

Intelligent Automation – Platforms and Products

A research report comparing provider strengths,
challenges and competitive differentiators

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Automation, augmentation and autonomy are consolidating to enhance business productivity

Changing market dynamics drive the functional architecture design, including intelligent capabilities and human augmentation, to amplify performance. The performance component has expanded beyond speed and incorporates efficiency, experience and economics, directly impacting all value chain stakeholders. With the introduction of emerging technologies, human-machine augmentation can seamlessly manage more complex activities than ever before. The independent software vendors (ISVs) market is evolving with the emergence of platforms that connect and integrate solutions, capabilities and products to develop offerings specific to an industry, persona and function. This drives innovation to introduce autonomy and intelligent orchestration that helps automation drive changes to the next level. Once there

is a clear vision and path for automation, augmentation and autonomy, businesses aim to extract intelligence and build visualization panes that present actionable information. This enterprise intelligence visualization practice is driven by analytics and data sciences converging with ML on a platform-like offering to drive deep business insights.

Designing intelligent conversation is being explored to elevate and enhance user experience.

Conversational AI (ConAI) is evolving to integrate multiple modes of communication, including text, voice and visual inputs. Generative AI (GenAI) models enhance ConAI systems by enabling a more natural and versatile interaction. For example, AI-powered chatbots like Ada Health incorporate multimodal capabilities to understand and respond to textual descriptions and images in healthcare. GenAI is revolutionizing ConAI platforms by enabling them to understand and respond in a highly personalized manner. These platforms can grasp user preferences and contextual cues through advanced natural language processing

Decision-making is now an inevitable functionality of every automation platform.



Executive Summary

(NLP) and ML, providing more tailored and relevant responses. In the retail sector, virtual assistants like those used by global e-commerce leaders leverage generative models to analyze user behavior and offer personalized product recommendations, creating a more engaging shopping experience and ambiance.

Conversational agents are becoming more sophisticated, mimicking human-like conversational styles and nuances. The recently popular transformers and large language models (LLMs) have demonstrated the ability to generate contextually relevant and coherent responses, contributing to more natural and engaging interactions, while also offering practicable controls, such as temperature and p-square values, to tune the model outputs based on requirements of creative responses but avoiding potential AI hallucinations. Prompt engineering and low-code/no-code (LCNC) features enable casual and enterprise business users to leverage GenAI in conversations and day-to-day work such as proposal drafting, semantic searches and Q&A from large documents, etc. These trends are particularly evident in the customer service domain, where

virtual assistants like Google's Duplex can make reservations or schedule appointments with human-like conversational experiences, which extend the discussions on the real-world availability of artificial general intelligence (AGI).

Semantically and contextually smart translation features in AI models powered by advanced GenAI have broken language barriers in conversational applications by providing robust cross-lingual capabilities. These models can understand and generate content in multiple languages, enhancing accessibility and inclusivity. This is crucial for customer support systems to efficiently handle inquiries in various languages in global business operations. For instance, companies like Microsoft and Google are incorporating GenAI into their translation and language understanding services to enable seamless multilingual interactions, augmenting ConAI platforms with contextual emotional and limited social intelligence and allowing them to understand and respond to user emotions and interactions. By incorporating sentiment analysis, these systems can adapt their tone and content based on the user's mood. In social media monitoring, tools utilize

generative models to analyze and respond to user comments with a nuanced understanding of sentiment, helping businesses manage their online reputation and brand equity.

Document definition and information extraction are evolving at the pace of technology.

Document processing solutions involve advanced OCR technology, which enables the extraction of information from documents with greater accuracy. ABBYY and UiPath are leading vendors in this space. For example, in the insurance sector, UiPath's Document Understanding uses OCR to extract data from insurance claims, streamlining the claims processing workflow. Vendors like ABBYY and Tesseract are pushing the boundaries of OCR, making it possible to extract text from complex documents, handwritten text and even low-quality scans. ABBYY's FineReader extracts and analyzes text from legal documents, streamlining contract management processes in the legal sector. In document processing, NLP systems help understand the context and meaning of text within documents.

Leveraging NLP, platforms like IBM Watson Discovery can extract insights from unstructured data. In the healthcare industry, semantic content discovery solutions are applied to extract relevant information from medical records, enhancing the efficiency of data analysis in patient care. Document Understanding platform, for instance, uses AI to classify and extract data from documents, allowing businesses to automate tasks such as invoice processing. UiPath's technology helps organizations streamline the accounts payable processes in the finance sector. With data privacy regulations becoming more stringent, document processing platforms also focus on data security and compliance. Integrated IDP solutions offer secure cloud-based document management and compliance solutions. Specific solutions ensure patient records are handled in compliance with the Health Insurance Portability and Accountability Act (HIPAA). GPT-3 and BERT are being integrated into document processing platforms to facilitate content generation and summarization. In the content marketing sector, AI technology stacks, including transfer models, generate blog posts,



articles and marketing copy, reducing the time and effort required for content creation. NLU is a key trend in automated IDP, enabling systems to understand the context and meaning of text within documents. Leveraging NLU platforms for document processing can help in improved document interpretation. In insurance claims processing, IDP platforms are employed to extract relevant information from medical reports, facilitating quicker and more accurate claims assessments.

Process mining space is consolidating to embed as a core business process function

Traditional process mining tools primarily focus on retrospective analysis of historical data, while contemporary solutions leverage advanced ML algorithms for real-time monitoring and predictive insights. These tools identify inefficiencies and provide proactive recommendations for process optimization. Process discovery solutions leverage advanced analytics and automation. For example, modern tools leverage ML algorithms to analyze large datasets and identify hidden patterns in business processes. They increasingly focus

on real-time process monitoring and event log analysis to provide organizations with insights into their operations.

Additionally, there is a growing emphasis on user-friendly interfaces and visualization techniques to enhance the accessibility of process mining for non-technical users. This involves integrating collaborative technologies and human-centric approaches. Tools are now emphasizing the involvement of stakeholders at various stages of the design process, fostering a more inclusive, persona-based, and innovative environment to support users at all levels and tech proficiencies. Design thinking principles are incorporated into process design tools, emphasizing empathy, ideation and prototyping. Moreover, the adoption of the LCNC platform is increasing, enabling business users to actively participate in the design and innovation of processes without extensive coding knowledge. Process simulation technologies are also evolving to offer more accurate and dynamic representations of real-world scenarios. Simulation tools now integrate with real-time data streams, allowing organizations to model and analyze processes in complex, dynamic

environments. The integration of GenAI in simulation tools is a notable trend, enabling the creation of alternative process scenarios and optimizing workflows.

Further, GenAI algorithms can suggest innovative process variations, allowing organizations to explore new possibilities and enhance resource allocation and risk management decision-making. One key trend is the integration of ML models to discover and map intricate business processes automatically. These models analyze vast datasets, identifying real-time patterns, deviations and bottlenecks, enabling organizations to respond swiftly to changing market conditions and continuously improve their operations. These enhancements democratize process mining, making it accessible to a broader audience within organizations, including business analysts and managers.

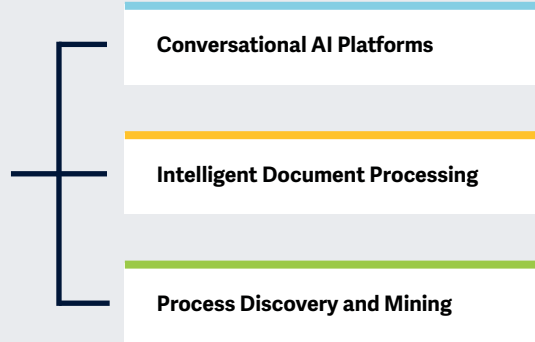
In the field of automation, consolidation primarily occurs at the core architecture level, while differentiation takes place at the consumption layer. Here, various capabilities have branched out as independent solutions,

expanding within the same domain. Integration platforms are being developed to converge and complement individual capabilities to solve many technological challenges. Enterprise clients are transforming their business models, processes and outcomes based on solution maturity and capability, and the transformation is irreversible. ISVs have aligned their solutions with specific industries, inorganically integrating the capabilities to enhance their growth and adoption rates. This approach has enabled them to expand beyond their traditional areas of influence, now offering enterprise-wide solutions and provisioning capabilities.

Decision-making ability is directly impacting the tactical (outcome experience) and strategic [net promoter score (NPS) and experience] attributes, which are the key factors for every enterprise to create competitive business positioning.



The primary capabilities to **automate conversations, processes, tasks** and **documents** are covered in the three quadrants.



Simplified Illustration; Source: ISG 2023

Definition

With recent dramatic advances in ML technologies, intelligent automation platforms and products have become increasingly important for the business transformation of enterprises of all sizes. Three key technologies dominate the enterprise landscape. Conversational AI (ConAI) platforms facilitate automated and human-like dialogs between firms and their customers or employees across a range of channels; intelligent document processing (IDP) involves the automated extraction and analysis of key information from business documents at scale; and process discovery and mining analyzes logs and/or user actions to identify key business processes within organizations and highlight areas for improved efficiency or automation.

Various market dynamics drive functional architecture design, including intelligent capabilities and human augmentation to amplify performance. Introducing emerging technologies has made human-machine augmentation more seamless than ever, even for complex activities. The performance component has expanded at speed and incorporates efficiency, experience and economics—directly impacting all value chain stakeholders. Independent software

vendor (ISV) markets are evolving with platforms that connect and integrate solutions, capabilities and products to develop focused offerings for an industry, persona and function. ISVs are rapidly converting solutions to platforms to deliver customized industry-specific solutions. They are also focusing on conversational AI, IDP and process discovery and mining to navigate the deeper contexts of process and task attributes.

With the advent of generative AI, the conversational AI space is bound to see disruption. Rapid advances in large language models (LLMs) have burgeoned generative AI's capabilities to create multimodal content, including texts, images, graphics and codes in the intelligent automation space. Generative AI is part of every conversation, but providers are yet to develop scalable enterprise-grade solutions that focus on specific business use cases and that can handle enterprise data securely and safely. IDP's scope is expanding to cover various complex files, and many new possibilities regarding noise reduction, document regeneration and text conditioning are yet to be explored. Process discovery and mining are still being segmented, but the overall value is enhanced when user actions and logs are considered together.





Sweet Spot

DocVu.AI

Overview

Visionet Systems, the parent company of DocVu.AI, is a premier IT and consulting firm based in New Jersey, U.S. It operates globally with more than 400 clients across 14 countries, supported by over 8,000 technology and domain experts. Visionet Systems provides consulting, technology and outsourcing services and solutions for various industries, including retail, pharmaceuticals and BFSI.

Key Provider Capabilities

Visionet's DocVu.AI is an AI-powered intelligent document processing (IDP) solution that enables enterprises to optimize document-intensive processes involving documents, such as bank statements, application forms, invoices, claims and contracts.

Proprietary Workflow Engine

- DocVu.AI provides a proprietary workflow engine that automatically assigns tasks to teams based on rules and balances loads to meet SLAs.
- A pretrained library of over 2,000 documents covers standard mortgage documents and statements from the top 30 U.S. banks.
- End users can create and manage tasks and event-based custom rules

for document indexing, classification and extraction.

Document Indexing, Classification and Extraction

- DocVu.AI leverages AI- and ML-powered optical character recognition (OCR) to index documents with near 100 percent accuracy, guided by client-defined taxonomy and rules. It can classify documents through image processing and barcode detection.
- NLP-based templateless processing classifies varied document types.
- AI and ML algorithms extract predefined fields and extend capabilities through the addition of and training on new fields.

Robust AI, ML and QA System

- DocVu.AI's training studio trains its AI algorithms to analyze documents, identify

missing documents, highlight errors, and provide information to certified auditors (human-in-the-loop) for review.

- Human efforts applied in the production environment are autocaptured to refine the AI and ML model.
- The workflow engine enforces rules on documents from a centralized QA checklist and initiates further manual or automated action.

Recent Portfolio Additions

- DocVu.AI's mortgage servicing rights (MSR) feature provides faster turnaround and ensures quick and accurate realization.
- Its due diligence workflows help users make informed investment decisions based on extracted and analyzed inputs.

Benefits Delivered

- **DocVu.AI delivers high straight-through processing (STP) results for templated documents, minimizing manual review effort to less than 8 percent of total data fields and correction to less than 2 percent.**
- **It brings together the benefits of human ingenuity and AI, enabling businesses to stay ahead of costs and provide robust CX.**



DocVu.AI

Sweet Spot

Visionet DocVu.AI's sweet spot for intelligent document processing (IDP) lies in its capability to cater to document-intensive industries, such as banking, capital markets and private equity. Leading-edge document processing technology and strong BFSI domain knowledge make DocVu.AI a preferred IDP solution. It shortens document processing time, reduces manual effort and ensures higher quality in document-intensive operations.

DocVu.AI has robust expertise in applications such as mortgage originations, servicing, secondary markets, auto loans and finance and accounting processes. Some of its use cases include detecting barcodes, classifying loan applications, verifying signatures, and detecting missing or fraudulent documents.

DocVu.AI processes 100,000 documents per month with 99.5 percent accuracy. It extracts, analyzes, searches and manages datasets from multifaceted contracts, trade documents and agreements. Its NLP-based template-free processing feature classifies varied document types. DocVu.AI offers an integrated workflow engine with built-in document indexing and extraction solutions and a robust QA and audit system. Its key highlights are listed as follows:

- **Robust AI and ML system:** DocVu.AI is continuously trained by existing and evolving data. Certified auditors (human-in-the-loop) handle errors and exceptions to improve output accuracy.

- **Built for all sizes:** DocVu.AI's built-in architectural flexibility addresses large and small enterprises' unique conditions and processes. It integrates with major cloud hyperscalers, ERP, ESG and loan origination system (LOS) applications.
- **Scalable and stable:** DocVu.AI exhibits rapid scalability and is 99.99 percent available with business continuity planning and disaster recovery (BCP and DR) compliance.

DocVu.AI's state-of-the-art offering leveraging AI and ML and Visionet's two-decade-long mortgage expertise strengthen the company's unique positioning in the IDP market.

Future roadmap

DocVu.AI's AI and ML lab focuses on using GenAI for document classification, extraction and other use cases. It explores ways to process invoices, increase extraction accuracy, provide multilanguage support and extract information from cursive handwriting. DocVu.AI will be available on cloud marketplaces to support faster implementation and obtain feedback for improvements.

Visionet is expanding the reach of DocVu.AI beyond the BFSI sector, processing sales orders in retail and forms in healthcare. It is partnering with key U.S. insurance agents to launch an Insurance Policy Onboarding solution featuring KYC extraction and fraud detection. It focuses on becoming a listed company in the future.





Appendix

The ISG Provider Lens™ 2023 – Intelligent Automation – Platforms and Products study analyzes the relevant software vendors/service providers in the U.S. market, based on a multi-phased research and analysis process, and positions these providers based on the ISG Research™ methodology.

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The research and analysis presented in this report includes research from the ISG Provider Lens™ program, ongoing ISG Research™ programs, interviews with ISG advisors, briefings with services providers and analysis of publicly available market information from multiple sources. The data collected for this report represents information that ISG believes to be current as of October 2023, for providers who actively participated as well as for providers who did not. ISG recognizes that many mergers and acquisitions have taken place since that time, but those changes are not reflected in this report.

All revenue references are in U.S. dollars (\$US) unless noted.

The study was divided into the following steps:

1. Definition of Intelligent Automation – Platforms and Products market
2. Use of questionnaire-based surveys of service providers/vendor across all trend topics
3. Interactive discussions with service providers/vendors on capabilities & use cases
4. Leverage ISG's internal databases & advisor knowledge & experience (wherever applicable)
5. Use of Star of Excellence CX-Data
6. Detailed analysis & evaluation of services & service documentation based on the facts & figures received from providers & other sources.
7. Use of the following key evaluation criteria:
 - * Strategy & vision
 - * Tech Innovation
 - * Brand awareness and presence in the market
 - * Sales and partner landscape
 - * Breadth and depth of portfolio of services offered
 - * CX and Recommendation



Author & Editor Biographies



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Ashwin Gaidhani is an enterprise governance and digital business transformation expert. He is a research partner at ISG and has extensive experience in enterprise service management and transformative technologies. Ashwin's business technology expertise revolves around technology business management, work design methodologies and enterprise governance. He is a creative leader who designs, describes and implements strategies to drive digital transformation. With over 22 years of experience, he is a practice leader, executive-level advisor and

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Co-author, Enterprise Context and Global Overview

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Mukesh has more than seven years of experience in the market and industry research. He currently serves as a research specialist with a key interest in AI and GenAI. In his current role, he is responsible for supporting and co-authoring Provider Lens™ studies on intelligent automation, procurement, IoT and others. His areas of expertise are conversational AI, enterprise automation, AI on Edge and emerging technologies. He is also involved in authoring enterprise context and the global summary report with market trends and insights.

Mukesh has been part of several custom research engagements in areas of automation, competitive intelligence and others. In his earlier roles, he was primarily conducting secondary and primary research on competitive benchmarking, SWOT analysis, industry assessment, vendor briefing decks, among others.





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Sameen is a research analyst with ISG, with a key interest in market and industry research across emerging technologies. She supports and co-authors Provider Lens™ studies on intelligent automation, mainframes, and others. She is also involved in authoring enterprise context and global summary reports with market trends and insights. Her areas of expertise are automation, telecommunication, and retail.

Sameen has been a part of diverse market, business, and consumer research teams, effectively transforming market data into actionable insights and intelligence reports for several leading companies. In her prior roles, she has worked on qualitative and quantitative research, market feasibility studies, SWOT assessment, and competitive analysis.



IPL Product Owner

Jan Erik Aase
Partner and Global Head – ISG Provider Lens™

Mr. Aase brings extensive experience in the implementation and research of service integration and management of both IT and business processes. With over 35 years of experience, he is highly skilled at analyzing vendor governance trends and methodologies, identifying inefficiencies in current processes, and advising the industry. Jan Erik has experience on all four sides of the sourcing and vendor governance lifecycle - as a client, an industry analyst, a service provider and an advisor.

Now as a research director, principal analyst and global head of ISG Provider Lens™, he is very well positioned to assess and report on the state of the industry and make recommendations for both enterprises and service provider clients.



iSG Provider Lens™

The iSG Provider Lens™ Quadrant research series is the only service provider evaluation of its kind to combine empirical, data-driven research and market analysis with the real-world experience and observations of iSG's global advisory team. Enterprises will find a wealth of detailed data and market analysis to help guide their selection of appropriate sourcing partners, while iSG advisors use the reports to validate their own market knowledge and make recommendations to iSG's enterprise clients. The research currently covers providers offering their services across multiple geographies globally.

For more information about iSG Provider Lens™ research, please visit this [webpage](#).

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For more information, visit isg-one.com.





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