

# Internet of Things – Services and Solutions

Evaluating the capabilities of IoT services/solutions providers, their go-to-market strategies and differentiator



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Today, enterprises look to Internet of Things (IoT) initiatives to address objectives ranging from fixing disrupted global supply chains to enabling environmental sustainability. Businesses seek granular insight into operations, inventories, logistics and customer behavior. As networks, devices and data proliferate, security and privacy concerns remain paramount. Value realization and industry focus continue to be top priorities.

Technology partner support encompasses three areas: strategy consulting to identify opportunities, define objectives and chart a journey; technology implementation expertise to integrate multiple devices, applications and platforms; and ongoing

management of the IoT ecosystem through managed services. Many IoT initiatives are enabled by AI and data processing technologies, which enable businesses to make decisions and take action. This functionality is essential to securely collect, process and analyze large volumes of information.



The main capabilities related to planning, deployment and continuous management of IoT are covered in four main quadrants.

**Strategy Consulting**

**Implementation and Integration**

**Managed Services**

**Data Management and AI on the Edge**

**The ISG Provider Lens™ Internet of Things – Services and Solutions offers the following to business and IT decision makers:**

- Transparency on the strengths and weaknesses of relevant providers
- A differentiated positioning of providers by segments on their competitive strengths and portfolio attractiveness
- Focus on different markets, including the U.S., Germany and Brazil

Our study serves as an important decision-making basis for positioning, key relationships, and go-to-market considerations. ISG advisors and enterprise clients also use information from these reports to evaluate their current vendor relationships and potential engagements.

Simplified Illustration Source: ISG 2023



### Definition

This quadrant assesses service providers' capabilities to lay the strategic groundwork and define clear roadmaps for successful enterprise-wide deployment of IoT technology. Enterprises seek trusted partners with breadth and depth of business knowledge as well as technology expertise and familiarity with emerging innovations. Key considerations include the ability to address core strategic goals and objectives, align outcomes to industry-specific needs, meet competitive and regulatory requirements, and execute Proof of Value (POV) and pilot programs that ensure rapid return on investment. High-level objectives must be supported by the ability to deliver specific and quantifiable benefits. Addressing security objectives at a strategy level remains a top priority. Environmental sustainability, meanwhile, is emerging as a critical need that must be addressed as a core element of an IoT roadmap.

Strategy consulting services include planning, development of competitive business cases and overall cost and return on investment (ROI) analysis.

The report also analyzes consulting services around edge computing, data collection and analysis, and the strategic role of innovative technologies – such as AI and machine learning – in enabling and monitoring IoT functionality. The security capabilities assessment includes strategies to manage multiple devices and networks in an integrated and heterogeneous environment.

### Eligibility Criteria

1. Ability to develop an **end-to-end roadmap**; implement a pilot; lay out a strategy for **deployment at scale**; integrate adequate **security, networking and data analytics**; and build **partnerships across the IoT ecosystem**
2. Clear **definition of overall IoT objectives** and alignment with business goals, and specific metrics to enable **ongoing ROI tracking**
3. Strategic planning to address **industry requirements around operations, compliance and sustainability**
4. **R&D focus on innovation and integration** of emerging technologies such as AI, augmented reality, blockchain, multi-access edge computing (MEC) and 5G
5. Detailed understanding of IoT capabilities around supply chain, logistics and smart buildings, and industry-specific expertise across manufacturing, retail, healthcare and other sectors



## Implementation and Integration

### Definition

This quadrant assesses service providers' capabilities in the implementation and integration of IoT technology into processes, business models and operational environments. These capabilities include addressing specific industry and regulatory requirements and providing innovative cross-industry perspectives. Integration and implementation services include full or partial project management, technology integration and project execution services on the levels of device, platform, network, mobile assets, data storage and analytics, applications and security. The ability to define meaningful business metrics and quantify benefits on an ongoing basis is essential. Based on connected framework or ecosystem requirements, service providers must demonstrate the right

mix of technological and organizational capabilities, as well as technology, local delivery and innovation partnerships to achieve defined business outcomes.

The quadrant also considers providers' implementation and integration capabilities around edge computing; data collection and analysis; and AI and ML, as well as their ability to drive innovation and ongoing improvement. Security capability assessments include appraising the provider's ability to implement and maintain endpoint and network security and provide ecosystem protection.

### Eligibility Criteria

1. Ability to provide **end-to-end integration and implementation support** across an IoT value chain, covering devices, mobile assets, sensor integration, analytics, data and visualization, networks, and enterprise application integrations
2. Ability to **extract, manage and analyze data from multiple devices**, sources and platforms and apply findings to drive innovation and ongoing improvement
3. Ability to deliver tailored solutions that address **compliance requirements around security and sustainability**
4. Ability to deliver promised results on time and within budget
5. Ability to **implement and integrate security solutions** that holistically address end-to-end requirements at the endpoint, network and ecosystem levels
6. Expertise **in key development languages** such as Java, Python and Script



## Managed Services

### Definition

This quadrant assesses service providers' capabilities in managing the overall IoT ecosystem to enable scalable solutions, support ongoing IoT-enabled business operations, and foster innovation and continuous improvement. Comprehensive managed services encompass management of security, cloud, networks, devices and other equipment, data, platforms, applications, and IoT analytics. Key considerations include human resources and talent strategies. These include the ability to attract and retain scarce talent through competitive compensation and career development programs, as well as training initiatives that ensure skill sets are up to date and aligned with market trends. Similarly, the ability to leverage intelligent automation tools to optimize the productivity of managed services teams is critical.

Assessments of IoT analytics offerings include data management and intelligence to improve business outcomes; predictive analytics and data visualization to bolster operations; and IoT analytics platform maintenance for scalability. The ability to glean new and unexpected insights from data, and to apply those insights to competitive advantage, is a key consideration. The quadrant also assesses service providers' capabilities to manage and upgrade existing IoT systems and solutions, particularly by leveraging emerging technologies such as 5G, extended reality and AI.

### Eligibility Criteria

1. Application of **skills, resources and solutions** to support services across the IoT ecosystem
2. Ability to respond to and address emerging challenges and opportunities related to **security** (such as Zero Trust architectures), **networking** (such as 5G), **cloud data, device, analytics and platform management**
3. Application of **emerging technologies** into existing IoT environments and **leverage data analytics** to drive business insights, operational improvement and cost control
4. Ability to efficiently **drive change management** at the business, process and technology levels
5. Showcase support from active clients across the IoT value chain with **use cases** and **market awareness** of such services
6. **Partnerships** to support the unique managed service needs of different clients and applications
7. Demonstrate **expansion plans** and focus on key industries and regions



### Definition

This quadrant assesses providers that develop end-to-end strategies and implement IoT edge systems that rapidly and securely process large volumes of data with minimal dependence on central storage processing. Key criteria include strategy formulation, including the definition of use cases; edge AI functionalities and key deliverables; building blocks and requirements; and prototyping, deployment and maintenance at scale. Assessments include consideration of experience in IoT edge solutions and services, including prototyping and deployment at scale, local power and network management, managed edge solutions, and edge maintenance and services. Deep understanding of IoT data management and analytics solutions and services is vital, and encompasses edge data

management and analytics strategies; data transmission and quality handling; storage; visualization; and reporting.

Specific capabilities considered here include the ability to build, deliver and support solutions for dedicated compute and data processing power at the device level, specifically for cameras and visual data, to address bandwidth requirements and latency issues, either independently or within a multi-party arrangement of partners and third-party providers.

The analysis assesses innovative edge solutions' capabilities of providers to integrate AI and machine/deep learning – both on a hardware and software level – to undertake certain complex analytics on the edge. This edge capability allows a system to make prompt decisions and take rapid actions locally, independent of the analytics capabilities of cloud-based or centralized systems.

### Eligibility Criteria

1. **Understanding of AI and experience in machine/deep learning** technologies, including frameworks for data collection, modeling, validation, production, operation and maintenance. This includes dedicated hardware/chip design optimized for AI and ML operations (MLOps), AI-specific ethical issues, and deep learning model operations
2. Ability to design and manage a closed feedback loop to **monitor AI model performance** and bias over time, and to **trigger corrective actions**
3. Ability to design and deploy applications that deliver **computing power at the device level to address bandwidth needs and latency requirements**
4. **Partnerships** that complement AI/ML-supported data management applications, tools and implementation frameworks
5. **Provision of hardware and software tools** is a secondary criterion



## Quadrants By Region

As part of this ISG Provider Lens™ quadrant study, we are introducing the following four quadrants on IoT Services and Solutions 2023.

Quadrant	U.S.	Germany	Brazil
Strategy Consulting	✓	✓	✓
Implementation and Integration	✓	✓	✓
Managed Services	✓	✓	✓
Data Management and AI on the Edge	✓	✓	✓



The research phase falls in the period between January and April 2023, during which survey, evaluation, analysis and validation will take place. The results will be presented to the media in June 2023.

### Milestones

	Beginning	End
Survey Launch	January 23, 2023	
Survey Phase	January 23, 2023	February 27, 2023
Sneak Preview	May 2023	June 2023
Press Release & Publication	June 2023	

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Please refer to the [link](#) to view/download the ISG Provider Lens™ 2023 research agenda

### Access to Online Portal

You can view/download the questionnaire from [here](#) using the credentials you have already created or refer to instructions provided in the invitation email to generate a new password. We look forward to your participation!

### Research Production Disclaimer:

ISG collects data for the purposes of writing research and creating provider/vendor profiles. The profiles and supporting data are used by ISG advisors to make recommendations and inform their clients of the experience and qualifications of any applicable provider/vendor for outsourcing the work identified by clients. This data is collected as part of the ISG FutureSource process and the Candidate Provider Qualification (CPQ) process. ISG may choose to only utilize this collected data pertaining to certain countries or regions for the education and purposes of its advisors and not produce ISG Provider Lens™ reports. These decisions will be made based on the level and completeness of the information received directly from providers/vendors and the availability of experienced analysts for those countries or regions. Submitted information may also be used for individual research projects or for briefing notes that will be written by the lead analysts.



### ISG Star of Excellence™ – Call for nominations

The Star of Excellence™ is an independent recognition of excellent service delivery based on the concept of “Voice of the Customer.” The Star of Excellence is a program, designed by ISG, to collect client feedback about service providers’ success in demonstrating the highest standards of client service excellence and customer centricity.

The global survey is all about services that are associated with IPL studies. In consequence, all ISG Analysts will be continuously provided with information on the customer experience of all relevant service providers. This information comes on top of existing first-hand advisor feedback that IPL leverages in context of its practitioner-led consulting approach.

Providers are invited to [nominate](#) their clients to participate. Once the nomination has been submitted, ISG sends out a mail confirmation to both sides. It is self-evident that ISG anonymizes all customer data and does not share it with third parties.

It is our vision that the Star of Excellence will be recognized as the leading industry recognition for client service excellence and serve as the benchmark for measuring client sentiments. To ensure your selected clients complete the feedback for your nominated engagement please use the Client nomination section on the Star of Excellence [website](#).

We have set up an email where you can direct any questions or provide comments. This email will be checked daily, please allow up to 24 hours for a reply. Here is the email address: [ISG.star@isg-one.com](mailto:ISG.star@isg-one.com)



## Contacts For This Study



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**Abhishek  
Rammurthy**

**Project Manager**



### ISG Provider Lens™ Advisors Involvement Program

ISG Provider Lens™ offers market assessments incorporating practitioner insights, reflecting regional focus and independent research. ISG ensures advisor involvement in each study to cover the appropriate market details aligned to the respective service lines/technology trends, service provider presence and enterprise context.

In each region, ISG has expert thought leaders and respected advisors who know the provider portfolios and offerings as well as enterprise requirements and market trends. On average, three advisors participate as part of each study's quality and consistency review team (QCRT).

The QCRT ensures each study reflects ISG advisors' experience in the field, which complements the primary and secondary research the analysts conduct.

ISG advisors participate in each study as part of the QCRT group and contribute at different levels depending on their availability and expertise.

The QCRT advisors:

- Help define and validate quadrants and questionnaires,
- Advise on service provider inclusion, participate in briefing calls,
- Give their perspectives on service provider ratings and review report drafts.

### ISG Advisors to this study



**John  
Lytle**

**Director,  
Manufacturing**



**Matteo  
Gallina**

**Principal Consultant,  
Digital Strategy and  
Solutions**



## Invited Companies

**If your company is listed on this page or you feel your company should be listed, please contact ISG to ensure we have the correct contact person(s) to actively participate in this research.**

A1 Digital	Bosch	DXC Technology	HARMAN DTS
Accenture	CANCOM	Edge UOL	HCLTech
Advantech	Capgemini	eInfochips	Hexaware
Akamai	CAS Tecnologia	Embratel	Hitachi Vantara
Algar Telecom	CGI	Engineering	HPE
All for One Group	Cisco	EPAM	IBM
American Tower	Cognizant	Equinix	ifm
Appnovation	Computacenter	Ericsson	Infinite
Arqia	Constanta	EY	Infogain
Atos	Cyient	FORCAM	Infosys
b.telligent	dataRain	Fractal	Innominds
Bain and Company	Deloitte	Fujitsu	Kontron
Bechtle	Desh Tecnologia	GE Digital	KPMG
Birlasoft	Deutsche Telekom	Genpact	Kyndryl
BMS Tecnologia	Device Insight	Globant	Logicalis



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LTIMindtree

LTTS

Lumen

Marlabs

Materna

Microland

Mitsubishi Electric

mm1 Consulting

Mphasis

NexTrue Tecnologia

N-iX

NTT

NTT DATA

Open Cadd

Orange Business Services

Persistent

Porsche Consulting

PwC

q.beyond

Qualcomm

QuEST Global

Rackspace Technology

Reply

SCN Soft

Siemens

Sigmais

SLK Software

Softtek

Software AG

Solvian

SONDA

ST IT Cloud

ST Microelectronics

Stefanini

Sutherland

Syntax

TCS

Tech Data

Tech Mahindra

Telefonica Tech

Thales

TIM

TIVIT

T-Systems

Unisys

UST

Valantic

Verizon

Virtusa

Vodafone

VVDN

Wipro

YSSY

Zebra Technologies

Zensar



### \*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.

ISG offers research specifically about providers to state and local governments (including counties, cities) as well as higher education institutions. Visit: [Public Sector](#).

For more information about ISG Research subscriptions, please email [contact@isg-one.com](mailto:contact@isg-one.com), call +1.203.454.3900, or visit [research.isg-one.com](http://research.isg-one.com).

### \*ISG

ISG (Information Services Group) (Nasdaq: III) is a leading global technology research and advisory firm. A trusted business partner to more than 800 clients, including more than 75 of the world's top 100 enterprises, ISG is committed to helping corporations, public sector organizations, and service and technology providers achieve operational excellence and faster growth. The firm specializes in digital transformation services, including automation, cloud and data analytics; sourcing advisory; managed governance and risk services; network carrier services; strategy and operations design; change management; market intelligence and technology research and analysis.

Founded in 2006, and based in Stamford, Conn., ISG employs more than 1,300 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 [www.isg-one.com](http://www.isg-one.com).



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