

Analytics Services

Data Engineering Services - Midsize

A research report comparing provider strengths, challenges and competitive differentiators

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Analytics investments in data and cloud are the cornerstones for deploying and scaling Generative AI.

The year 2022 left a marked impact on the global and U.S. analytics market with Generative AI (GenAI) and large language models (LLMs) getting unprecedented attention and playing a substantial role in driving growth. In 2023, enterprises and providers were making investments and taking initiatives to convert the GenAI hype into reality by generating the necessary momentum. This momentum, with the backdrop of enterprises increasingly relying on data-driven decision-making, further propelled the growth of the analytics market in the U.S. Ongoing economic uncertainty combined with reduced consumer activity has pushed enterprises to seek new ways of generating revenue, based on strong data-led business decisions.

According to ISG Research, 85 percent of enterprises believe that investment in GenAI in

the next 24 months is important or critical. ISG's State of Applied Generative AI Market Report details that GenAI will witness a four-phased maturation process — current adoption is still within the first two phases. In 2023, adoption has begun with knowledge management and functional process optimization, leading to product and offerings transformation (development of true AI-first products) and complete business transformation (reinvented operational models entirely built around AI).

Such developments also indicate that analytics is becoming the foundation for the successful development and implementation of GenAI use cases. Some of the use cases in which data and analytics are gaining traction include:

- Data extraction
- Contextual searches and indexes
- Virtual assistant solutions
- Predictive analytics
- Performance analytics
- Recommendation engine
- Synthetic data generation

Analytics initiatives are focused on building a **strong** **data culture** and **data literacy.**



Moreover, there is a renewed focus on data from a GenAI perspective, where it is becoming increasingly critical for business transformation and reinvention. In the past, data availability and accessibility was viewed from an analytics perspective but with GenAI, the focus has shifted to data being viewed under the lens of business value. Cybersecurity, privacy and the responsible use of data are becoming the key concerns for enterprises, driven by customer need to protect personal data.

Some of the key challenges enterprises face with analytics initiatives and projects include:

1. Recession impacting budget — no investments on new solutions or technologies
2. Deriving more value from existing analytics investments
3. Adopting the right strategies to become data-centric and evolving from being data-aware to becoming data-reliant
4. Ability to scale analytics and AI investments across an enterprise

5. Lack of a data-centric culture serves as a barrier in data democratization and monetization

The ISG Provider Lens™ Analytics Services study reveals that enterprises across the large and midmarket have different concerns and invest in varied analytics solutions in alignment with their digital and data maturity. It is imperative that enterprises engage with suitable service providers that exhibit a thorough understanding of enterprise-specific challenges and have the ability to prioritize and handle them effectively.

These challenges highlight the varied requirements of implementing AI and analytics solutions in diverse business environments, with due diligence ranging from technical aspects to organizational dynamics. Some of the key challenges identified for both large businesses and the midmarket with the analysis undertaken for the study include:

Data quality and integration

- Large Businesses: Struggling to handle extensive and diverse datasets while maintaining data quality and integrating information from various sources to ensure consistency and reliability.
- Midmarket: Limited data resources leading to data silos and the criticality of data accuracy for effective insights using analytics.

Costs and Rol

- Large Businesses: Upfront costs of acquiring and implementing advanced analytics solutions, integration expenses and the challenge of demonstrating a substantial Rol.
- Midmarket: Balancing limited budgets and cost-effective analytics solutions and demonstrating tangible value to justify the investment.

Talent and skills gap

- Large Businesses: Attracting and retaining skilled data scientists, data engineers and analysts, and building a robust analytics team with diverse expertise.

- Midmarket: Hiring specialized talent due to budget constraints and relying on existing staff to handle analytics tasks.

Data security and privacy

- Large Businesses: Navigating complex data security and compliance requirements, protecting sensitive information from breaches and ensuring adherence to regulatory standards.
- Midmarket: Addressing cybersecurity concerns with limited resources and ensuring compliance with relevant data privacy regulations.

Integration with existing systems

- Large Businesses: Ensuring seamless integration with complex existing IT infrastructures and legacy systems and avoiding disruptions in ongoing operations.
- Midmarket: Overcoming potential compatibility issues with existing software and technology to ensure a smooth integration process.



Scalability

- Large Businesses: Ensuring that AI and analytics solutions can scale to accommodate growing data volumes, expanding business needs and increasing user demands.
- Midmarket: Balancing the need for scalable solutions with current business size and future growth projections and avoiding overinvestment or underinvestment.

Change management

- Large Businesses: Managing resistance to change and ensuring effective adoption of analytics tools by employees at various levels.
- Midmarket: Adapting to new analytics processes and tools with a small workforce and ensuring a smooth transition through effective change management.

Understanding business needs

- Large Businesses: Aligning AI and analytics solutions with diverse business units and varied operational requirements, ensuring relevance and usability across an organization.
- Midmarket: Defining and understanding specific business needs to avoid overinvestment in or underutilization of analytics tools and ensuring targeted benefits.

Real-time analytics

- Large Businesses: Implementing real-time AI and analytics solutions for timely decision-making in a complex organizational structure, which involves managing data streams efficiently.
- Midmarket: Navigating the challenge of using real-time analytics with limited resources and infrastructure and dealing with the need for timely insights.

Vendor selection

- Large Businesses: Evaluating and selecting from myriad complex and feature-rich AI and analytics solutions by considering factors such as scalability, integration capabilities and available vendor support.
- Midmarket: Choosing solutions that are cost-effective, user-friendly and aligned with a business's scale and needs and making informed decisions with limited resources.

The 2023 study has also identified specific challenges that enterprises face in implementing data science, data engineering and data management services. Some of the key aspects are highlighted below.

Challenges related to data science services:

- **Interpretation:** Data science models, especially the ones based on complex algorithms such as deep learning may make interpretation a challenge. Enterprises continue to face difficulties in understanding and justifying the decisions made by these models — a concern in regulated industries where transparency is critical.

- **Governance and Ethical Considerations:**

Enterprises struggle to address governance and ethical considerations related to data science. This includes compliance with data protection regulations, ethical use of data and mitigation of biases or discrimination in algorithms — concerns factors that require proper governance frameworks.

Enterprises investing in data modernization and data engineering services are faced with the following challenges:

- **Data Integration and ETL Processes:** Enterprises continue to grapple with the challenge of integrating diverse data sources and undertaking extract, transform and load (ETL) processes. With the increasing volume and variety of data, organizations need to ensure seamless data ingestion, transformation and consolidation. This includes addressing issues related to data quality, schema mapping, data compatibility and handling real-time or streaming data.
- **Scalability and Performance:** In 2023, enterprises face the challenge of scaling their data engineering infrastructure to



handle the growing volume of data. With continued data explosion, organizations must ensure that their systems have the ability to handle the increased workload efficiently. This involves designing scalable architectures, optimizing data processing pipelines, leveraging distributed computing frameworks and utilizing cloud-based technologies for elastic scalability.

- **Real-time Data Processing:** The demand for real-time analytics and insights continues to rise in 2023. Enterprises face challenges in processing and analyzing streaming data in real-time for timely decision-making and action. Building efficient real-time data pipelines, leveraging technologies such as Apache Kafka or Apache Flink, and implementing event-driven architectures are important considerations for data engineering in the era of real-time analytics.
- **Automation and Orchestration:** Automating data engineering processes and orchestrating workflows are vital to improve efficiency and reduce manual efforts. In 2023, enterprises have to deal with the challenge of streamlining data

engineering tasks such as scheduling data pipelines, managing dependencies and automating data quality checks. Adopting workflow management tools, leveraging data orchestration frameworks and implementing DevOps practices are relevant in addressing this challenge.

- **Cloud Migration and Hybrid Environments:** As an increasing number of organizations adopt cloud technologies, enterprises face the challenge of migrating their data infrastructure to the cloud while managing hybrid environments. They must address issues related to data integration, data movement across on-premises and cloud systems, optimizing costs and leveraging the benefits of cloud services for data engineering workloads.
- **Data Quality and Master Data Management:** Ensuring data quality and managing master data effectively are ongoing challenges for enterprises. In 2023, organizations must address issues

Challenges related to data management and data governance services:

related to data consistency, accuracy, completeness and timeliness. Establishing data quality frameworks, implementing data profiling and cleansing processes, and employing master data management strategies are crucial for reliable data engineering practices.

- **Data Lineage and Metadata Management:** Understanding the origin and lineage of data, as well as managing metadata, is essential in 2023. Enterprises face challenges in documenting and tracking the flow of data across various systems and processes. Implementing data lineage tracking mechanisms, capturing metadata information and maintaining data catalogs or metadata repositories are key considerations for effective data engineering practices.
- **Data Collaboration and DataOps:** Collaboration among different teams working with data such as data scientists, analysts and business users is crucial for success. In 2023, organizations must address the challenge of fostering collaboration, enabling self-service data

access and implementing DataOps practices. This includes creating data catalogs, providing data discovery platforms and facilitating seamless collaboration and knowledge sharing.

The absence of specific federal legal frameworks on AI in the U.S. has led to legislative and agency efforts at both federal and state levels to regulate the use of AI. These are detailed below:

- **American Data Privacy and Protection Act (ADPPA):** The ADPPA is one of the proposed laws addressing AI regulation. While it primarily focuses on data privacy and protection, it includes provisions on the use of algorithms. The bill requires impact assessments for algorithms used in decision-making that represent an elevated risk to individuals. The act reflects a growing concern about the potential negative impacts of AI-based systems on individuals and the need for accountability.



- **Algorithmic Accountability Act of 2022 (AAA):**

The AAA is another proposed law that specifically addresses algorithmic accountability. It emphasizes the need for assessing their impact, particularly the ones used in decision-making processes that can significantly affect individuals.

This legislative effort underscores the recognition that algorithms, including the ones powered by AI, can have profound consequences and their deployment should be subject to scrutiny and accountability.

- **State-level Consumer Privacy Laws:**

In the absence of comprehensive federal legislation, individual states have taken steps to enact consumer privacy laws that regulate the collection, use and disclosure of personal data.

These state laws often include provisions related to automated decision-making, explicitly addressing AI systems in contexts such as housing, credit, employment and criminal justice. They focus on ensuring

fairness and transparency in the use of algorithms for critical decisions that impact individuals.

Both the ADPPA and AAA emphasize the need for impact assessments, signaling a shift toward proactive measures to evaluate and mitigate the potential risks associated with AI-based systems. The focus on impact assessments aligns with broader global discussions on responsible AI deployment, transparency and ethical considerations surrounding algorithmic decision-making.


While the U.S does not yet have a comprehensive federal legal framework specific to AI regulation, the legislative efforts at federal and state levels indicate a growing recognition of the importance of addressing the challenges and risks associated with, particularly related to decision-making.

Notes on quadrant positioning: In this study, several data analytics service providers that offer similar portfolio attractiveness in most quadrants have been assessed. This reflects the relative maturity of the market, providers and offerings. It is a given that not all are equal

in circumstances. The vertical axis positioning in each quadrant reflects ISG's analysis of how well the offerings align with the full scope of enterprise needs. The market has also been segmented into Large, Mid-market and Specialists to showcase the varying analytics requirements of enterprises based on their size, scale and industry dynamics. It also reflects providers' strategy to align their portfolio and offerings to suit market demands and enterprise needs.


Service providers rely on data-centric principles to provide unified, industrialized, cost-efficient and innovative data platforms for better decision-making. This includes using a domain-driven architecture, treating data as a product, creating data marketplaces and ensuring flexibility in to adapting to market changes – in short, fostering an environment that values data and uses it strategically.



 Provider Positioning


	Data Science Services - Large	Data Science Services - Midsize	Data Science Services - Specialist	Data Engineering Services - Large	Data Engineering Services - Midsize	Data Engineering Services - Specialist	Data Management Services - Large	Data Management Services - Midsize
Accenture	Leader	Not In	Not In	Leader	Not In	Not In	Leader	Not In
Analytics8	Not In	Not In	Contender	Not In	Not In	Product Challenger	Not In	Not In
Apexon	Not In	Leader	Not In	Not In	Leader	Not In	Not In	Leader
Atos	Product Challenger	Not In	Not In	Product Challenger	Not In	Not In	Product Challenger	Not In
Birlasoft	Not In	Product Challenger	Not In	Not In	Product Challenger	Not In	Not In	Product Challenger
Brillio	Not In	Leader	Not In	Not In	Product Challenger	Not In	Not In	Product Challenger
Capgemini	Leader	Not In	Not In	Leader	Not In	Not In	Leader	Not In
CGI	Product Challenger	Not In	Not In	Contender	Not In	Not In	Contender	Not In
Cigniti	Not In	Product Challenger	Not In	Not In	Contender	Not In	Not In	Product Challenger



 Provider Positioning


	Data Science Services - Large	Data Science Services - Midsize	Data Science Services - Specialist	Data Engineering Services - Large	Data Engineering Services - Midsize	Data Engineering Services - Specialist	Data Management Services - Large	Data Management Services - Midsize
Cognizant	Leader	Not In	Not In	Leader	Not In	Not In	Leader	Not In
Deloitte	Leader	Not In	Not In	Leader	Not In	Not In	Leader	Not In
DXC Technology	Product Challenger	Not In	Not In	Product Challenger	Not In	Not In	Product Challenger	Not In
Encora	Not In	Leader	Not In	Not In	Leader	Not In	Not In	Product Challenger
EPAM Systems	Contender	Not In	Not In	Contender	Not In	Not In	Contender	Not In
EXL	Contender	Not In	Not In	Contender	Not In	Not In	Contender	Not In
EY	Market Challenger	Not In	Not In	Market Challenger	Not In	Not In	Market Challenger	Not In
Factsparn	Not In	Not In	Product Challenger	Not In	Not In	Product Challenger	Not In	Not In
Fractal	Not In	Not In	Leader	Not In	Not In	Leader	Not In	Not In



 Provider Positioning


	Data Science Services - Large	Data Science Services - Midsize	Data Science Services - Specialist	Data Engineering Services - Large	Data Engineering Services - Midsize	Data Engineering Services - Specialist	Data Management Services - Large	Data Management Services - Midsize
Genpact	Leader	Not In	Not In	Leader	Not In	Not In	Leader	Not In
Grazitti Interactive	Not In	Contender	Not In	Not In	Contender	Not In	Not In	Contender
HARMAN DTS	Not In	Leader	Not In	Not In	Leader	Not In	Not In	Leader
HCLTech	Leader	Not In	Not In	Leader	Not In	Not In	Leader	Not In
Hexaware	Not In	Leader	Not In	Not In	Leader	Not In	Not In	Leader
Hitachi Digital Services	Contender	Not In	Not In	Product Challenger	Not In	Not In	Product Challenger	Not In
HTC Global Services	Not In	Product Challenger	Not In	Not In	Leader	Not In	Not In	Leader
IBM	Market Challenger	Not In	Not In	Market Challenger	Not In	Not In	Market Challenger	Not In
Impetus Technologies	Not In	Not In	Product Challenger	Not In	Not In	Leader	Not In	Not In



 Provider Positioning


	Data Science Services - Large	Data Science Services - Midsize	Data Science Services - Specialist	Data Engineering Services - Large	Data Engineering Services - Midsize	Data Engineering Services - Specialist	Data Management Services - Large	Data Management Services - Midsize
InData Labs	Not In	Not In	Contender	Not In	Not In	Contender	Not In	Not In
Indium Software	Not In	Product Challenger	Not In	Not In	Product Challenger	Not In	Not In	Contender
Infogain	Not In	Leader	Not In	Not In	Leader	Not In	Not In	Leader
Infosys	Leader	Not In	Not In	Leader	Not In	Not In	Leader	Not In
ITC Infotech	Not In	Product Challenger	Not In	Not In	Product Challenger	Not In	Not In	Contender
KPMG	Market Challenger	Not In	Not In	Market Challenger	Not In	Not In	Market Challenger	Not In
Kyndryl	Product Challenger	Not In	Not In	Product Challenger	Not In	Not In	Product Challenger	Not In
LatentView Analytics	Not In	Not In	Product Challenger	Not In	Not In	Product Challenger	Not In	Not In
LTIMindtree	Product Challenger	Not In	Not In	Product Challenger	Not In	Not In	Product Challenger	Not In



 Provider Positioning


	Data Science Services - Large	Data Science Services - Midsize	Data Science Services - Specialist	Data Engineering Services - Large	Data Engineering Services - Midsize	Data Engineering Services - Specialist	Data Management Services - Large	Data Management Services - Midsize
Marlabs	Not In	Contender	Not In	Not In	Contender	Not In	Not In	Contender
MathCo	Not In	Not In	Leader	Not In	Not In	Leader	Not In	Not In
Mphasis	Not In	Leader	Not In	Not In	Leader	Not In	Not In	Leader
Mu Sigma	Not In	Not In	Market Challenger	Not In	Not In	Market Challenger	Not In	Not In
N-iX	Not In	Not In	Contender	Not In	Not In	Contender	Not In	Not In
NTT DATA	Rising Star ★	Not In	Not In	Rising Star ★	Not In	Not In	Rising Star ★	Not In
Persistent Systems	Not In	Leader	Not In	Not In	Leader	Not In	Not In	Leader
PwC	Market Challenger	Not In	Not In	Market Challenger	Not In	Not In	Market Challenger	Not In
Quantiphi	Not In	Not In	Leader	Not In	Not In	Leader	Not In	Not In



 Provider Positioning

	Data Science Services - Large	Data Science Services - Midsize	Data Science Services - Specialist	Data Engineering Services - Large	Data Engineering Services - Midsize	Data Engineering Services - Specialist	Data Management Services - Large	Data Management Services - Midsize
Rackspace Technology	Not In	Contender	Not In	Not In	Contender	Not In	Not In	Contender
SG Analytics	Not In	Not In	Contender	Not In	Not In	Contender	Not In	Not In
Sigmoid	Not In	Not In	Rising Star ★	Not In	Not In	Rising Star ★	Not In	Not In
SLK Group	Not In	Product Challenger	Not In	Not In	Product Challenger	Not In	Not In	Product Challenger
TCS	Leader	Not In	Not In	Leader	Not In	Not In	Leader	Not In
Tech Mahindra	Leader	Not In	Not In	Leader	Not In	Not In	Leader	Not In
ThirdEye Data	Not In	Not In	Contender	Not In	Not In	Contender	Not In	Not In
Tiger Analytics	Not In	Not In	Leader	Not In	Not In	Leader	Not In	Not In
Tredence	Not In	Not In	Leader	Not In	Not In	Leader	Not In	Not In



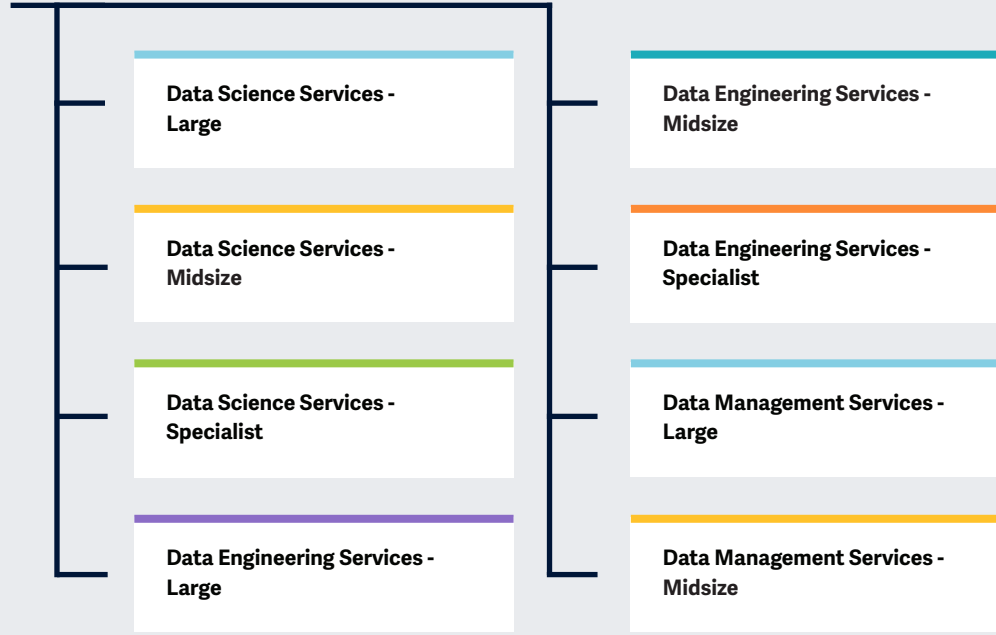
 Provider Positioning

	Data Science Services - Large	Data Science Services - Midsize	Data Science Services - Specialist	Data Engineering Services - Large	Data Engineering Services - Midsize	Data Engineering Services - Specialist	Data Management Services - Large	Data Management Services - Midsize
Trianz	Not In	Rising Star ★	Not In	Not In	Rising Star ★	Not In	Not In	Rising Star ★
UST	Contender	Leader	Not In	Contender	Leader	Not In	Contender	Leader
Virtusa	Not In	Leader	Not In	Not In	Leader	Not In	Not In	Leader
Visionet	Not In	Contender	Not In	Not In	Product Challenger	Not In	Not In	Product Challenger
Wipro	Leader	Not In	Not In	Leader	Not In	Not In	Leader	Not In
WNS	Not In	Market Challenger	Not In	Not In	Market Challenger	Not In	Not In	Market Challenger
Zensar Technologies	Not In	Product Challenger	Not In	Not In	Product Challenger	Not In	Not In	Product Challenger
ZS	Not In	Not In	Leader	Not In	Not In	Product Challenger	Not In	Not In



The report provides insights into the **evolving market trends** and **competitive dynamics** among providers of Analytics Services in 2023.

Simplified Illustration Source: 2023



Definition

The year 2023 continues to witness economic headwinds with increased inflation, while the global economy exhibits signs of resilience, with enterprises becoming cautious about IT transformation expenditure. This scenario is further complicated by increased hyper competition among enterprises and tech-savvy startups and consumers' hyperpersonalization needs. With enterprise budgets strapped, business leaders show more value for their existing investments in digital technologies and focus on enhancing CX, cost optimization and cybersecurity to ensure business and operational resilience. ISG analysis reveals that this is an opportune time for enterprises to revisit their analytics strategies and increase spending on analytics services and solutions to enhance data-driven approaches and solve business challenges. Data science services are gaining significant traction, aligning business objectives with underlying data and helping enterprises derive decision intelligence and evaluate business impact. Enterprises expect providers to identify relevant business use cases, offer AI and ML modeling platforms



and engineering capabilities, and deploy these models to production. Data engineering services are in demand owing to several cloud migrations and data modernization investments. The focus will be on achieving high cost and process efficiency optimization levels with traction for FinOps, DataOps and DevSecOps. Data management services are making a significant comeback, with data governance capabilities in demand. Enterprises compete for providers with capabilities in data catalog, data observability, data lineage and business glossary, among other areas that ensure data trustworthiness and availability.

Scope of the Report

This ISG Provider Lens™ quadrant report covers the following eight (spell out the number of quadrants, do not use a digit) quadrants for services/solutions: Data Science Services – Large, Data Science Services – Midsize, Data Science Services – Specialists, Data Engineering Services – Large, Data Engineering Services – Midsize, Data Engineering Services – Specialists, Data Management Services – Large, and Data Management Services – Midsize.

This ISG Provider Lens™ study offers IT decision-makers:

- Transparency on the strengths and weaknesses of relevant providers/software vendors
- A differentiated positioning of providers by segments (quadrants)
- Focus on the regional market

Our study serves as the basis for important decision-making by covering providers' positioning, key relationships and go-to-market considerations. ISG advisors and enterprise

clients also use information from these reports to evaluate their existing vendor relationships and potential engagements.

Provider Classifications

The provider position reflects the suitability of providers for a defined market segment (quadrant). Without further additions, the position always applies to all company sizes classes and industries. In case the service requirements from enterprise customers differ and the spectrum of providers operating in the local market is sufficiently wide, a further differentiation of the providers by performance is made according to the target group for products and services. In doing so, ISG either considers the industry requirements or the number of employees, as well as the corporate structures of customers and positions providers according to their focus area. As a result, ISG differentiates them, if necessary, into two client target groups that are defined as follows:

- **Midmarket:** Companies with 100 to 4,999 employees or revenues between \$20 million and \$999 million with central headquarters in the respective country, usually privately owned.

- **Large Accounts:** Multinational companies with more than 5,000 employees or revenue above \$1 billion, with activities worldwide and globally distributed decision-making structures.

The ISG Provider Lens™ quadrants are created using an evaluation matrix containing four segments (Leader, Product & Market Challenger and Contender), and the providers are positioned accordingly. Each ISG Provider Lens™ quadrant may include a service provider(s) which ISG believes has strong potential to move into the Leader quadrant. This type of provider can be classified as a Rising Star.

- **Number of providers in each quadrant:** ISG rates and positions the most relevant providers according to the scope of the report for each quadrant and limits the maximum of providers per quadrant to 25 (exceptions are possible).





Provider Classifications: Quadrant Key

Product Challengers offer a product and service portfolio that reflect excellent service and technology stacks. These providers and vendors deliver an unmatched broad and deep range of capabilities. They show evidence of investing to enhance their market presence and competitive strengths.

Leaders have a comprehensive product and service offering, a strong market presence and established competitive position. The product portfolios and competitive strategies of Leaders are strongly positioned to win business in the markets covered by the study. The Leaders also represent innovative strength and competitive stability.

Contenders offer services and products meeting the evaluation criteria that qualifies them to be included in the IPL quadrant. These promising service providers or vendors show evidence of rapidly investing in products/ services and a follow sensible market approach with a goal of becoming a Product or Market Challenger within 12 to 18 months.

Market Challengers have a strong presence in the market and offer a significant edge over other vendors and providers based on competitive strength. Often, Market Challengers are the established and well-known vendors in the regions or vertical markets covered in the study.

★ **Rising Stars** have promising portfolios or the market experience to become a Leader, including the required roadmap and adequate focus on key market trends and customer requirements. Rising Stars also have excellent management and understanding of the local market in the studied region. These vendors and service providers give evidence of significant progress toward their goals in the last 12 months. ISG expects Rising Stars to reach the Leader quadrant within the next 12 to 24 months if they continue their delivery of above-average market impact and strength of innovation.

Not in means the service provider or vendor was not included in this quadrant. Among the possible reasons for this designation: ISG could not obtain enough information to position the company; the company does not provide the relevant service or solution as defined for each quadrant of a study; or the company did not meet the eligibility criteria for the study quadrant. Omission from the quadrant does not imply that the service provider or vendor does not offer or plan to offer this service or solution.





Data Engineering Services - Midsize

Who Should Read This Section

In this quadrant, ISG assesses providers in the U.S., offering advisory and system integration services based on data engineering. The report highlights the changing dynamics of the data engineering services market in the region and how these providers deliver comprehensive data engineering services to collect and aggregate structured, partially structured and unstructured data from several sources. Data is gathered from different systems, contextually processed and structured in a manner to make it consumable.

Enterprises recognize the need to strategically transform their data environments, which involves the adoption of a data-centric approach and the maximization of data value. They are seeking tailored approaches that allow them to leverage advanced analytics, aligned with their objectives to drive meaningful business outcomes. In addition, they are looking at harnessing the power of AI and ML to build data pipelines and automate ETL processes.

Service providers are pivotal to enabling this transformation, wherein they leverage their data engineering expertise to address complex data transformation tasks, ensuring data accuracy and reliability. They are offering capabilities such as tailored data modernization solutions, building data pipelines that support ML workflows and automating ETL processes through workflow orchestration tools as preferred by enterprises. In short, these providers assist enterprises in achieving data-driven success.



IT Leaders should read this report to understand the relative positioning and capabilities of providers that can help them effectively plan and improve the reliability and availability of their business.



Chief Data Officers can refer to this report to gain a perspective on effective analytics tools and techniques to deliver business outcomes from data assets and ecosystems.

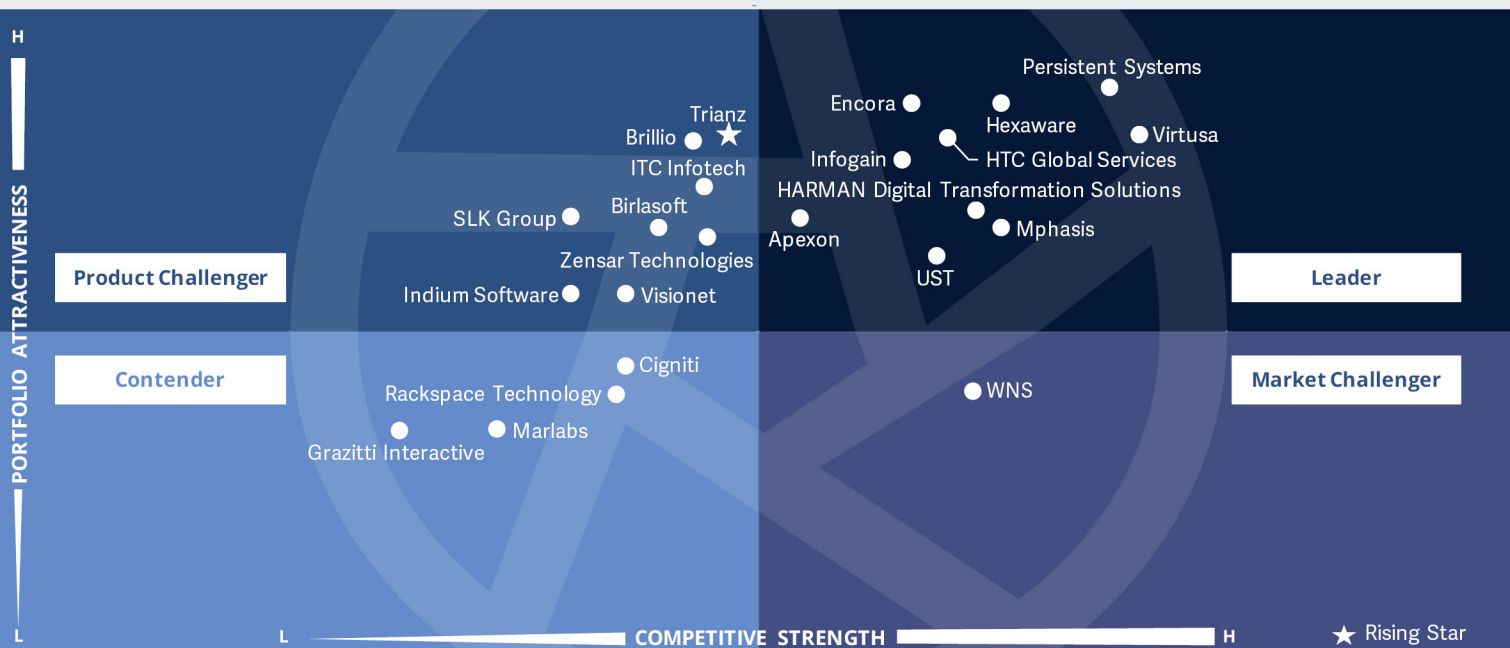


Chief Digital Officers can refer to the report to gain an understanding of the effective analytics tools and techniques for frictionless transactions in a virtual environment.



Research and Innovation Professionals should read this report to understand the IP assets of providers such as pre-built solutions and the application of AI and ML to automate processes and use cases.





This quadrant assesses providers that **develop data pipelines and data models**, manage file format conversion and **undertake data transformation**, and also provide **data quality, data security and control**, compliance and creation and management of data lakes.

Gowtham Kumar Sampath



Data Engineering Services - Midsize

Definition

In this quadrant, ISG assesses providers in the data engineering services category that are capable of delivering a comprehensive set of services to collect and aggregate structured, partially structured and unstructured data from several sources, including text, calculations, images and sound. Data is obtained from different systems, contextually processed and made available in a structured manner in accordance with access settings. Service provider offerings include, but are not limited to, developing data pipelines and models, managing file format conversion and undertaking data transformation — cleansing and extract, transform and load (ETL) operations. The offerings also include managed services for applications. Data engineering, in the context of this study, includes building data warehouses and data lakes, empowering clients to leverage big data analytics. Providers should also showcase expertise and experience in implementing data modernization projects that include capabilities but not limited to cloud migration for hybrid- and multicloud environments, data mesh, data fabric and

data ecosystems. These offerings should help enterprises to improve operational and business capabilities to drive initiatives across enterprise-wide AI, business intelligence and reporting, and advanced analytics services. Data engineering services should also account for emerging trends such as DataOps, FinOps and DevSecOps to ensure enterprises and business leaders can extract actionable insights, value and data-driven decisions from their data.

Eligibility Criteria

1. Possess **technology know-how and architectural consulting expertise**
2. Display competence in the **approach undertaken, methods applied** and service portfolio depth
3. Offer competence with **several data engineering experts** in respective regional markets
4. Demonstrate **technology expertise, business knowledge and domain competence** with independent consultation and available solution providers
5. Provide **standardized/customized frameworks and platforms** for data aggregation and cleansing
6. Offer experience in **building data hubs, data fabrics, modular data lakes**, multicloud data integration capabilities and access to partner data ecosystems
7. Offer **support and training services** as standalone offerings, separate from other service contracts



Observations

The midmarket providers' approach to data engineering is technology-centric, prioritizing a data-first strategy aimed at transforming existing data platforms into responsive, future-ready systems. They assess the current data landscape of an enterprise to identify unique characteristics, spot bottlenecks and identify areas where data-centric enhancements can have a significant impact. This approach involves close collaboration with business stakeholders, conducting comprehensive discovery to understand specific objectives and customizing data engineering services to align with enterprise requirements. It identifies gaps and assesses readiness for the adoption of advanced analytics.

Service providers have also developed factory-based approaches, which include frameworks, reference architectures, accelerators and best practices — systematic and automation-driven approaches that ensure a continuously monitored migration journey for clients. The offerings also provide a pre-integrated suite

of ready-to-use accelerators and solutions, designed to handle the typical complexities associated with such projects.

Several providers invest in maintaining a vendor-agnostic stance, leveraging existing customer investments while offering expertise in both pre-packaged solutions and customized offerings. This flexibility enables enterprises to evaluate and invest in technologies such as cloud-based data platforms, data lakes, data warehouses and data virtualization, facilitating seamless data integration, storage, and processing.

Some of the key trends observed in the market include:

- Data migration frameworks
- Data mesh and data fabric
- Data as a platform

From the 105 companies assessed for this study, 22 qualified for this quadrant, with 10 being Leaders and one a Rising Star.



Apexon executes a thorough discovery process by interacting with influential enterprise stakeholders, and extensive collaboration enables it to gain knowledge about unique opportunities, obstacles, desired outcomes, data requirements, challenges and opportunities to add value.

Encora

Encora's recent investments related to the expansion of its data engineering capabilities include the acquisitions of Excellerate and Softelligence in the last 12 months. These strategic acquisitions have bolstered Encora's capabilities in digital engineering, data and AI.



HARMAN DTS supports the modernization of an enterprise's data environment taking a data-centric approach that leverages real-time data processing and streaming pipelines using technologies such as Apache Kafka or AWS Kinesis.



Hexaware's offers decades of experience to help customers transform their data estates, where it focuses on key areas, leading to value delivery across hyperscalers such as Azure, Google Cloud and AWS, technology partners such as Snowflake and Databricks, and other third-party tools.



Data Engineering Services - Midsize



HTC Global Services takes an agile approach to data migration and leverages innovative accelerators for ETL and rapid migration and also establishes governance structures that cover data governance and data quality, security and privacy, and continuous improvement and optimization.

Infogain

Infogain leverages its expertise in building robust data pipelines and excels in real-time data processing and streaming. This enables organizations to derive immediate insights and take prompt actions from data in motion, ensuring agility and responsiveness.



Mphasis acquired Datalytx, a next-gen data engineering firm that provides data engineering, DataOps, and master data management solutions on Snowflake and Talend environments. It also acquired Stelligent Systems to boost its end-to-end capabilities in public cloud.



Persistent Systems has expanded its cloud leadership with the acquisition of DataGlove and MediaAgility to help eliminate the complexity of choice and integration typical of data platform modernization projects using the Persistent Data Experience Hub (DxH).



UST Global's data engineering capabilities encompass advanced analytics, data visualization, real-time data processing, data quality management and data integration, enabling enterprises to make informed decisions and unlock the full potential of their data for business success.

virtusa

Virtusa's engineering-first mindset delivers a data strategy that enables deeper insights into a business while concurrently offering a fit-for-purpose architecture, end-user training to improve adoption and a blueprint for a global data organization of the future.



Trianz leverages its AssessPro framework to identify and assess an organization's existing data landscape, sources and strategic roadmap while leveraging in-built accelerators and best practices to conduct industry benchmarking and undertake a feasibility analysis.





“Infogain helps architect an adaptive, automated and secure blueprint for a data environment that aligns short- and long-term goals with the right solutions, tools and processes that ingest, transform and deliver analytics-ready and contextual data.”

Gowtham Kumar Sampath

Infogain

Overview

Infogain is headquartered in California, U.S. and operates in eight countries. It has more than 6,000 employees across 17 global offices. Infogain's analytics, data science and AI services provide the capabilities, accelerators and ready-to-use solutions that harness GenAI, NAVIK AI solutions, marketing analytics, customer analytics, market research, data science, and predictive AI and ML. Its data modernization services such as DataOps modernization and data platform modernization include capabilities for making strategic and tactical decisions driven by data and insights.

Strengths

Full-stack and holistic platform: Infogain's NAVIK AI is a comprehensive platform addressing a wide spectrum of requirements, including data infrastructure, data engineering and analytics needs. Its modular components consist of data integration repositories and pipeline scripts, an array of highly trained algorithms based on cutting-edge ML models and pre-configured UI components. With NAVIK AI, Infogain can rapidly conceptualize, develop and implement AI-driven solutions tailored to clients' unique requirements.

Modernizing data assets: Infogain takes a modern, holistic approach to building data assets. Experts build, orchestrate and manage data pipelines with well-defined, specific processes for building,

testing, deploying and monitoring code and configuration assets across the data lifecycle. This approach enables streamlined data ingestion to tackle challenges such as data complexity, volume, velocity and variety.

Cloud-led modernization: Infogain's cloud infrastructure services enable organizations to build secure, cutting-edge platforms to drive modernization and innovation initiatives in areas such as IT infrastructure, applications, data analytics, IoT, and AI and ML. Infogain's proficiency, industry-proven methods and tools simplify the path toward single- or multicloud deployments across major hyperscalers.

Caution

In addition to its extensive portfolio of proprietary tools and solutions, Infogain should promote more references and case studies to highlight its customization capabilities.

The company should also highlight case studies and references in trending topics such as DataOps, data mesh and data fabric.





Appendix

The ISG Provider Lens™ 2023 – Analytics Services research 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 November 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 Analytics Services 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



Lead Analyst

Gowtham Kumar Sampath
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Gowtham Sampath is a Assistant Director and Principal Analyst with ISG Research, responsible for authoring ISG Provider Lens™ quadrant reports for Banking Technology/Platforms, Digital Banking Services, Cybersecurity and Analytics Solutions & Services market. With 15 years of market research experience, Gowtham works on analyzing and bridging the gap between data analytics providers and businesses, addressing market opportunities and best practices. In his role, he works with advisors in addressing enterprise clients' requests for ad-hoc research requirements within the IT services sector, across industries.

Furthermore, he authors thought leadership research, whitepapers, articles on emerging technologies within the banking sector in the areas of automation, DX and UX experience as well as the impact of data analytics across different industry verticals.



Research Analyst

Vartika Rai
Research Analyst

Vartika Rai is a research analyst at ISG and is responsible for supporting and co-authoring Provider Lens™ studies on Analytics Services, and SAP Ecosystem. She supports the lead analysts in the research process and authors the global summary report. Vartika also develops content from an enterprise perspective and collaborates with advisors and enterprise clients on ad-hoc research assignments. Vartika started her current role in June 2022. Before this role, she worked on secondary research, competitive intelligence, market trends, and newsletter 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 partner 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](#).

iSG Research™

ISG Research™ provides subscription research, advisory consulting and executive event services focused on market trends and disruptive technologies driving change in business computing. ISG Research™ delivers guidance that helps businesses accelerate growth and create more value.

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iSG

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Founded in 2006, and based in Stamford, Conn., ISG employs more than 1,600 digital-ready professionals operating in more than 20 countries—a global team known for its innovative thinking, market influence, deep industry and technology expertise, and world-class research and analytical capabilities based on the industry's most comprehensive marketplace data.

For more information, visit isg-one.com.





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