Streaming Analytics Buyers Guide

Software Provider and Product Assessment

ISG Research

Streaming Analytics

In theory, data-driven enterprises stand to gain a competitive advantage, responding faster to worker and customer demands for more innovative, data-rich applications and personalized experiences. As all enterprises strive to be data-driven, however, making a higher proportion of decisions based on data is no longer enough to differentiate. The winners will be those that process and act upon data at the speed of business, analyzing and making decisions based on data generated by business events in real time.

ISG Research defines streaming analytics as the use of technology to analyze continuously generated streams of event-based messages to respond to opportunities or threats with timely actions. Despite the importance of data-driven decision-making, most enterprise analytics involve reports and dashboards created hours, days, weeks or even months after business events occur. Less than one-quarter (22%) of enterprises participating in the ISG Research Analytics and Data Benchmark Research currently analyze data in real time.

Despite the importance of data-driven decision-making, most enterprise analytics involve reports and dashboards created hours, days, weeks or even months after business events occur.

The processing and analysis of data in real time has long been seen as critical in industry segments with the most extreme high-performance requirements, such as financial services and telecommunications. In other industries, the historical reliance on batch data processing is so entrenched that processing data in real time has primarily been seen as a niche requirement. Despite the overwhelming dependence on batch data processing and analytics, it is an artificial construct driven by the historical limitations of computing capabilities to generate and process data at the same time without impacting performance.

Attitudes towards real-time analytics are changing as an increasing number of enterprises recognize that failing to process and analyze data in real time runs the risk of failing to operate at the pace of the real world. The pressure on enterprises to improve the ability to process and analyze data in real time is exacerbated by increased demand for intelligent operational applications infused with the results of analytic processes, such as personalization and artificial intelligence (AI)-driven recommendations. AI-driven intelligent applications require a new approach to data processing that enables real-time performance of machine learning (ML) on operational data to deliver instant, relevant information for accelerated decision-making.

Enterprises can differentiate user experiences with real-time, AI-driven functionality. Doing so requires AI models with access to current data via streams of events generated in real time

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and the ability to incorporate model inferencing into streaming analytics pipelines. Enterprises with an over-reliance on batch data processing and analytics will not be able to match those that can act on real-time data as it is generated.

Messaging and event processing capabilities are a prerequisite for streaming analytics, alongside data processing engine functionality to apply various processing approaches to a continuous stream of event-based messages. Many of these processing approaches are the same as those applied to batch data processing, including data enrichment, data transformation and data filtering.

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The analysis of streaming data is particularly reliant on data filtering as it can separate the signal from the noise—identifying data outside of expected boundaries and ensuring that processing power is applied only to the most important data. Windowing can also be applied to the continuous flow of event data to enable the stream to be divided into time-based chunks to assist in identifying patterns and anomalies.

The processing of streaming data may also involve the unification of streams from multiple data sources. In its simplest form, this unification results in data from various streams summarized in unison. More advanced cases involve data from multiple sources being joined and integrated into a combined stream.

The processing of streaming data forms the basis of streaming analytics, which uses streaming compute engines to analyze streams of event data. Key capabilities for streaming analytics include support for analytics functionality that is already prevalent in batch-based analytics, including standard SQL or "SQL-like" query languages, functions, materialized views, stored procedures and user-defined functions.

The importance of time as a factor in streaming analytics also accentuates the criticality of several capabilities, including timestamping, temporal joins and temporal analytics functions, as well as conditional rules, pattern matching and anomaly detection. Similarly, while geospatial and spatial visualization are by no means uniquely important to streaming analytics, their criticality is accentuated given the use of streaming analytics to support Internet of Things use cases that rely on real-time processing and analysis of location and environmental data.

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More traditional, chart-based visualization of streaming data is also a key capability, including functionality to enable the creation of specialist streaming analytics dashboards as well as integration with widely adopted business intelligence and data science tools. While BI dashboard providers have traditionally focused more on the visualization of batch data, support for streaming data sources is becoming more prevalent. ISG asserts that by 2027, more than 3 in 5 enterprises will incorporate streaming analytics into business processes, enabling faster response to opportunities and threats.

Query management capabilities are equally essential for streaming analytics as batch-based analytics. This includes functionality for creating and testing individual queries and analytics pipelines, as well as monitoring the execution and performance of analytics jobs and the isolation, prioritization, optimization and scheduling of analytics workloads.

Support for AI is also increasingly essential for streaming analytics, given the widespread focus on developing AI-driven intelligent applications. Key capabilities include native functionality for ML scoring and ML predictions, as well as retrieval augmented generation, reinforcement learning and agentic AI. Streaming analytics products also need to deliver support for integration with external AI/ML models and services as well as MLOps tools and platforms to ensure compatibility with broader strategic AI initiatives.

The ISG Buyers Guide™ for Streaming Analytics evaluates products based on core capabilities such as stream processing, analytics, query management and AI. To be included in this Buyers Guide, products must include functionality for stream processing, analytics, query management and AI. Our assessment also considered whether the functionality in question was available from a software provider in a single offering or as a suite of products or cloud services.

This research evaluates the following software providers that offer products that address key elements of streaming analytics as we define it: Actian, Aiven, Alibaba Cloud, Altair, AWS, Cloud Software Group, Cloudera, Confluent, Cumulocity, Databricks, Google Cloud, GridGain, Hazelcast, Huawei Cloud, IBM, Materialize, Microsoft, Oracle, Palantir, Qubole, SAS, and Striim.

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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 Streaming Analytics 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 streaming analytics 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 streaming analytics 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 streaming analytics 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

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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 streaming analytics 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 streaming analytics 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.

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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.

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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 Databricks atop the list, followed by Oracle and Microsoft. Providers that place in the top three of a category earn the designation of Leader. Oracle has done so in six categories; Databricks in five categories; Google Cloud in three categories; Actian and Microsoft in two categories; Cloud Software Group, Cumulocity and Palantir in one category.

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.

Streaming Analytics
Overall

Providers	Grade	Performance
Databricks	A-	*Leader* 81.7%
Oracle	B++	*Leader* 79.4%
Microsoft	B++	*Leader* 78.8%
Google Cloud	B++	76.5%
AWS	B++	75.8%
Palantir	B+	72.9%
Cumulocity	B+	70.1%
IBM	B+	70.0%
Cloudera	B+	69.4%
Confluent	B+	69.2%
SAS	B	68.1%
Huawei Cloud	B	67.7%
Altair	B	67.0%
Actian	B	67.0%
Cloud Software Group	B	66.5%
Striim	B	65.6%
Alibaba Cloud	B	65.1%
GridGain	B-	62.5%
Materialize	B-	62.3%
Aiven	B-	59.9%
Qubole	B-	58.4%
Hazelcast	B-	56.6%

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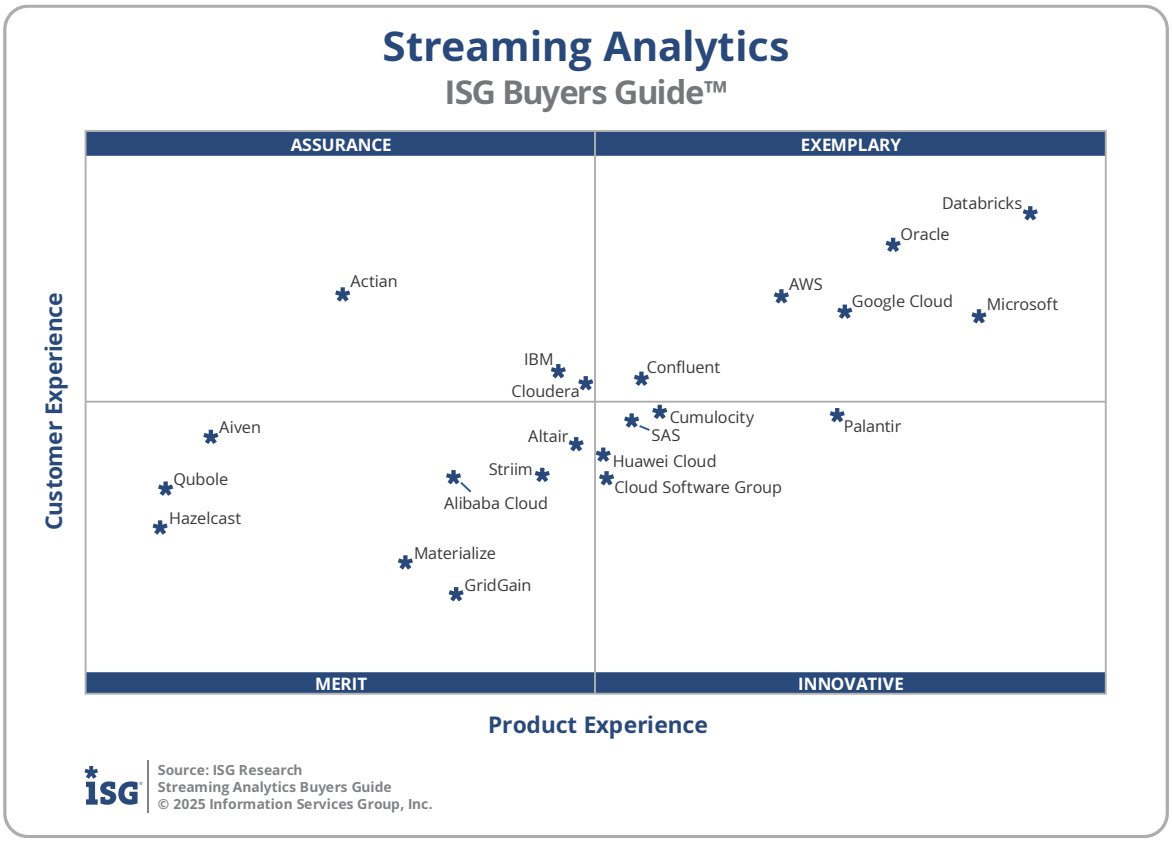
The research places software providers into one of four overall categories: Assurance, Exemplary, Merit or Innovative. This representation classifies providers' overall weighted performance.



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: AWS, Confluent, Databricks, Google Cloud, Microsoft and Oracle.

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 providers rated Innovative are: Cloud Software Group, Huawei Cloud, Palantir, SAS and Cumulocity.

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 providers rated Assurance are: Actian, Cloudera and 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: Aiven, Alibaba Cloud, Altair, GridGain, Hazelcast, Materialize, Qubole and Striim.

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 streaming analytics, 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.

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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.

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 (40%), Reliability (10%), Adaptability (10%) and Manageability (10%). This weighting impacted the resulting overall ratings in this research. Databricks, Microsoft and Oracle were designated Product Experience Leaders.

Streaming Analytics
Product Experience

Providers	Grade	Performance
Databricks	B++	*Leader* 63.3%
Microsoft	B++	*Leader* 62.2%
Oracle	B++	*Leader* 60.7%
Google Cloud	B+	59.4%
Palantir	B+	59.3%
AWS	B+	58.4%
Cumulocity	B+	55.1%
Confluent	B	54.8%
SAS	B	54.6%
Cloud Software Group	B	54.3%
Huawei Cloud	B	54.3%
Cloudera	B	54.0%
Altair	B	53.8%
IBM	B	53.6%
Striim	B	53.1%
GridGain	B	51.7%
Alibaba Cloud	B	51.6%
Materialize	B	50.7%
Actian	B-	48.6%
Aiven	B-	46.0%
Qubole	B-	45.1%
Hazelcast	C++	45.0%

Source: ISG Research
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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.

Streaming Analytics
Customer Experience

Providers	Grade	Performance
Databricks	A-	*Leader* 17.5%
Oracle	A-	*Leader* 16.8%
Actian	B++	*Leader* 16.1%
AWS	B++	15.9%
Google Cloud	B++	15.6%
Microsoft	B++	15.6%
IBM	B+	14.5%
Confluent	B+	14.3%
Cloudera	B+	14.3%
Cumulocity	B+	13.8%
Palantir	B	13.7%
SAS	B	13.7%
Aiven	B	13.3%
Altair	B	13.3%
Huawei Cloud	B	13.0%
Striim	B	12.8%
Alibaba Cloud	B	12.7%
Cloud Software Group	B	12.7%
Qubole	B-	12.4%
Hazelcast	B-	11.7%
Materialize	C++	11.2%
GridGain	C++	10.5%

Source: ISG Research
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The software providers that evaluated the highest overall in the aggregated and weighted Customer Experience categories are Databricks, Oracle and Actian. These category leaders best communicate commitment and dedication to customer needs. While not a Leader, AWS was also found to meet a broad range of enterprise customer experience requirements.

Software providers that did not perform well in this category were unable to provide sufficient customer references to demonstrate success or articulate 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 must include examination of how they support their customer experience.

Appendix: Software Provider Inclusion

For inclusion in the ISG Buyers Guide™ for Streaming Analytics in 2025, a software provider must be in good standing financially and ethically, have at least $20 million in annual or projected revenue verified using independent sources, sell products and provide support on at least two continents and have at least 50 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 past 12 months.

The product must enable the analysis of continuously generated streams of event-based messages. To be included in the Streaming Analytics Buyers Guide requires functionality that addresses the following sections of the capabilities model:

- Stream processing
- Analytics
- Query management
- Artificial intelligence

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 streaming analytics 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.

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Products Evaluated

Provider	Product Names	Version	Release Month/Year
Actian	Actian DataFlow	8.1	January 2025
Aiven	Aiven for Apache Flink	June 2024	June 2024
Alibaba Cloud	Realtime Compute for Apache Flink	8.0.11	January 2025
Altair	Altair Panopticon Altair AI Studio	2025.1 2025.0.1	2025 February 2025
AWS	Amazon Managed Service for Apache Flink Amazon Managed Streaming for Apache Kafka	1.20 November 2024	September 2024 November 2024
Cloud Software Group	TIBCO Spotfire Data Streams TIBCO Spotfire	11.1.1 14.4	October 2024 June 2024
Cloudera	Cloudera DataFlow Cloudera Data Flow for Data Hub	2.9.0-h5-b2 7.3.1	February 2025 December 2024
Confluent	Confluent Cloud	February 2025	February 2025
Cumulocity	Cumulocity Apama Cumulocity Streaming Analytics	10.15.5 February Release	June 2024 February 2025
Databricks	Databricks Data Intelligence Platform	April 2025	April 2025
Google Cloud	Google Cloud Dataflow	March 2025	March 2025
GridGain	GridGain Platform	9.0.17	April 2025
Hazelcast	Hazelcast Platform	5.5.0	July 2024
Huawei Cloud	Huawei Data Lake Insight (DLI)	March 2025	March 2025
IBM	IBM Event Processing	1.3.0	January 2025
Materialize	Materialize	0.137	March 2025
Microsoft	Microsoft Fabric Real-Time Intelligence Azure Stream Analytics	January 2025 January 2025	January 2025 January 2025

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Oracle	Oracle GoldenGate Stream Analytics	19.1	November 2024
Palantir	Foundry	February 2025	February 2025
Qubole	Open Data Lake Platform	R64	March 2025
SAS	SAS Event Stream Processing	2025.03	March 2025
Striim	Striim Cloud	5.0.6	February 2025

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Providers of Promise

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

Provider	Product	Annual Revenue >$20m	Operates on 2 Continents	At Least 50 Employees	GA or Current Product
DataStax	Astra Streaming	Yes	Yes	Yes	No
DeltaStream	DeltaStream	No	Yes	No	Yes
Redpanda	Redpanda Cloud	Yes	Yes	Yes	No
RisingWave	RisingWave Cloud	No	Yes	No	Yes
Timeplus	Timeplus Enterprise	No	Yes	No	Yes

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About ISG Software Research and Advisory

ISG Software Research and Advisory provides market research and coverage of the technology industry, informing enterprises, software and service providers, and investment firms. The ISG Buyers Guides provide insight on software categories and providers that can be used in the RFI/RFP process to assess, evaluate and select software providers.

About ISG Research

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About ISG

ISG (Nasdaq: III) is a global AI-centered technology research and advisory firm. A trusted partner to more than 900 clients, including 75 of the world's top 100 enterprises, ISG is a long-time leader in technology and business services sourcing that is now at the forefront of leveraging AI to help organizations achieve operational excellence and faster growth. The firm, founded in 2006, is known for its proprietary market data, in-depth knowledge of provider ecosystems, and the expertise of its 1,600 professionals worldwide working together to help clients maximize the value of their technology investments.

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