of messages consistently communicated throughout the organization and externalized through the website, advertising, customer programs and positioning statements.

Sales Strategy: The strategy for selling products that uses the appropriate network of direct and indirect sales, marketing, service, and communication affiliates that extend the scope and depth of market reach, skills, expertise, technologies, services and the customer base.

Offering (Product) Strategy: The vendor's approach to product development and delivery that emphasizes differentiation, functionality, methodology and feature sets as they map to current and future requirements.

Business Model: The soundness and logic of the vendor's underlying business proposition.

Vertical/Industry Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of individual market segments, including vertical markets.

Innovation: Direct, related, complementary and synergistic layouts of resources, expertise or capital for investment, consolidation, defensive or pre-emptive purposes.

Geographic Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of geographies outside the "home" or native geography, either directly or through partners, channels and subsidiaries as appropriate for that geography and market.

Document Revision History

[Magic Quadrant for Robotic Process Automation - 27 July 2020](#)

[Magic Quadrant for Robotic Process Automation Software - 8 July 2019](#)

Recommended by the Authors

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[How Markets and Vendors Are Evaluated in Gartner Magic Quadrants](#)

[Tool: Robotic Process Automation Opportunity Spotter](#)

[Competitive Landscape: Robotic Process Automation Software](#)

[Considerations for Implementing Robotic Process Automation](#)

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Table 1: Ability to Execute Evaluation Criteria

<i>Evaluation Criteria</i> ↓	<i>Weighting</i> ↓
Product or Service	High
Overall Viability	High
Sales Execution/Pricing	High
Market Responsiveness/Record	Low
Marketing Execution	High
Customer Experience	High
Operations	Medium

Source: Gartner (July 2021)

Table 2: Completeness of Vision Evaluation Criteria

<i>Evaluation Criteria</i> ↓	<i>Weighting</i> ↓
Market Understanding	High
Marketing Strategy	High
Sales Strategy	Medium
Offering (Product) Strategy	High
Business Model	Medium
Vertical/Industry Strategy	Medium
Innovation	High
Geographic Strategy	Low

Source: Gartner (July 2021)