

***ISG** Provider Lens™

Internet of Things - Services and Solutions

Global 2021

Quadrant
Report



A research report
comparing provider
strengths, challenges
and competitive
differentiators

Customized report courtesy of:

Atos

June 2021

About this Report

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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 June 2021 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.

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EXECUTIVE SUMMARY

What stands out the most from the research conducted for this study is that there is a clear resurgence of interest from enterprises around the world in the Internet of Things (IoT) and its manufacturing counterpart, the Industrial IoT (IIoT). While the pandemic slowed IoT development in industries reliant on travel, service providers shared use cases across sectors from cold chain supply chain improvement in pharmaceuticals to shopfloor equipment effectiveness in food manufacturing. Manufacturers need smart connected factories to keep up with the competition and demand. Vehicles from scooters to mass transit are becoming powerful mobile computers, connected to improve safety and customer experience.

While the pandemic influenced the IoT market in 2020, cybersecurity is also equally influential. Continuing data theft and ransomware attacks take advantage of poorly managed and maintained connected systems. Enterprises connecting previously offline operations technology (OT) are discovering the various risks involved. As a result, service providers are integrating end-to-end security assessments, monitoring and tools into their IoT service offerings.

According to ISG research (Source: ISG Momentum Sourcing Digest 2021), outsourcing contract volumes and spending levels decreased for most service lines, geographies and regions in 2020. However, the severity of the declines, their persistence and prospects for

recovery were extremely inconsistent across market segments and regions. Manufacturing was one of the few industry segments to achieve total contract value (TCV) growth in 2020, based on the results from Europe. EMEA was the largest regional market for TCV in 2020 due to strong contract signings in Germany and the U.K. The value of contract signings by manufacturing companies declined significantly in the other two regions in 2020 (see graphic/chart). The U.S. recorded the highest ACV in 2020, but the total decreased by 14.5 percent year-over-year.

Another big influence on the interest in IoT is the changing networks on which it runs. 5G hype is rampant and much of that is warranted for enterprises hoping to benefit from the IoT and IIoT. However, according to a recent investigation by ISG Research, not all spectrum types are available in a particular country and/or with Mobile Network Operator, and the countries that have deployed 5G is spotty. An unpopular discussion, although relevant, regarding the IoT in this field, is that to maintain the quality of wireless networks while managing costs, operators will often choose to shut down an older mobile network and re-farm the spectrum for 5G.

Enterprise clients, especially those with deployed IoT fleets and devices, need to manage the selection of replacement technologies, which needs to be coordinated in advance of shutter events, preferably in conjunction with 5G deployment. 5G and shutter events

are by country, per operator basis, which makes it difficult to both plan and manage. Enterprises are likely to seek assistance on both 5G and spectrum shuttering from their network and IoT service provider partners.

5G may not be the best technology for an enterprise and its IoT deployments and plans. ISG MobileX also tracks what operators were deploying in other IoT technologies such as narrow band IoT (NB-IoT), Long Range (LoRa) and Sigfox. To help enterprises take advantage of the changes, service providers in this study offer network expertise, telecom partnerships and labs to test 5G solutions.

Beyond the security and network requirements, enterprise IoT requires proper implementation, integration, and innovations in AI, cloud, automation, analytics, computer vision and product engineering. Successful IoT service providers need to offer expertise and solutions in these technology areas.

This year's study quadrants differ from 2020 because ISG assessed the changing market to determine the highest value topics to cover. While this study continues the research about consulting, managed services and connected mobility, ISG added AI on the edge, endpoint security and IT/OT convergence as service areas due to demand from enterprises needing IoT services. However, smart buildings remain important, and many use cases shared with ISG reflect that. IoT platforms are also a part of scaled implementations. While future

studies might add it, ISG believes an IoT platform comparison is the responsibility of the service provider hired to solve the business challenges.

Artificial Intelligence on the Edge

AI on edge IoT integrates three main areas of technology: Edge hardware and servers, artificial intelligence (AI)/machine learning (ML) algorithms and AI operations (AIOps), and edge analytics. All components are embedded into a business process that is industry and application specific and often highly unique. Large volumes data on the edge can't be easily transferred to a centralized serve, affecting connectivity and increasing the latency time in systems. In such a scenario, AI on edge comes into effect with their diverse applications and range of benefits.

The area of AI on edge is still new. Service providers are addressing client challenges associated with the Internet of Things (IoT) through various strategies and offerings. Many elements have become standardized, such as edge AI optimized hardware, chipsets and servers. At the same time, many providers are developing and optimizing their own hardware for the AI environment. Even as the methodologies, algorithms and AIOps are customized to client requirements, most large IT providers are integrating proprietary AI systems into clients' IoT environments. Similar trends are observed in the area of AI-based analytics and other software tools the edge AI environment.

A deep knowledge of industry-specific processes and requirements is an important factor for successful edge AI projects. The underlying technology for various industries might be similar, but the requirements for the system are completely different due to the varying business models and business process optimization targets.

Although edge AI will make data available from singular sources for various industries and applications, cross-industry projects are still sparse. Most of the applications are developed for specific use cases such as visual analytics, natural language processing (NLP), user experience (UX), predictive analytics with limited connectivity or analysis of large locally produced datasets.

IoT Endpoint Security

Enterprises in every commercial and government sector face unprecedented cyber security challenges. In collaboration with the U.S. Department of Homeland Security, Microsoft's Azure Defender for IoT team recently released a set of more than 25 severe vulnerabilities in IoT and operational technology (OT) devices. Threat actors were reported to have hacked the security feeds of 150,000 IoT security cameras, including those of well-known technology businesses as well as hospitals and schools. In 2020, hacking attacks on healthcare payers and providers affected millions of people every month. This year, a U.S.-based gas pipeline company and a major meat processor were shut down following ransomware attacks. In the aftermath of the pipeline hack and the alarming rate of cybercrimes, the U.S. Department of Justice has prioritized investigations of ransomware attacks to the same level as terrorism, a senior department official told Reuters.

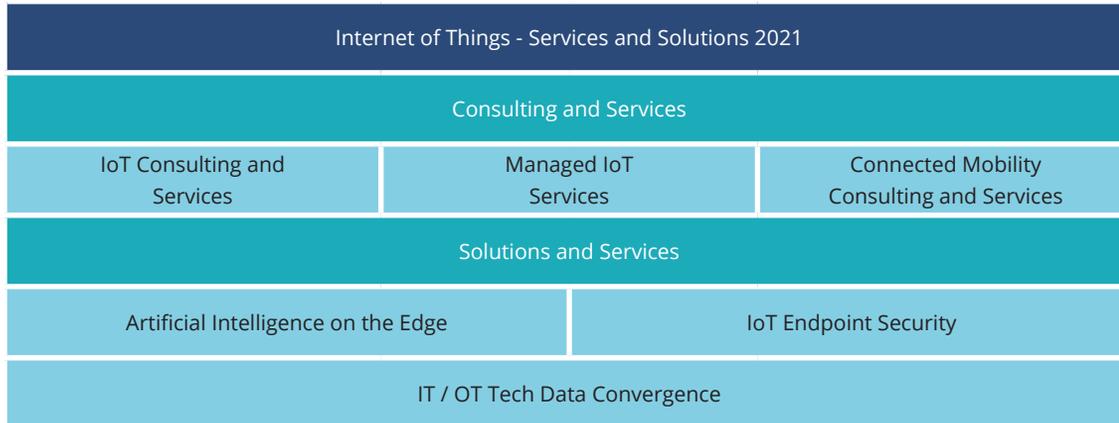
Connected systems are vulnerable, and IoT endpoints are natural targets. Service providers are tackling the challenge by bundling security services into their consulting and managed services engagements, especially those that are focused on IT/OT convergence. Security services run the gamut from strategy, assessment, detection, threat intelligence monitoring to remediation. They cover the entire IoT ecosystem from the edge to cloud to on-premise systems. Suppliers have been active in directly selling SD-WAN advisory, planning, transition

IT/OT Tech Data Convergence

For manufacturers, the synchronization of IT and OT is a major challenge. The use of legacy systems in both worlds can slow down integration and mobility. Data from OT arrives in large volumes that can't be handled by IT. Furthermore, the teams involved have often worked interdependently and don't share the same technical language. Against this backdrop, service providers are combining their industry expertise and IT proficiency to develop converged systems for clients. However, most of the providers assessed in the study fail to adequately highlight the people issues associated with IT/OT convergence. Since IT/OT convergence involves technology, process and people, the engagements should emphasize organizational change management (OCM) methods.

Introduction

Simplified illustration



Source: ISG 2021

Definition

IoT is gaining significant traction, further driven by the integration of new technologies. According to various reports, IoT devices will account for up to 50 percent (14.7 billion) of all global networked devices by 2023. Across industries and geographies, sensors collect data to feed applications that help businesses make decisions, optimize processes, reduce downtime and improve customer service. IoT applications are extending from small, tempered pilot projects to concrete, scalable industry-specific scenarios.

Most enterprises lack the right skills to embrace IoT, presenting an opportunity for service providers. In this study, IoT services are represented as a conglomeration of functions such as consulting and implementation, technology integration and execution, analytics and

Definition (cont.)

security, covering the overall ecosystem of IoT managed service providers. Given the vast amounts of data collected, IoT endpoints require extended edge computing and AI analysis to determine the right data sets that have to be transferred across other parts of the network. As companies rely on the accuracy of this data, security at the endpoints is critical.

The increased digitalization of production and the much-discussed concept of digital twins reflect a focus on business outcomes. IT/OT convergence offers end-to-end integration of data via the integration of IT systems with OT systems to monitor events, processes and equipment. Connected mobility is one such example for examining providers' capabilities across cross-industry applications such as predictive maintenance, product development, decision-making support and business process integration.

Definition (cont.)

Scope of the Report

As part of the ISG Provider Lens™ Quadrant Study, we are introducing the following five segments on the Internet of Things - Services and Solutions.

Scope of the Study – Quadrant and Geography Coverage

	U.S.	Europe	Global
IoT Consulting and Services	✓	✓	
Managed IoT Services	✓	✓	
Connected Mobility Consulting and Services	✓	✓	
Artificial Intelligence on the Edge			✓
IoT Endpoint Security			✓
IT/OT Tech Data Convergence			✓

Provider Classifications

The provider position reflects the suitability of IT providers for a defined market segment (quadrant). Without further additions, the position always applies to all company sizes classes and industries. In case the IT service requirements from enterprise customers differ and the spectrum of IT providers operating in the local market is sufficiently wide, a further differentiation of the IT 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 IT 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 US\$20 million and US\$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 US\$1 billion, with activities worldwide and globally distributed decision-making structures.

Provider Classifications

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.

Leader

The Leaders among the vendors/providers have a highly attractive product and service offering and a very strong market and competitive position; they fulfill all requirements for successful market cultivation. They can be regarded as opinion leaders, providing strategic impulses to the market. They also ensure innovative strength and stability.

Product Challenger

The Product Challengers offer a product and service portfolio that provides an above-average coverage of corporate requirements, but are not able to provide the same resources and strengths as the Leaders regarding the individual market cultivation categories. Often, this is due to the respective vendor's size or weak footprint within the respective target segment.

Market Challenger

Market Challengers are also very competitive, but there is still significant portfolio potential and they clearly fall behind the Leaders. Often, the Market Challengers are established vendors that are somewhat slow to address new trends due to their size and company structure, and therefore have some potential to optimize their portfolio and increase their attractiveness.

Contender

Contenders still lack mature products and services or sufficient depth and breadth in their offering, but also show some strengths and improvement potential in their market cultivation efforts. These vendors are often generalists or niche players.

Provider Classifications (cont.)

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).

Rising Star

Companies that receive the Rising Star award have a promising portfolio 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. This award is only given to vendors or service providers that have made significant progress toward their goals in the last 12 months and are expected to reach the Leader quadrant within the next 12-24 months due to their above-average impact and strength for innovation.

Not In

The service provider or vendor was not included in this quadrant. There might be one or several reasons why this designation is applied: 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 qualify due to market share, revenue, delivery capacity, number of customers or other metrics of scale to be directly compared with other providers in the quadrant. Omission from the quadrant does not imply that the service provider or vendor does not offer this service or solution, or confer any other meaning.

Internet of Things - Services and Solutions - Quadrant Provider Listing 1 of 3

	Artificial Intelligence on the Edge	IoT Endpoint Security	IT/OT Tech Data Convergence
Accenture	● Market Challenger	● Leader	● Market Challenger
Akamai	● Product Challenger	● Not In	● Not In
AT&T	● Not In	● Product Challenger	● Not In
Atos	● Leader	● Leader	● Leader
Birlasoft	● Not In	● Product Challenger	● Product Challenger
Bosch	● Product Challenger	● Not In	● Product Challenger
Capgemini	● Leader	● Leader	● Leader
Cognizant	● Leader	● Product Challenger	● Leader
Deloitte	● Not In	● Market Challenger	● Not In
DXC	● Product Challenger	● Leader	● Leader
Fujitsu	● Product Challenger	● Not In	● Not In

Internet of Things - Services and Solutions - Quadrant Provider Listing 1 of 3

	Artificial Intelligence on the Edge	IoT Endpoint Security	IT/OT Tech Data Convergence
GE	● Market Challenger	● Not In	● Not In
HARMAN	● Leader	● Product Challenger	● Product Challenger
HCL	● Product Challenger	● Rising Star	● Leader
HPE	● Market Challenger	● Not In	● Contender
IBM	● Leader	● Leader	● Leader
Infosys	● Contender	● Product Challenger	● Rising Star
Innominds	● Contender	● Not In	● Not In
LTI	● Contender	● Not In	● Contender
Microland	● Not In	● Not In	● Product Challenger
Mindtree	● Contender	● Not In	● Not In
NTT Data	● Product Challenger	● Rising Star	● Rising Star

Internet of Things - Services and Solutions - Quadrant Provider Listing 1 of 3

	Artificial Intelligence on the Edge	IoT Endpoint Security	IT/OT Tech Data Convergence
Orange Business Services	 Rising Star	 Not In	 Not In
Siemens	 Leader	 Leader	 Product Challenger
SLK Software	 Not In	 Not In	 Contender
TCS	 Product Challenger	 Contender	 Product Challenger
Tech Mahindra	 Product Challenger	 Product Challenger	 Leader
Verizon	 Not In	 Leader	 Not In
Wipro	 Product Challenger	 Product Challenger	 Leader



Internet of Things - Services and Solutions

ARTIFICIAL INTELLIGENCE ON THE EDGE

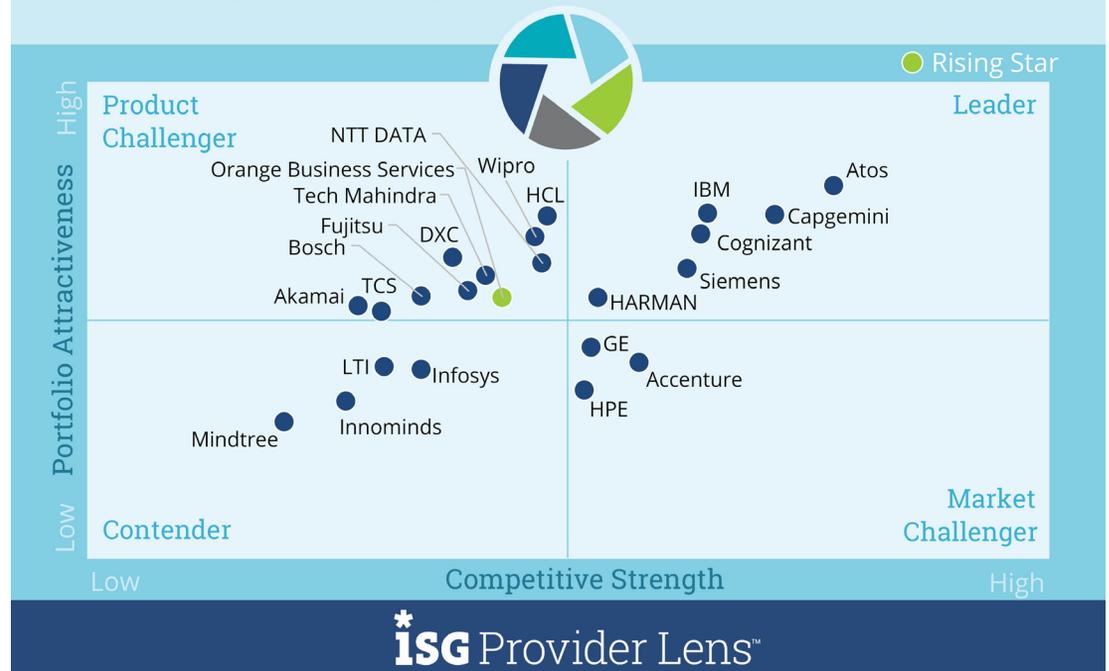
Definition

IoT edge systems produce large volumes of data that often can't be transferred to a central storage rapidly, securely and without interruption. This latency significantly limits the analytical capabilities of certain applications within the IoT solution. To address these shortcomings, innovative edge systems integrate AI applications to undertake certain complex analytics on the edge. This edge capability allows the system to make immediate decisions and take quick action locally without relying on the analytics capabilities of centralized systems.

Service providers in this segment deliver end-to-end strategies and solutions for edge systems with dedicated AI functionalities. The services comprise a combination of overall edge development strategies with AI/ML and deep-learning capabilities. These providers can build, deliver and maintain the solution either on their own or within a framework contract that includes support of partners and third-party providers.

Internet of Things - Services and Solutions Artificial Intelligence on the Edge

2021
Global



Source: ISG Research 2021

ARTIFICIAL INTELLIGENCE ON THE EDGE

Eligibility Criteria

- Ability of service provider to create a strategy for AI-on-edge solutions, edge AI functionalities and key deliverables, building blocks and requirements, prototyping and deployment at scale, as well as for defining use cases,
- Demonstrate a deep understanding of AI and ML and deep learning technologies, covering frameworks for data collection, modeling, validation and production of a deep learning model, covering other aspects such as dedicated hardware/chip design optimized for AI/ML operations (MLOps), black box and AI ethics dilemmas and resolution strategies
- Demonstrate knowledge of IoT edge solutions with experience in the development of edge solutions and services, including prototyping and deployment at scale, local power and networking management, managed edge solutions, edge maintenance and services

Observations

AI on edge is an entirely new area of AI applications. Leading service providers have developed distinct strategies that underline their capabilities in this market.

- **Atos** provides end-to-end edge AI services and solutions based on its proprietary Codex AI platform and is expanding its offering through strategic acquisitions.
- Through its new Engineering business unit, **Capgemini** has developed a deep focus on providing edge AI technology to specific industries.
- **Cognizant** has deep knowledge about AI on the edge, a broad offering, proprietary AI developments and analytics as a service.
- **HARMAN** offers clear industry specific use cases based on its own edge AI algorithms and methodologies.
- **IBM** uses its AI-powered Watson® platform to expand the full scope of edge computing, networking and analytics with an advanced AI functionality.
- **Siemens** leverages its extensive industrial manufacturing knowledge and edge AI services to digitize the entire supply chain.
- **Orange Business Services**, with the acquisition of The unbelievable machine Company (*um) in combination with a clear strategy for AI on edge computing, is a Rising Star in this market.

ATOS

Overview

Atos is a leading provider of consulting, services and solutions for digital transformation with 110,000 employees and annual revenues of EUR€11.2 billion. It has dedicated ambitions to win the AI market globally with a strong innovation ecosystem for digital transformation and through partnerships with other providers, universities and startups.

Strengths

End-to-end edge AI solution: Atos provides a full end-to-end edge AI solution that covers infrastructure and managed services. Its proprietary BullSequana Edge and fog hardware is based on a new generation of microcontrollers and neuronal processor units and allows small Swarm connected devices to receive, process and learn on data locally without the need for a large edge server. Their low power concept allows to explore schemas with a minimum carbon footprint.

Codex AI: Atos solution is centered on its Codex suite that comprises Codex AI Vision (a computer vision solution for threat tracking and crowd detection), Codex Smart Edge, an industrial IoT and edge computing platform, Codex analytics and datalake solutions. The Codex AI suite is well suited for AI applications with strong ML and deep learning components.

Targeted acquisitions: Atos recently acquired Ipsotek, a provider of AI-enhanced video analytics software. Ipsotek also offers VISuite, a scalable AI platform that enables users to manage automatically generated alerts in real time. The solution can be used across a range of use cases, including crowd management, smoke and intrusion detection, perimeter protection and traffic management. It expands Atos' edge AI capabilities in the public sector, retail, manufacturing and transportation industries as well as in critical infrastructure projects.

Caution

Atos' communication for its edge AI solutions is centered on the BullSequana Edge server offering, which can be misleading. The company should consider creating a focused marketing strategy and increasing awareness of its full edge AI capabilities.



2021 ISG Provider Lens™ Leader

Atos delivers the full scope of edge AI solutions. These range from edge server hardware, a full end-to-end edge AI solution covering infrastructure and managed services, to analytics and dedicated applications.

IOT ENDPOINT SECURITY SOLUTIONS AND SERVICES

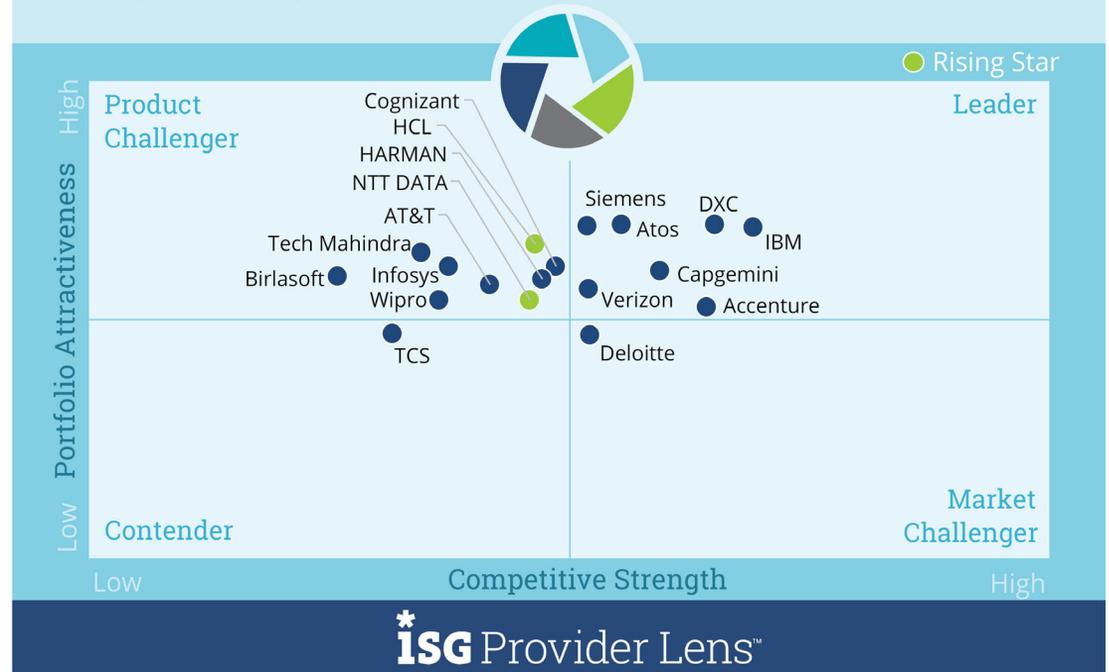
Definition

The exponential increase in the number of IoT sensors and devices, estimated to reach 35 billion worldwide by the end of 2021, poses a significant security risk to corporations and governments. IoT devices are insecure by nature. Though connected, they often lack the processing power for basic protection and encryption functionalities. Some device manufactures are behind in building adequate security protections. With the lack of adequate security in IoT devices, IT often denounces their use. In many cases, enterprises do not own IoT devices but use them as part of machinery and other devices or in a service contract. At the same time, companies place heavy reliance and trust on the accuracy of IoT sensors to collect any kind of OT data that is used to control vital processes and facilities.

IoT endpoint security solutions and services address the unique challenges of IoT environments. They establish end-to-end security across diverse connected devices by authenticating device identities, combining effective security measures within IoT low-latency networks, providing resistance to different types of cyberattacks, allowing automated security updates and software patches, ensuring resilience and protecting data privacy.

Internet of Things - Services and Solutions IoT Endpoint Security

2021
Global



Source: ISG Research 2021

SDN TRANSFORMATION SERVICES (CONSULTING AND IMPLEMENTATION)

Eligibility Criteria

- Ability of service provider to strategically plan IoT security measures across multiple device scenarios, IoT system and device vulnerability assessments and security-related updating and patch procedures
- Provide IoT endpoint security management on a device level with constant visibility, monitoring, reporting and threat assessments
- Offer insights, detection and prevention of known threats and quickly act on unknown threats with contingency planning and execution support in case IoT devices are compromised in a distributed denial of service (DDoS) or a similar attack
- Integrate ML and AI to enhance security functionalities, predict security failures and detect risky behavior.

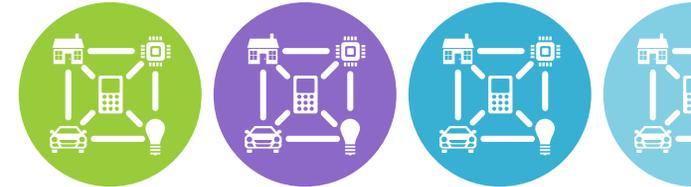
Observations

- **Accenture** offers advanced security monitoring and detection to provide visibility, insights and response recommendations to threats across the IT and OT attack surface within cloud and on-premises environments. In 2020, it expanded its cybersecurity arsenal by buying Symantec's Cyber Security Services business from Broadcom and the privately held Revolutionary Security.
- **Atos** operates an IoT security consulting and IoT vulnerability lab and runs OT/IoT security operations center (SOC) services on its cybersecurity AI platform.
- **Capgemini's** Secure IoT/OT services make endpoints, from programmable logic controllers (PLC) and remote terminal units (RTU) to industrial PC human machine interface (HMI) and industrial IoT (IIoT) sensors/devices, a key element. In 2019, it bolstered its footprint in North America by acquiring the cyber security arm of Leidos.
- **DXC** Managed Endpoint Protection (MEP) integrates market-leading endpoint security solutions with client-specific requirements and a proven methodology for designing, implementing, transforming and managing security services.
- **IBM** Security X-Force Threat Management for IoT provides an agentless device security platform for enterprises to address the new threat landscape of all types of connected but unmanaged IoT devices.

SDN TRANSFORMATION SERVICES (CONSULTING AND IMPLEMENTATION)

Observations

- **Siemens** Industrial Security Services has the necessary technologies and expertise in automation, digitalization and security. In 2020, it acquired UltraSoC for embedding monitoring hardware into SOCs.
- **Verizon** offers an integrated approach to IoT endpoint security with three main elements, namely protect, detect and respond. In its Data Breach Investigations Report for 2021, it observed 5,258 breaches from 83 contributors across the globe – a one-third increase from last year.
- **HCL** (Rising Star) centrally administers the IT-OT ecosystem of a manufacturing plant, which is governed by a tight security management framework.
- **NTT DATA** (Rising Star) has IoT-dedicated professionals and 3,000 certified security experts globally to address endpoint security requirements. The company will merge its group firms, everis and intelligence, under its own brand this year.



ATOS

Overview

Atos is a leading provider of consulting, services and solutions for digital transformation. It has a presence in 71 countries with 105,000 employees and annual revenues of EUR€11.2 billion. It was recently transformed into an industry-led organization with six global industry divisions. Its IoT offering spans across a wide scope of industries, including manufacturing, healthcare and pharmaceuticals, energy, transportation and public sector/defense.

Strengths

Broad IoT security services offering: Atos provides complex solutions that cover the entire lifecycle of cyber security services, starting with consulting, design, building and operating through to continual service improvement. Its endpoint protection services are built around classic antivirus technologies as well as endpoint detection and response (EDR). The company also provides mobile threat management, data loss prevention and encryption services. It is bolstering its consulting services for OT security maturity assessment.

Technology ecosystem: Atos has a robust IoT security partnership ecosystem with the ability to provide industry specific and custom solutions. Its partners include McAfee, Trend Micro, Microsoft, CrowdStrike, Cybereason, Broadcom, Fortinet and Claroty. Its OT/IoT SOC service runs on the Alsaac® cyber security AI platform. Atos also operates an IoT security consulting and IOT vulnerability lab. Its IoT and OT security portfolio covers transmission security, zero-trust infrastructure and managed detection and response (MDR).

Geography and industry coverage: Atos has expertise in providing services across numerous geographies and industries in a standardized and cost optimized manner. It has a high number of specialists across the globe. It offers consulting capabilities in various sectors such as energy and utilities, manufacturing, retail and transportation.

Caution

Atos should its global threat intelligence capabilities to keep pace with its competitors.



2021 ISG Provider Lens™ Leader

Because of its extensive technology, geographic and sector coverage, Atos is well positioned to offer endpoint security services for global enterprises.

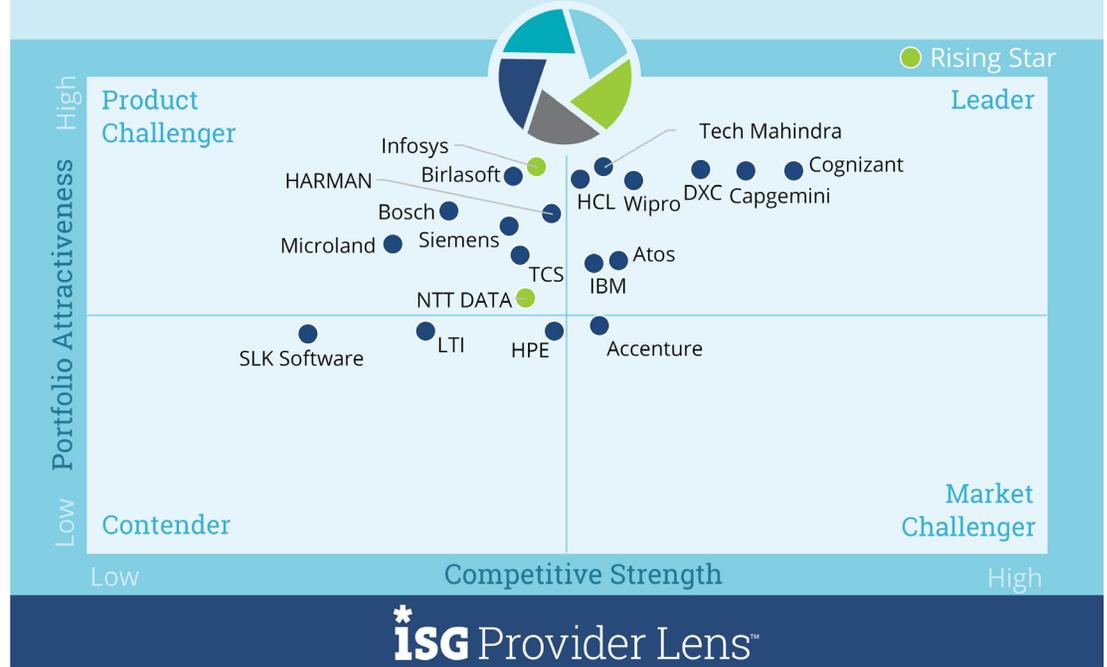
IT/OT TECH DATA CONVERGENCE SOLUTIONS AND SERVICES

Definition

Solutions and services for IT/OT data convergence help enterprises integrate the data and processes that are needed to improve business outcomes through IoT. In most enterprises, the distribution of computing includes branch offices and other facilities as well as mobile connected devices. The computing ecosystem is planned, purchased and managed by IT or service partners. On the other hand, OT monitors and manages assets such as manufacturing equipment, building systems or transportation assets. Decades-old OT systems are increasingly being replaced or connected to modern network infrastructures. Smart, connected devices that use ML and automation offer more control of industrial equipment with improved monitoring, log collection and equipment operation. This leads to better preventive maintenance to reduce unplanned downtime and improve machine longevity.

Internet of Things - Services and Solutions IT/OT Tech Data Convergence

2021
Global



Source: ISG Research 2021

IT/OT TECH DATA CONVERGENCE SOLUTIONS AND SERVICES

Definition (cont.)

To drive greater business efficiency, the large volumes of OT data should be transferred to IT systems where they can be stored, combined with related data and analyzed. However, many IT departments are unfamiliar with the volume and types of incoming data from modern OT systems. IT and OT also have different priorities for security, uptime and performance, which affects data convergence. Innovations such as digital twins are starting to tackle the complexities but also require designers and engineers to collaborate directly with operators on the shop floor.

Eligibility Criteria

- Ability to provide solutions and services to assess and bridge the gaps between IT and OT for IoT data management; includes an understanding of not only the systems and data from both IT and OT but also the decision-making processes and priorities of each
- Demonstrate experience in aligning IT and OT systems and creating an operational architecture for the convergence that reduces redundancies and expenses across industries
- Ability to advise on organization change management for non-technical IT/OT issues associate with silos breakdowns and cross-departmental collaboration among others
- Capability to offer guidance on selecting and deploying IoT data integration solutions
- Exhibit knowledge of global and local data privacy protection requirements as well as ongoing data security threats

IT/OT TECH DATA CONVERGENCE SOLUTIONS AND SERVICES

Observations

- **Atos** partners with energy industrials to market a complete solution called Worldgrid that bridges the gap between real-time industrial and business systems.
- **Capgemini** has a strategic alliance with Microsoft to create a go-to-market with the Factory of the Future offering, powered by the Intelligent Operations Platform (IOP).
- **Cognizant** uses its proprietary OnePlant™ and APEX reference models, based on best practices and design principles from 50 large clients.
- **DXC's** OT service management includes a smart factory platform, factory assessment and insights, security services, factory operations, and application and machine connectivity.
- **HCL** Plant WorkBlaze is an intelligent digital convergence center for IT and OT environments, augmented by HCL's additional support frameworks and capabilities.
- **IBM** offers a full-stack hybrid cloud as-a-service Industry 4.0 platform, available as a fully managed pre-integrated and pre-configured solution with software, services and hardware from IBM and its partners.
- **Tech Mahindra** leads with its Factories of the Future solution to help accelerate IT-OT convergence. Its method blends manufacturing engineering, design, automation and digitization with consultancy to create a successful linked organization.
- **Wipro's** typical IoT projects involve integration between gateways, devices, cloud and backend applications, including enterprise resource planning (ERP), and customer relationship management (CRM). It ensures that these integration points are secured and that the right domain and technical consultants are engaged.
- **Infosys** (Rising Star) provides consulting, implementation and support services to support IT and OT technologies for enterprises in the automotive, aerospace, CPG, logistics, manufacturing, metals and mining, oil and gas, pharmaceuticals and utilities industries.
- **NTT DATA** (Rising Star) offers flexible pricing options for its IT-OT convergence services, acknowledging that clients seek proof of value rather than proof of concepts. It also sees a significant use of digital twins for testing and automation in this space.

ATOS

Overview

Atos is a leading provider of consulting, services and solutions for digital transformation. The company has a presence in 71 countries with 105,000 employees and annual revenues of EUR€11.2 billion. It was recently transformed into an industry-led organization with six global industry divisions. Atos' IoT offering spans across a wide scope of industries such as manufacturing, healthcare and pharmaceuticals, energy, transportation, public sector/defense. Its IT/OT offering is called Smart Factory.

Strengths

Use case factory: Atos' philosophy is to drive value through the design and implementation of fully integrated IT and OT systems that can transform manufacturing by connecting business strategy, people, processes and technology. The ATOM platform consists of a business and technical components library and software factory with low/no-code capabilities.

Fast scaling: Atos' Plant Connectivity and Asset modeling is a unique methodology and set of tools to capture and model data from assets. The company partners with energy industrials to market Worldgrid, a complete solution with IT/OT capabilities that bridge the gap between real-time industrial and business systems. For scaling, it has dedicated offerings in product lifecycle management (PLM/Siemens, Dassault), manufacturing operations management (MOM/Siemens, SAP), ERP (SAP) and IIoT platforms (PTC ThingWorx, AWS IMC, MS Azure) and hyperscaler services (AWS, Microsoft, Google).

Industrial data management as a service (IDMaas): Atos offers full-service management of industrial data including infrastructure, tools, methodology, consulting and governance. It also has a smart factory reference architecture that provides the building blocks and data flow.

Caution

Like other service providers, Atos should thoroughly address the organizational change management aspects of IT-OT convergence.



2021 ISG Provider Lens™ Leader

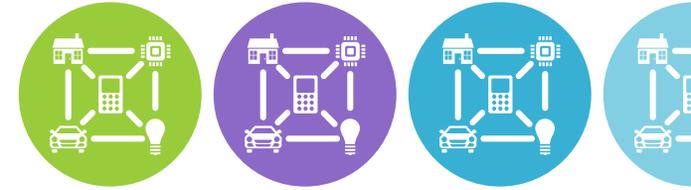
Atos has all the necessary competencies in essential business areas and technologies, delivered through a strong global partnership ecosystem.



Methodology

METHODOLOGY

The research study “ISG Provider Lens™ 2021 – Internet of Things - Services and Solutions” analyzes the relevant software vendors/service providers in the Global market, based on a multi-phased research and analysis process, and positions these providers based on the ISG Research methodology. The study was divided into the following steps:



1. Definition of Internet of Things - Services and Solutions market;
2. Use of questionnaire-based surveys of service providers/vendor across all trend topics
3. Interactive discussions with service providers/vendors on capabilities and use cases
4. Leverage ISG's internal databases and advisor knowledge and experience (wherever applicable)
5. Detailed analysis and evaluation of services and service documentation based on the facts and figures received from providers and other sources.
6. Use of the following key evaluation criteria:
 - Strategy and vision
 - Innovation
 - Brand awareness and presence in the market
 - Sales and partner landscape
 - Breadth and depth of portfolio of services offered
 - Technology advancements.

Authors and Editors



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Mr. Exler is a Principal Analyst with the ISG Provider Lens (IPL) service, a part of ISG Research. His focus is on the disruptive and progressive influences on businesses – and the experiences of their customers - of the Internet of Things (IoT), location intelligence, Digital Workplace and application modernization. Ron is lead analyst for the IoT Services 2021 IPL study and the Healthcare and Life Sciences Digital Services 2021 IPL study. He is also the owner of the IPL subscriptions services for enterprises and service providers. Ron bridges the gap between business and technology through active analyses and clear communications of issues and opportunities.



Oliver Nickels, Author

Senior Advisor

Oliver Nickels has in-depth technical and business knowledge and more than 25 years of experience as management consultant, IT-analyst, marketing manager, and start-up entrepreneur to contribute to ISG customer projects. His focus areas are Organizational Change through digital & AI-based technologies, Internet of Things and the Digital Customer Journey. Specific strengths include his ability to take the customer's perspective and to plan, implement and effectively integrate digital business processes and digital customer dialogues.

Authors and Editors



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Sri Harsha Edala is a senior analyst at ISG and he is responsible for supporting and co-authoring Provider Lens™ studies on Banking, Manufacturing, IoT and MarTech studies. His area of expertise lies in the automotive, IoT and BFSI verticals. Harsha has over 6 years of experience in the technology research industry and has worked with some of the finest research firms in the past. Harsha is responsible for developing content from an enterprise perspective and author the global summary report. Along with this, he supports the lead analysts in the research process and writes articles about recent market trends in the industry.



Jan Erik Aase, Editor Partner and Global Head – ISG Provider Lens/ISG Research

Mr. Aase brings extensive experience in the implementation and research of service integration and management of both IT and business processes. With over 35 years of experience, he is highly skilled at analyzing vendor governance trends and methodologies, identifying inefficiencies in current processes, and advising the industry. Jan Erik has experience on all four sides of the sourcing and vendor governance lifecycle - as a client, an industry analyst, a service provider and an advisor. Now as a research director, principal analyst and global head of ISG Provider Lens™, he is very well positioned to assess and report on the state of the industry and make recommendations for both enterprises and service provider clients.

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