Intelligent Automation Buyers Guide

Software Provider and Product Assessment

ISG Research™

Intelligent Automation

Enterprises face a perfect storm of challenges and opportunities. The pace of digital transformation, coupled with increasing customer expectations for personalized experiences, has applied pressure on enterprises to innovate and optimize. Simultaneously, the rapid expansion of data from diverse sources presents an opportunity for insight-driven decision-making and a challenge in processing and analysis. Enterprises that are grappling with legacy systems struggle to keep up with today's demands while navigating complex regulatory environments that require detailed compliance and reporting. The global talent shortage, particularly in technology and IT-related fields, makes it difficult for enterprises to scale operations effectively. Moreover, the need for business agility and resilience, along with these converging factors, has created an urgency to automate routine tasks, but also enhance decision-making capabilities, improve customer interactions and accelerate continuous process improvement. In this context, intelligent automation has emerged as a transformative force.

ISG Research defines intelligent automation as an advanced approach to business process optimization that utilizes artificial intelligence (AI), machine learning (ML) and automation technologies. Intelligent automation enhances efficiency, reduces errors and improves decision-making across the enterprise. It shifts human resources from simple, repetitive tasks to more complex problem-solving activities while augmenting their capabilities through human-AI collaboration that embraces continuous learning systems and improves over time.

By integrating with existing systems and software tools and accessing large repositories of structured, semi-structured and unstructured data, intelligent automation can lead to business process insights that contribute to innovation and competitive advantage. We assert that by 2026, one-half of enterprises will use intelligent automation technologies to interconnect disparate applications and systems across public and private cloud computing environments to optimize digital efficiencies.

For chief information officers and IT leaders, intelligent automation represents a strategic investment in digital transformation, offering the potential to advance business processes, improve customer experiences and create new opportunities for technology-business alignment.

Intelligent automation encompasses four primary enterprise software categories, each addressing specific aspects of operations, such as:

- Process automation platforms, which form the foundation of intelligent automation, automating repetitive, rule-based tasks across various applications and systems. Originally designed using robotic process automation, they emulate human actions to perform high-volume, transactional activities efficiently and without error. ISG Research anticipates that RPA and Generative AI (GenAI) will remain integral to process automation and that the software segment will soon focus on process orchestration and management.
- Conversational automation, which uses AI-powered chatbots and virtual assistants to automate customer interactions and internal processes. These systems can understand natural language, sentiment and intent, producing relevant responses and executing actions based on user input. Regardless of external or internal use cases, ISG Research believes that, in the coming years, conversation automation will have greater integration with process orchestration and management platforms.
- Intelligent document processing, which focuses on the automated extraction, classification, analysis and processing of information from various document types, including structured, semi-structured and unstructured formats. It combines optical character recognition, natural language processing (NLP) and ML to understand and act upon document content. ISG Research predicts the core functions of IDP will assist process orchestration and management systems in refining automation workflow that adapts to increasingly unstructured document sources.
- Process discovery and mining, which analyze event logs and system data to provide insights into business processes, identify inefficiencies and recommend change. They offer a data-driven approach to process optimization and continuous improvement. ISG Research predicts that this software segment will evolve into enterprise-wide process intelligence. Once enterprise process improvements are identified, process intelligence will coordinate with process orchestration and management to develop the most effective automation workflow.

The intelligent automation software category integrates these four product types to create an ecosystem that can:

- Automate simple and complex tasks across departments and the entire enterprise.
- Continuously learn and adapt to changing business conditions.
- Augment human capabilities and shift focus to higher-value activities.
- Improve decision-making through data-driven insights.
- Enhance operational efficiency, reduce errors and drive enterprise change.

Intelligent automation has become a focal point in enterprise technology discussions, driven by the convergence of several critical factors. The acceleration of digital transformation, catalyzed by the COVID-19 pandemic, has increased the need for operational agility and modernization of legacy systems. This urgency, combined with advancements in AI and ML, has expanded intelligent automation capabilities to handle complex cognitive tasks.

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The explosion of data across enterprises has further amplified the importance of this technology, as it offers powerful tools for processing and deriving insights from vast amounts of information, enabling data-driven decision-making at scale. Additionally, intelligent automation addresses the evolving workforce landscape by automating routine tasks and augmenting human capabilities, allowing workers to focus on higher-value, strategic activities.

When an enterprise CIO or IT leader considers intelligent automation software, the choice between process automation platforms, intelligent document processing, conversational automation and process discovery should correlate to the organization's specific objectives, goals and desired outcomes. These options support varying needs, such as:

- Process automation platforms, which support an enterprise's goal to increase operational efficiency, reduce errors in repetitive tasks and free up human resources for more strategic work. These platforms are particularly beneficial for organizations looking to streamline high-volume, rule-based processes across multiple departments or legacy systems. They offer quick wins in cost reduction and productivity gains, making them suitable for businesses seeking rapid return on investment from automation initiatives.
- Intelligent document processing, which benefits enterprises dealing with a large volume of documents. It accelerates document-centric processes, improves data accuracy and enhances compliance. This technology is especially valuable for enterprises in document-intensive industries like finance, healthcare or legal services. It also benefits companies looking to digitize operations, reduce manual data entry and gain faster insights from document-based information.
- Conversational automation, which supports enhanced customer and worker experiences, provides 24/7 support and reduces the workload on customer service teams. This technology is particularly useful for enterprises with high customer interaction volumes, those looking to scale customer service operations without proportionally increasing costs or organizations aiming to provide personalized interactions at scale. It is also valuable for enterprises seeking to improve internal support functions such as IT helpdesks or HR services.

- Process discovery and mining, which helps organizations identify deep insights into existing processes, pinpoint inefficiencies and drive continuous improvement. This technology is crucial for enterprises undergoing digital transformation, those looking to optimize complex business processes or organizations aiming to ensure compliance with industry regulations. It is particularly beneficial for businesses with intricate, multi-step processes that span various systems and departments.

The choice of intelligent automation software should align with the enterprise's strategic objectives and operational needs. It is also important to consider factors such as the current process landscape, compatibility and integration with the technology infrastructure, data availability and quality, ROI and financial impact and organizational readiness. A well-chosen automation strategy can drive operational excellence, improved customer experiences and enhanced decision-making.

GenAI and large language model (LLM) technologies offer valuable capabilities in natural language understanding and processing, content generation and task automation, potentially streamlining operations and enhancing decision-making processes. It is crucial to understand the potential and challenges of these technologies. We assert that through 2026, only 1 in 5 enterprises will analyze patterns and generate insights from GenAI software that empower data-driven decision-making and lead to improved business outcomes.

GenAI and LLMs are enhancing process automation platform software in several ways, including:

- Automated code generation, with LLMs generating code snippets or entire scripts based on natural language descriptions of desired automation tasks. This speeds the development of automation workflows and reduces the technical expertise required to create automations.
- Natural language process design, which allows users to describe complex processes in plain language and generates a visual flowchart or process map, making it easier for non-technical staff to contribute to automation projects.
- Intelligent decision-making, using LLMs to analyze vast amounts of historical data and current content to make more granular decisions within automation workflows, handling exceptions and edge cases more effectively.
- Dynamic process optimization, using GenAI to suggest process improvements by analyzing execution data and identifying inefficiencies or bottlenecks on a continuous basis.

GenAI and LLMs are revolutionizing IDP software by:

- Enhancing the understanding of unstructured data. LLMs can better interpret context and intent in unstructured documents, improving extraction accuracy for complex or ambiguous information.
- Adaptive template generation. Instead of relying on pre-defined document structure templates, GenAI creates and refines document templates on the fly, allowing for processing of unfamiliar document formats.
- Content summarization and analysis. LLMs can generate concise summaries of lengthy documents, extract key insights and even provide a side-by-side comparison of information across documents.
- Automating document generation. Based on extracted data and predefined rules, GenAI can create new documents, reports or responses.

GenAI and LLMs are elevating conversational automation through:

- More natural and context-aware interactions. LLMs enable chatbots and virtual assistants to understand and respond to queries, maintaining context over longer, multi-turn conversations.
- Dynamic response generation. Instead of relying on pre-scripted responses, systems can generate unique, contextually appropriate responses in real time, including contact summaries for customer engagement emails and knowledge management.
- Multilingual support. LLMs provide interactions across multiple languages without the need for separate models for each language.

GenAI and LLMs are enhancing process discovery and mining capabilities through:

- Automated process narrative generation. LLMs can generate detailed, narrative descriptions of discovered processes, making it easier for stakeholders to understand complex process flows.
- Intelligent anomaly detection. By understanding the context and purpose of process steps, LLMs can identify anomalies that go beyond simple statistical deviations.
- Predictive process modeling. GenAI can create predictive models of how processes might evolve under different scenarios, aiding in strategic planning. Digital “process twins” are applied in simulations without impacting operational conditions.
- Automated improvement suggestions. Based on discovered processes and best practices, GenAI can propose specific process improvements or redesigns that affect a department or the entire enterprise organization.

CIOs and IT leaders should approach intelligent automation software incorporating GenAI and LLMs with enthusiasm and caution. While these technologies offer significant benefits, they also come with unique challenges and prerequisites. A holistic evaluation must include technical aspects and also business, ethical and strategic considerations. Other areas of focus include risk awareness, critical infrastructure, organizational readiness, governance and compliance and a long-term perspective on sustainability and scalability of AI approaches.

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Our Intelligent Automation Buyers Guide is designed to provide a 360-degree view of a software provider's ability to use enterprise data to standardize and optimize a variety of business processes and tasks. As such, the Intelligent Automation Buyers Guide includes the full breadth of services and functionality. Software providers that provide process automation platforms, intelligent document processing, conversational automation or process discovery capabilities are represented in separate Buyers Guide research reports.

ISG believes a methodical approach is essential to maximize competitiveness. It is critical to select the right software provider and product to improve the performance of your enterprise's people, process, information and technology components.

This Intelligent Automation Buyers Guide evaluates products based on three software segments, including process automation platforms, intelligent document processing and process discovery and mining. Conversational automation is evaluated in a separate Buyers Guide. Capabilities evaluated for intelligent automation include enterprise system integration, natural language, workflows, AI and cognitive technologies, balancing workloads, performance monitoring and analysis, citizen developer support, error handling, data extraction, document classification, human-in-the-loop validation, use of low-code/no-code/code-first tools, user access controls, flow testing, simulations and scenario planning, multilingual support, voice enablement, omnichannel support, business rules and compliance, risk mitigation and collaborative features. To be included in this Buyers Guide, software providers must meet or exceed the inclusion criteria and have commercially available products in these three intelligent automation segments.

This Buyers Guide report evaluates the following software providers that offer products addressing key elements of process automation, intelligent document processing and process discovery and mining for inclusion in intelligent automation: Appian, Automation Anywhere, IBM, Microsoft, ProcessMaker, ServiceNow, Tungsten Automation and UiPath.

Buyers Guide Overview

For over two decades, ISG Research has conducted market research in a spectrum of areas across business applications, tools and technologies. We have designed the Buyers Guide to provide a balanced perspective of software providers and products that is rooted in an understanding of the business requirements in any enterprise. Utilization of our research methodology and decades of experience enables our Buyers Guide to be an effective method to assess and select software providers and products. The findings of this research undertaking contribute to our comprehensive approach to rating software providers in a manner that is based on the assessments completed by an enterprise.

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The ISG Buyers Guide™ for intelligent automation is the distillation of over a year of market and product research efforts. It is an assessment of how well software providers' offerings address enterprises' requirements for intelligent automation software. The index is structured to support a request for information (RFI) that could be used in the request for proposal (RFP) process by incorporating all criteria needed to evaluate, select, utilize and maintain relationships with software providers. An effective product and customer experience with a provider can ensure the best long-term relationship and value achieved from a resource and financial investment.

In this Buyers Guide, ISG Research evaluates the software in seven key categories that are weighted to reflect buyers' needs based on our expertise and research. Five are product-experience related: Adaptability, Capability, Manageability, Reliability, and Usability. In addition, we consider two customer-experience categories: Validation, and Total Cost of Ownership/Return on Investment (TCO/ROI). To assess functionality, one of the components of Capability, we applied the ISG Research Value Index methodology and blueprint, which links the personas and processes for intelligent automation to an enterprise's requirements.

The structure of the research reflects our understanding that the effective evaluation of software providers and products involves far more than just examining product features, potential revenue or customers generated from a provider's marketing and sales efforts. We believe it is important to take a comprehensive, research-based approach, since making the wrong choice of intelligent automation technology can raise the total cost of ownership, lower the return on investment and hamper an enterprise's ability to reach its full performance potential. In addition, this approach can reduce the project's development and deployment time and eliminate the risk of relying on a short list of software providers that does not represent a best fit for your enterprise.

ISG Research believes that an objective review of software providers and products is a critical business strategy for the adoption and implementation of intelligent automation software and applications. An enterprise's review should include a thorough analysis of both what is possible and what is relevant. We urge enterprises to do a thorough job of evaluating intelligent automation systems and tools and offer this Buyers Guide as both the results of our in-depth analysis of these providers and as an evaluation methodology.

How To Use This Buyers Guide

Evaluating Software Providers: The Process

We recommend using the Buyers Guide to assess and evaluate new or existing software providers for your enterprise. The market research can be used as an evaluation framework to establish a formal request for information from providers on products and customer experience and will shorten the cycle time when creating an RFI. The steps listed below provide a process that can facilitate best possible outcomes.

1. Define the business case and goals.
   Define the mission and business case for investment and the expected outcomes from your organizational and technological efforts.
2. Specify the business needs.
   Defining the business requirements helps identify what specific capabilities are required with respect to people, processes, information and technology.
3. Assess the required roles and responsibilities.
   Identify the individuals required for success at every level of the enterprise from executives to frontline workers and determine the needs of each.
4. Outline the project's critical path.
   What needs to be done, in what order and who will do it? This outline should make clear the prior dependencies at each step of the project plan.
5. Ascertain the technology approach.
   Determine the business and technology approach that most closely aligns to your enterprise's requirements.
6. Establish software provider evaluation criteria.
   Utilize the product experience: Adaptability, Capability, Manageability, Reliability and Usability, and the customer experience in TCO/ROI and Validation.
7. Evaluate and select the technology properly.
   Weight the categories in the technology evaluation criteria to reflect your enterprise's priorities to determine the short list of software providers and products.
8. Establish the business initiative team to start the project.
   Identify who will lead the project and the members of the team needed to plan and execute it with timelines, priorities and resources.

The Findings

All of the products we evaluated are feature-rich, but not all the capabilities offered by a software provider are equally valuable to types of workers or support everything needed to manage products on a continuous basis. Moreover, the existence of too many capabilities may be a negative factor for an enterprise if it introduces unnecessary complexity. Nonetheless, you may decide that a larger number of features in the product is a plus, especially if some of them match your enterprise's established practices or support an initiative that is driving the purchase of new software.

Factors beyond features and functions or software provider assessments may become a deciding factor. For example, an enterprise may face budget constraints such that the TCO evaluation can tip the balance to one provider or another. This is where the Value Index methodology and the appropriate category weighting can be applied to determine the best fit of software providers and products to your specific needs.

Overall Scoring of Software Providers Across Categories

The research finds ServiceNow atop the list, followed by UiPath and Microsoft. Companies that place in the top three of a category earn the designation of Leader. ServiceNow and UiPath have done so in seven categories; Appian in three; Automation Anywhere in two; and IBM and ProcessMaker in one category.

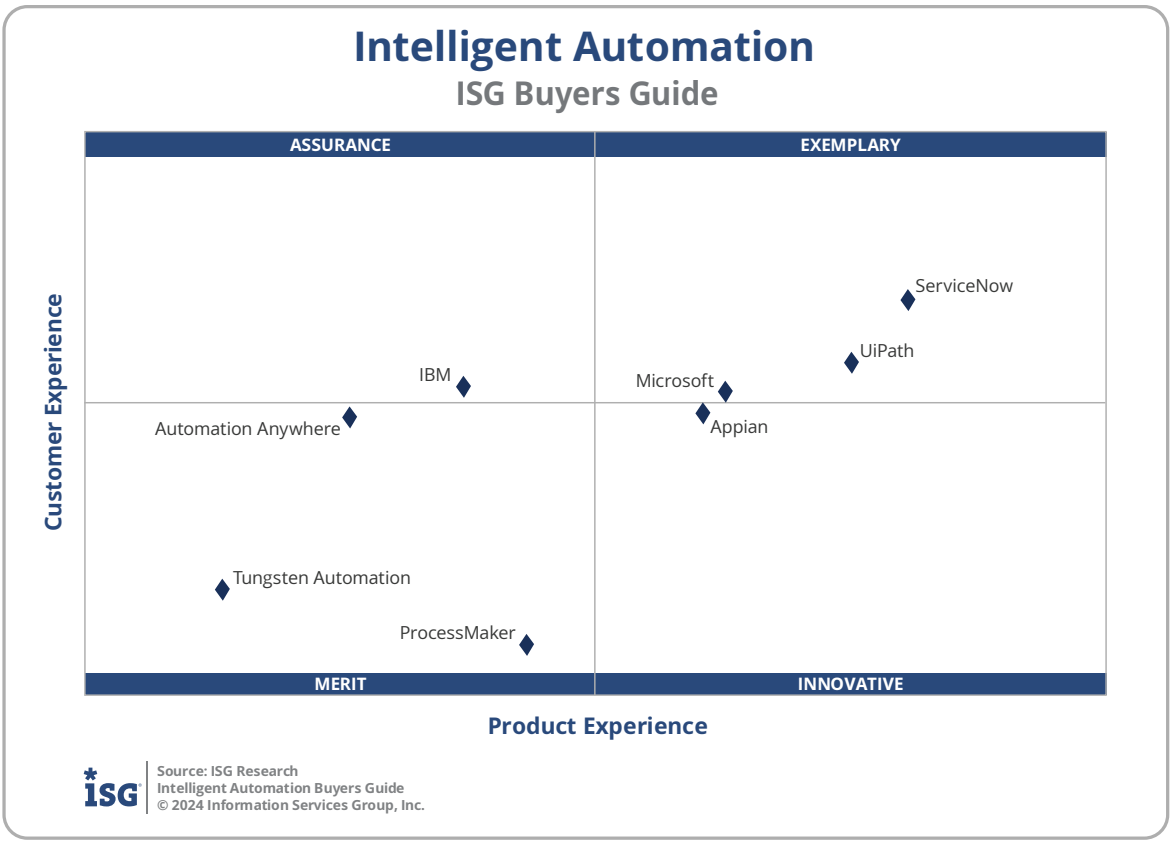
Intelligent Automation
Overall

Providers	Grade	Performance
ServiceNow	B++	Leader 76.3%
UiPath	B+	Leader 74.3%
Microsoft	B+	Leader 71.3%
Appian	B+	68.9%
ProcessMaker	B	66.2%
IBM	B	65.6%
Automation Anywhere	B-	59.9%
Tungsten Automation	B-	59.1%

Source: ISG Research
Intelligent Automation Buyers Guide

The overall representation of the research below places the rating of the Product Experience and Customer Experience on the *x* and *y* axes, respectively, to provide a visual representation and classification of the software providers. Those providers whose Product Experience have a higher weighted performance to the axis in aggregate of the five product categories place farther to the right, while the performance and weighting for the two Customer Experience categories determines placement on the vertical axis. In short, software providers that place closer to the upper-right on this chart performed better than those closer to the lower-left.

The research places software providers into one of four overall categories: Assurance, Exemplary, Merit or Innovative. This representation classifies providers' overall weighted performance.



Exemplary: The categorization and placement of software providers in Exemplary (upper right) represent those that performed the best in meeting the overall Product and Customer Experience requirements. The providers rated Exemplary are: Microsoft, ServiceNow and UiPath.

Innovative: The categorization and placement of software providers in Innovative (lower right) represent those that performed the best in meeting the overall Product Experience requirements but did not achieve the highest levels of requirements in Customer Experience. The provider rated Innovative is: Appian.

Assurance: The categorization and placement of software providers in Assurance (upper left) represent those that achieved the highest levels in the overall Customer Experience requirements but did not achieve the highest levels of Product Experience. The provider rated Assurance is: IBM.

Merit: The categorization of software providers in Merit (lower left) represents those that did not exceed the median of performance in Customer or Product Experience or surpass the threshold for the other three categories. The providers rated Merit are: Automation Anywhere, ProcessMaker and Tungsten Automation.

We warn that close provider placement proximity should not be taken to imply that the packages evaluated are functionally identical or equally well suited for use by every enterprise

or for a specific process. Although there is a high degree of commonality in how enterprises handle intelligent automation, there are many idiosyncrasies and differences in how they do these functions that can make one software provider's offering a better fit than another's for a particular enterprise's needs.

We advise enterprises to assess and evaluate software providers based on organizational requirements and use this research as a supplement to internal evaluation of a provider and products.

Product Experience

The process of researching products to address an enterprise's needs should be comprehensive. Our Value Index methodology examines Product Experience and how it aligns with an enterprise's life cycle of onboarding, configuration, operations, usage and maintenance. Too often, software providers are not evaluated for the entirety of the product; instead, they are evaluated on market execution and vision of the future, which are flawed since they do not represent an enterprise's requirements but how the provider operates. As more software providers orient to a complete product experience, evaluations will be more robust.

Intelligent Automation
Product Experience

Providers	Grade	Performance
ServiceNow	B++	*Leader* 66.0%
UiPath	B++	*Leader* 65.9%
Microsoft	B+	*Leader* 60.5%
Appian	B+	57.8%
ProcessMaker	B	56.9%
IBM	B	56.5%
Automation Anywhere	B	56.2%
Tungsten Automation	B-	51.0%

Source: ISG Research
Intelligent Automation Buyers Guide

The research results in Product Experience are ranked at 80%, or four-fifths, of the overall rating using the specific underlying weighted category performance. Importance was placed on the categories as follows: Usability (10%), Capability (30%), Reliability (10%), Adaptability (15%) and Manageability (15%). This weighting impacted the resulting overall ratings in this research. ServiceNow, UiPath and Microsoft were designated Product Experience Leaders.

Customer Experience

The importance of a customer relationship with a software provider is essential to the actual success of the products and technology. The advancement of the Customer Experience and the entire life cycle an enterprise has with its software provider is critical for ensuring satisfaction in working with that provider. Technology providers that have chief customer officers are more likely to have greater investments in the customer relationship and focus more on their success. These leaders also need to take responsibility for ensuring this commitment is made abundantly clear on the website and in the buying process and customer journey.

The research results in Customer Experience are ranked at 20%, or one-fifth, using the specific underlying weighted category performance as it relates to the framework of commitment and value to the software provider-customer relationship. The two evaluation categories are Validation (10%) and TCO/ROI (10%), which are weighted to represent their importance to the overall research.

Intelligent Automation
Customer Experience

Providers	Grade	Performance
ServiceNow	A-	*Leader* 17.3%
UiPath	A-	*Leader* 16.3%
IBM	B++	*Leader* 16.1%
Microsoft	B++	15.9%
Appian	B++	15.8%
Automation Anywhere	B++	15.7%
Tungsten Automation	B	13.2%
ProcessMaker	B-	12.2%

Source: ISG Research
Intelligent Automation Buyers Guide

The software providers that evaluated the highest overall in the aggregated and weighted Customer Experience categories are ServiceNow, UiPath and IBM. These category Leaders best communicate commitment and dedication to customer needs.

Software providers that performed well in this category provided sufficient customer case studies to demonstrate success and have articulated their commitment to customer experience and an enterprise's journey. The selection of a software provider means a continuous investment by the enterprise, so a holistic evaluation of any provider must include examination of how they support their customer experience.

Appendix: Software Provider Inclusion

For inclusion in the ISG Buyers Guide™ for intelligent automation in 2024, a software provider must be in good standing financially and ethically, have at least $30 million in annual or projected revenue verified using independent sources, sell products and provide support on at least two continents, and have at least 100 employees. The principal source of the relevant business unit's revenue must be software-related, and there must have been at least one major software release in the last 18 months.

The research is designed to be independent of the specifics of software provider packaging and pricing. To represent the real-world environment in which businesses operate, we include providers that offer suites or packages of products that may include relevant individual modules or applications. If a software provider is actively marketing, selling and developing a product for the general market and it is reflected on the provider's website that the product is within the scope of the research, that provider is automatically evaluated for inclusion.

All software providers that offer relevant intelligent automation products and meet the inclusion requirements were invited to participate in the evaluation process at no cost to them.

Software providers that meet our inclusion criteria but did not completely participate in our Buyers Guide were assessed solely on publicly available information. As this could have a significant impact on classification and ratings, we recommend additional scrutiny when evaluating those providers.

Products Evaluated

Provider	Product Names	Version	Release Month/Year
Appian	Process Automation Platform	v. 24.3	August 2024
Automation Anywhere	Automation Workspace	v. 33.0	September 2024
IBM	Robotic Process Automation	v. 23.0	September 2024
Microsoft	Power Automate	v. 2401.3	August 2024
ProcessMaker	BPA Platform	2024 Release	September 2024
ServiceNow	Automation Engine	Xanadu Release	August 2024
Tungsten Automation	Tungsten RPA	v. 11.5.0	May 2024
UiPath	Business Automation Platform	v. 2023.10.5	August 2024

Providers of Promise

The Intelligent Automation Buyers Guide includes software providers that offer commercially available software for Process Automation Platforms, Intelligent Document Processing and Process Discovery and Mining.

We did not include software providers that, as a result of our research and analysis, did not satisfy the organizational criteria for inclusion in this Buyers Guide. These are listed below as "Providers of Promise."

Provider	Annual Revenue Over $30M	Operates on Two Continents	At Least 100 Employees
aiwozo	No	Yes	No
EdgeVerve	No	Yes	No

About ISG Software Research

ISG Software Research provides authoritative market research and coverage on the business and IT aspects of the software industry. We distribute research and insights daily through our community, and we provide a portfolio of consulting, advisory, research and education services for enterprises, software and service providers, and investment firms. Our premier service, ISG Software Research On-Demand, provides structured education and advisory support with subject-matter expertise and experience in the software industry. ISG Research Buyers Guides support the RFI/RFP process and help enterprises assess, evaluate and select software providers through tailored Assessment Services and our Value Index methodology. Visit www.ventanaresearch.com to sign up for free community membership with access to our research and insights.

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