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Title: The Forrester Wave™: Robotic Process Automation In China, Q3 2022

Subtitle: The 11 Providers That Matter Most And How They Stack Up

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Summary

In our 26-criterion evaluation of robotic process automation (RPA) providers in China, we identified the 11 most significant ones — Alibaba Cloud, Cyclone Robotics, DataGrand, Encoo Technologies, Inspur, Intelligence Indeed, i-Search, Kingsware, Laiye, SAP, and UiPath — and researched, analyzed, and scored them. This report shows how each provider measures up and helps enterprise architects select the right one for their needs.

Summary Preview

In our 26-criterion evaluation of robotic process automation providers in China, we identified the 11 most significant ones and researched, analyzed, and scored them.

Scale Enablers And Scope Extensions Matter Most

Chinese firms have benefited from workforce hour savings or freeing up personnel to work on higher-value tasks by adopting automation. To scale up enterprise-level benefits, firms want to extend the scope of their automation projects beyond classic desktop-based tasks to more complex processes. RPA software must be scalable (and therefore suitable for complex scenarios) and appealing to both professional and citizen developers. Vendors are responding to these needs with optimized application control, advanced mobile automation support, AI-infused content analytics, RPA features addressing business users, supporting services, and partner ecosystems.

As a result of these trends, RPA customers in China should look for providers that:

- **Deliver broad, rich experiences for business leaders.** As business experts and business process owners tap into automation, RPA software must serve these users as deeply as it does professional developers. Equally important are the identification and prioritization of automation candidates using mining and analytics features, easy-to-use bot design, deployment, and management. Platform features for human-in-the-loop processes simplify human/machine collaboration and set clear boundaries for employee and bot responsibilities.
- **Integrate RPA-adjacent automation technologies.** Forrester has seen ongoing convergence in the automation software sector in recent years. Leading RPA vendors influence the evolution of the automation software market by acquiring or building automation technologies that

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augment their pure-play RPA solutions. Examples include standalone chatbots or intelligent document platforms that enable processes with unstructured data; integration-platform-as-a-service (iPaaS) that embeds API automation; and process and task mining platforms that support local enterprise resource planning (ERP) systems out of the box.

- **Have comprehensive supporting services and an extensive partner ecosystem.** Many firms use professional services from vendors or partners in a vendor ecosystem in the initial phase of project implementation. As automation strategies evolve, firms develop training for their IT teams or citizen developers and require sufficient materials from vendor certification programs, active online communities, and rich public lessons to speed up the learning process. Firms that plan to build or extend their automation strike team or center of excellence (COE) teams also need to examine vendor support for consulting services.

Evaluation Summary

The Forrester Wave™ evaluation highlights Leaders, Strong Performers, Contenders, and Challengers. It's an assessment of the top vendors in the market; it doesn't represent the entire vendor landscape. You'll find more information about this market in our [Now Tech: Robotic Process Automation In China, Q4 2021](#).

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

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Figure 1 Forrester Wave™: Robotic Process Automation In China, Q3 2022

THE FORRESTER WAVE™

Robotic Process Automation In China

Q3 2022



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

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Figure 2 Forrester Wave™: Robotic Process Automation In China Scorecard, Q3 2022

	Forrester's weighting	Alibaba Cloud	Cyclone Robotics	DataGrand	Encoo Technologies	Inspur
Current offering	50%	2.67	4.71	3.66	3.09	1.55
Discovery, bot ideation, portfolio, and ROI	15%	1.40	5.00	3.00	1.40	1.00
Bot design and development	25%	2.40	5.00	3.60	3.20	1.60
Bot deployment, management, and analytics	25%	2.60	4.40	3.80	3.40	1.00
Bot governance, platform model, and security	20%	3.20	4.80	3.80	3.00	3.00
General platform capabilities	15%	3.80	4.30	4.00	4.20	1.00
Strategy	50%	2.30	4.20	3.00	3.70	1.00
Product vision	25%	3.00	5.00	3.00	3.00	1.00
Performance	25%	1.00	5.00	1.00	5.00	1.00
Innovation roadmap	15%	3.00	3.00	5.00	3.00	1.00
Supporting products and services	10%	1.00	5.00	5.00	5.00	1.00
Partner ecosystem	25%	3.00	3.00	3.00	3.00	1.00
Market presence	0%	1.80	4.20	2.20	3.40	4.20
Revenue	40%	1.00	5.00	3.00	5.00	3.00
Number of customers	40%	3.00	3.00	1.00	3.00	5.00
Average deal size	20%	1.00	5.00	3.00	1.00	5.00

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

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Figure 2 Forrester Wave™: Robotic Process Automation In China Scorecard, Q3 2022 (Cont.)

	Forrester's weighting	Intelligence Indeed	i-Search*	Kingsware	Laiye	SAP	UiPath
Current offering	50%	3.17	2.73	3.68	4.48	2.92	4.60
Discovery, bot ideation, portfolio, and ROI	15%	2.60	4.20	3.40	4.60	3.00	5.00
Bot design and development	25%	3.80	2.20	3.80	4.80	3.00	4.20
Bot deployment, management, and analytics	25%	3.40	2.00	3.80	3.80	3.00	5.00
Bot governance, platform model, and security	20%	2.20	3.00	3.20	4.80	2.60	4.00
General platform capabilities	15%	3.60	3.00	4.20	4.50	3.00	5.00
Strategy	50%	3.00	3.00	3.80	4.70	3.50	4.30
Product vision	25%	3.00	3.00	3.00	5.00	5.00	5.00
Performance	25%	3.00	3.00	5.00	5.00	3.00	3.00
Innovation roadmap	15%	3.00	3.00	5.00	3.00	3.00	5.00
Supporting products and services	10%	3.00	3.00	3.00	5.00	3.00	3.00
Partner ecosystem	25%	3.00	3.00	3.00	5.00	3.00	5.00
Market presence	0%	3.00	2.20	3.40	4.60	3.00	3.40
Revenue	40%	3.00	1.00	3.00	5.00	3.00	3.00
Number of customers	40%	3.00	3.00	3.00	5.00	3.00	5.00
Average deal size	20%	3.00	3.00	5.00	3.00	3.00	1.00

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

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Figure 2 alternative text:

Vendor Offerings

Forrester included 11 vendors in this assessment: Alibaba Cloud, Cyclone Robotics, DataGrand, Encoo Technologies, Inspur, Intelligence Indeed, i-Search, Kingsware, Laiye, SAP, and UiPath (see Figure 3).

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Figure 3 Evaluated Vendors And Product Information

Vendor	Product evaluated	Product version evaluated
Alibaba Cloud	AliCloud RPA	Not applicable
Cyclone Robotics	Cyclone RPA Suite	Not applicable
DataGrand	DataGrand RPA	V12
Encoo Technologies	Encoo RPA	V4.1.6
Inspur	EABot	V2.0
Intelligence Indeed	Intelligence Indeed RPA	V6.1.0
i-Search	iS-RPA	V3.0.0
Kingsware	K-RPA	V3.6
Laiye	Laiye IA	V6.0
SAP	SAP Process Automation	V2204
UiPath	UiPath	V2022.4

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Figure 3 alternative text:

Vendor Profiles

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

Leaders

- **Laiye is consolidating its leadership with an IA suite.** Laiye recently launched process mining and task mining tools as part of its intelligent automation platform, which supports the full automation lifecycle. The company's intelligent document processing (IDP) and conversational AI platforms extend process automation coverage with AI capabilities. Its superior product roadmap seeks to further strengthen AI capabilities to enable omnichannel connectivity between humans and robots. Laiye has a large community of more than 700,000 registered developers and has issued 30,000 certificates for engineers. As the company drives innovation initiatives on its own, it does not collaborate with academia or third parties for continuous innovation of its product portfolio and commercial models.

Laiye's Automation Creator offers both visualization mode and source code mode for citizen and professional developers. It has a human/machine collaboration hub for processes that require manual review. Reference customers laud the solution's ability to combine mobile automation with its conversational AI platform and say that its online community and materials are helpful for their IT teams, although they also want the management portal to combine monitoring for chatbots and RPA bots. Laiye is suitable for firms that plan to adopt enterprise-level platforms to enable both their internal IT team and citizen developers.

- **Cyclone Robotics sets the pace in feature breadth for enterprise-grade coverage.** Cyclone Robotics supports the full lifecycle of automation projects. The company's RPA solution has expanded coverage to process exploration, human/machine collaboration, and automation project management. It has clear go-to-market strategies for enterprises of varying sizes and a well-defined growth plan for current clients. Cyclone Robotics' superior vision includes focusing on verticals and promoting more vertical solutions with dedicated teams. Although it has not strategically collaborated with academies or third-party partners for product innovation, the firm has repeatedly demonstrated its innovations around automation with innovative features for bot repair, performance enhancement, and citizen developers.

Cyclone Robotics' Digital Worker Platform offers flexible management and collaboration for automation projects with its business process model and notation engine; the CIRI assistant simplifies human-in-the-loop processes for business experts. The company does not offer all of its products as software as a service (SaaS); the EasyPie SaaS offering is mainly for citizen developers in mainland China. Reference customers praise Cyclone Robotics' automation support for mobile apps and note that CIRI improves visibility, although they would prefer that the firm provide better technology explanations to their business experts. Large enterprises focusing on executing an automation strategy will benefit from Cyclone Robotics' RPA suites.

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- **UiPath speeds up local market expansion with its global strengths.** UiPath provides clients an end-to-end automation platform to drive digital transformation. Its roadmap history and future plan demonstrate its vision to comprehensively cover the entire automation lifecycle: discover, build, manage, run, and engage. The firm supports all types of personas during the automation project lifecycle and aims to offer seamless UI and API automation with its integration services. UiPath has worked with many large enterprises, and its methodologies and services can fully support clients' COE teams. The company is expanding its sales and marketing team in China and collaborating with more local partners to offer more vertical solutions, although it needs to further localize its community and training materials.

UiPath's AutomationOps enables centralized management of usage governance policies and source control and provides a large number of prebuilt robots and templates in its marketplace. The company is working with local partners to offer more options, although complete localization of its Discovery Suite and IDP are still works in progress. Reference customers praise the stability of UiPath's UI control, the intuitive design of its orchestrator, and StudioX as a tailor-made studio for citizen developers. However, they also note the increasingly complicated authentication process across its products and expect more material support in the Chinese language. UiPath is a good fit for enterprises with demanding automation needs for support and governance.

- **Kingsware is taking its success in finance to a broader set of enterprises.** Kingsware primarily serves financial services firms; it has been reaching out to enterprises to support clients' digital transformation strategies. The firm is also targeting large state-owned enterprises as key clients. It offers customization services for large enterprises and standardized products for small and medium-size businesses. Kingsware's experience with banking clients helped it build its COE methodologies. The company delivers most implementation services itself; it coinnovates with third parties to offer new commercial models, helping them reach customers in more verticals. Kingsware currently does not have a large partner ecosystem.

Kingsware's K-RPA has prebuilt APIs with support that goes beyond UI-based application controls; its script-based development environment supports professional developers effectively. Multitasking from a single bot and large-scale bot management make for a solid experience. However, Kingsware is still strengthening its citizen developer support features. Reference customers praise its flexible commercial model; financial services clients also laud its preintegrated scheduling calendars, which are customized for finance trading days. Kingsware is a great fit for financial services firms that want to leverage best practices from peers, or large enterprises that require customization.

Strong Performers

- **Encoo Technologies enables robot development and automated applications.** Encoo Technologies' RPA suites include Encoo Automate for process automation, DocReader for document understanding, and the ViCode platform for business application development. The company is expanding its vertical coverage by winning large clients in industries like financial services, manufacturing, and retail and bringing in more partners to support growth. It has clear

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strategies to serve clients in the long term at various stages of adoption. Native process discovery and task mining tools are not in Encoo Technologies' product roadmap, although it does support these via professional services. Portfolio management for automation request and development is offered as a custom service rather than an out-of-the-box product.

Encoo Technologies' studio supports professional and citizen developers via Flowchart and CodeView. It includes a "selector" store to improve stability for application controls. Its ViCode platform has rich interface design and a flexible process for human/machine collaboration. Reference customers laud the usability of its user interfaces, the platform's ideal fit for business users, and the stability and accuracy of its application control. However, customers are also looking for ways to reduce the total cost and improve the utilization of existing bot licenses. Encoo Technologies is suitable for firms that need to solve broader automation cases with complex human interaction in the process.

- **DataGrand brings AI to RPA development but needs richer discovery and mining.** DataGrand has many AI-related rewards and patents. The company offers intelligent process automation (IPA) solutions, including its own RPA suites and AI platform. Its vertical solutions combine RPA with knowledge graph and document understanding capabilities. DataGrand invested in becoming compatible with local database offerings and operating systems in the Information Technology Application Innovation (ITAI) ecosystem. The company collaborates with many universities and scientists to support its superior technology innovations. However, DataGrand's ecosystem does not include a large partner network, and its public community has limited support. Its process discovery and task mining tools are under development.

DataGrand offers more than 200 pretrained AI models. Its IDP platform has labeling and fine-tuning capabilities. Its RPA console provides flexibility in monitoring and fixing bots, records logs and screens during runtime, and enables remote connections to bot environments for immediate maintenance. However, the company's human/machine collaboration support is limited. While reference customers cite its natural language processing (NLP) capabilities as a great way to extend RPA implementation, they also want DataGrand to put more business consultants on its professional services teams for effective project management. DataGrand is a strong choice for enterprises with unstructured data in core business processes or back-office domains.

- **SAP is poised to support end-to-end processes with a unified solution.** SAP has merged SAP workflow management and SAP intelligent RPA into SAP Process Automation, which aims at deep integration. SAP leverages existing local sales teams and its partner network to support clients with its RISE with SAP strategy. The company's InnoX program supports customers in China remotely from RPA analysis to delivery. Its community has a large member base and includes a variety of training materials, although most are not yet available in Chinese.

SAP has more than 300 prebuilt bots and more than 80 workflows. Together with its RPA controller, SAP Process Insights expands management to overall processes, including workflows and automation. Most of its platform functions have support in Chinese, but English remains the sole language available in many modules. In China, SAP does not offer a fully on-

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premises solution and the RPA controller only supports deployment via Alibaba Cloud.

Reference customers praise the high degree of integration between SAP Process Automation and other SAP product families, but also want the firm to improve the stability of its development tools. SAP is a suitable fit for current clients looking to benefit from the deep integration and unified end-to-end process support that comes with the broader SAP product family.

- **Intelligence Indeed focuses on AI support but needs more partners.** Intelligence Indeed's RPA suite includes a studio, a commander, a robot, and a machine learning platform that cover computer vision and NLP. The company primarily targets government, retail, finance, and telecom firms with direct sales. For other industries, such as healthcare, manufacturing, and real estate, it offers solutions with channel partners. Intelligence Indeed's solutions combine RPA with conversational AI, IDP, and Decision Intelligence to cover more automation opportunities. However, it needs to build a larger partner ecosystem to gain greater market share.

Intelligence Indeed's IDP has rich AI templates for document understanding and integration with Conversation AI, allowing users to trigger RPA tasks or monitor bots via a conversation function. However, the company hasn't officially launched process mining or task mining tools. Reference customers praise the efficiency of its OCR and chatbots, its role-based access control, and the accuracy of the application control. However, they also want to get process discovery and mining to simplify delivery work. While customers say that Intelligence Indeed's remote service support is effective, they hope the firm improves its regional onsite support. Intelligence Indeed is suitable for firms in retail, finance, and telecom looking to benefit from a one-stop solution covering AI and RPA.

- **i-Search's focus on process discovery and deep integration with ERP show promise.** With the launch of its RPA solution in 2018, i-Search aims to build an RPA digital workforce to support enterprises' digital transformation. In 2021, the company received strategic investment from local ERP vendor Kingdee. The collaboration will bring more predefined bots in back-office domains, and its RPA solution is building deep integration with Kingdee's ERP and PaaS platforms. i-Search offers native process mining and task mining tools, and its RPA solutions are poised to be compatible with the ITAI ecosystem. Its business is primarily led by project-based services.

i-Search's development studio is fully compatible with Python. Its application control connector is optimized for many ERP vendors and local software. The company offers running records for bots with rich information that help developers identify issues step by step. Its management console simplifies bot repair. It plays screen recordings, running logs, and process flows on the same interface. However, i-Search does not offer portfolio management for the automation pipeline, and its public marketplace has limited prebuilt bots. Most of its out-of-the-box AI capabilities are OCR components for different use cases. It also does not offer preintegration of document understanding support. i-Search declined to participate in the full Forrester Wave evaluation process.

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Contender

- **Alibaba Cloud drives digital transformation but lacks citizen developer support.** Alibaba Cloud's RPA solution evolved from Mazhan, its internal e-commerce tool. It has built on its foundational strength in e-commerce to expand its coverage to the government and financial services verticals. The company is part of the Alibaba BizWorks suite, which aims to support digital transformation for enterprises with Alibaba Cloud's middle platform methodology. It also collaborates with Alibaba Elastic Desktop Service to build SaaS offerings for RPA solutions. Alibaba Cloud has a vision to build its BizWorks suite, but its RPA solution lacks a detailed roadmap to support citizen developers and process discovery. The company relies on partners for services and delivery, and its consulting services and product strategies have yet to prioritize COEs and automation strike teams.

Alibaba Cloud has hundreds of use cases leveraging its AI components, including chatbot and speech recognition integration. Its studio is suitable for professional developers thanks to its support for Python libraries. The firm needs to improve its graphical independent development environment for citizen developers. Reference customers choose Alibaba Cloud for its extensive partner ecosystem and e-commerce use cases and praise the platform's stability. However, customers hope to see project management functions and expect more communication with Alibaba Cloud and service providers. Alibaba Cloud is a great fit for enterprises with automation scenarios focused on marketing or e-commerce.

Challenger

- **Inspur has increased its appeal, but mostly for early-stage use cases.** Inspur has broad coverage including infrastructure, software, and IT services. With expertise from Inspur ERP and customers from its server business, the company's EABot RPA suites have unique advantages in supporting financial shared-services centers for existing customers. Inspur uses AI to enhance its RPA capabilities. The company focuses on domain use cases, particularly in finance and accounting, but is expanding coverage to supply chain, human resources, and IT maintenance. Inspur has yet to create training and certification programs for developers, and its general investment in RPA is too low to support its innovation initiatives. It also lacks a clear roadmap to achieve its vision of a full-fledged IPA suite.

Inspur can meet strict security requirements with security certifications such as CCRC, CMMI, EAL, and ISO27001. The company's flexible deployment modes support private and public cloud. Clients can also deploy EABot via Kubernetes. Reference customers praise the accuracy of its UI extraction, note that the customized dashboard improves management efficiency, and say that its log monitoring features are helpful to verify issues. However, Inspur has a limited set of publicly available resources for training. Reference customers expect better bot utilization and hope for multiprocessor support from single bots. Inspur is a good fit for existing ERP customers wishing to increase the automation level for domain use cases.

Evaluation Overview

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

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- **Current offering.** Each vendor's position on the vertical axis of the Forrester Wave graphic indicates the strength of its current offering. Key criteria for these solutions include discovery, bot ideation, portfolio, and ROI; bot design and development; bot deployment, management, and analytics; bot governance, platform model, and security; and general platform capabilities.
- **Strategy.** Placement on the horizontal axis indicates the strength of each vendor's strategy. We evaluated product vision, performance, innovation roadmap, partner ecosystem, and supporting products and services.
- **Market presence.** Represented by the size of the markers on the graphic, our market presence scores reflect each vendor revenue, number of customers, and average deal size.

Vendor Inclusion Criteria

Forrester included 11 vendors in the assessment: Alibaba Cloud, Cyclone Robotics, DataGrand, Encoo Technologies, Inspur, Intelligence Indeed, i-Search, Kingsware, Laiye, SAP, and UiPath. Each of these vendors has:

- **A product rather than a service orientation.** Each RPA vendor must actively market and promote an RPA software platform for the RPA market in China. The vendor's RPA software platform must be its primary source of revenue — meaning that customers must be able to deploy RPA independently of the software provider.
- **RPA as its primary business or single focus.** Each vendor must demonstrate its focus on providing RPA functionality to its clients. During the Forrester Wave process, we ask each vendor to provide three customer references, representing a diversity of industries and company sizes, that have had its RPA software in production for at least six months.
- **An RPA product with broad RPA functionality.** Vendors must support a broad range of use cases for attended and unattended workloads alike and for at least three distinct industries (e.g., finance, retail, and manufacturing). Vendors must integrate and support these capabilities well and administer them through a cohesive platform.
- **At least RMB 40 million in annual RPA software revenue.** Each vendor must have generated a substantial amount of revenue from RPA software in its most recent fiscal year and must have at least 100 enterprise customers in China.
- **Strong customer interest.** Through Forrester inquiries, consulting engagements, media requests, and ongoing conversations with players in the market, we developed an understanding of the demand for the vendors and solutions to include in this evaluation.

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Supplemental Material

Online Resource

We publish all our Forrester Wave scores and weightings in an Excel file that provides detailed product evaluations and customizable rankings; download this tool by clicking the link at the beginning of this report on Forrester.com. We intend these scores and default weightings to serve only as a starting point and encourage readers to adapt the weightings to fit their individual needs.

The Forrester Wave Methodology

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

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

We include the Forrester Wave publishing date (quarter and year) clearly in the title of each Forrester Wave report. We evaluated the vendors participating in this Forrester Wave using materials they provided to us by May 6, 2022 and did not allow additional information after that point. We encourage readers to evaluate how the market and vendor offerings change over time.

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

Integrity Policy

We conduct all our research, including Forrester Wave evaluations, in accordance with the [Integrity Policy](#) posted on our website.