A research report comparing provider strengths, challenges and competitive differentiators
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 was current as of April, 2019. ISG recognizes that many mergers and acquisitions have taken place since that time but those changes are not reflected in this report.

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Companies are evaluating the capabilities they need to be more competitive, and as a result they are exploring partnerships, mergers and acquisitions in the IoT space. Most of the M&A volume happens within software or application services while the larger deals occur on the hardware side.

**IoT convergence with blockchain, AI and edge computing is the future.** Enterprise clients have been investing in at least one of these technologies as part of their IoT investments. AI provides the intelligence from IoT-derived data while blockchain offers secure data transactions through its decentralized framework, and edge analytics enables real-time data visualization and predictive maintenance for IoT devices.

**Cybersecurity is gaining importance but still lacks a comprehensive framework for IoT adoption.** The lack of a suitable security framework is a barrier in deployments. Ensuring secure data transfer and payment transactions are the major challenges in the IoT ecosystem. By combining an IoT solution with blockchain and edge processing technologies, instances of such vulnerabilities can be minimized. However, the risk remains high in IoT systems that have a large number of devices or huge data volume.

**Investments in the IoT market have been growing.** Big names like Microsoft, Google, Cisco, Intel, Qualcomm and others have been making investments to fund startups that are unique in their niches in platform software, applications, hardware, sensors, services, etc. Microsoft recently announced it will invest $5 billion in IoT technologies over the next four years.
Service providers are looking at developing their own customized IoT platforms. Providers are doing this as part of evolving their IoT deployment portfolios for delivering at high speed and agility. The platforms are often specific to an industry or limited group industries, such as DXC’s I4P (Industry 4.0 Platform), Birlasoft’s IntelliAsset and Flutura’s CEREbRA, or are use-case specific, such as Mindtree’s Gladius and Wipro’s Looking Glass. But, with the plethora of platforms already in the market, clients look first at the already available platforms for their IoT deployments.

Co-innovation is helping drive next-gen solutions across industries. The IoT has been evolving over the past few years and is being widely adopted by organizations in different industries as a business game-changer. There is a trend of service providers collaborating with other solution providers to deliver a go-to-market solution more quickly. The joint expertise of different providers also leads to innovation in next-gen solutions.

The IoT market is shifting from consumer-focused offerings to enterprise. The enterprise focus and solutions are enabling companies to streamline their business processes, increase productivity and develop cutting-edge products. Enterprises are using IoT in manufacturing and other operations to raise efficiency. Enterprise IoT is gaining importance over consumer IoT as the cost efficiency, returns and outcomes are aligned and proportionate to the investments being made in the connected ecosystem implementations.

Narrowband Internet of Things (NB-IoT) is becoming more important. NB-IoT is affordable technology designed to transmit a small amount of data from multiple devices. All the leading telcos are speeding their NB-IoT deployments. They like the technology because it consumes little power and thereby can give devices a long battery life, and can address various connectivity needs.

Pricing models have been evolving. IoT engagements are shifting towards outcome based, risk-reward and hybrid models. Clients favor a model that best suits their business requirements and fits into their ecosystem. The hybrid model is a mix of traditional and new approaches or a blend of different pricing options. A connected ecosystem deployment should be measured by its cost efficiency and ROI; the pricing model needs to best fit the need.

The managed services market has been evolving. Managed services are covering more and more IoT implementations across industries and geographies. Both clients and service providers understand the importance of managing the deployed connected ecosystem. The key area where the clients require expertise to manage the ecosystem after implementation is infrastructure management that covers devices, data, applications, networks, cloud, security, platforms and more.

Enterprise clients have understood the value of IoT ecosystems and have been taking steps for adopting them in their working modules. The challenges that come along with IoT adoption include the fit into a traditional or existing operational and business framework. The service providers in this space are helping clients on their digital transformation journeys by developing an understanding of the areas where IoT could help them, and helping them gauge potential benefits for better returns and efficiency. IoT implementation outcomes vary depending on the industry vertical, the functions and technology, and thus providers and clients need to work together on use cases to derive the best results.
IoT Platforms

The IoT platform market is dominated by different players that provide cloud solutions, enterprise applications, hardware and telecommunications services. They each build their platform around their capabilities. The leading IoT platform vendors can offer a complete solution that is suitable for industry-wide adoption.

Some IT industry leaders predict the overall IoT platform market will grow by 35 percent annually. Enterprises may adopt multiple platforms depending on their need to scale their operations.

- **Functionality is diverse and evolving:** There are multiple IoT platforms available in the market that differ by their technological offerings and focused industrial segments. IoT platforms offer various functionality besides the basic connectivity and data storage. The next-gen IoT platforms offer device management, data management, application development resources, edge processing, asset optimization, secure communication and more.

- **U.S. market leads as global adoption increases:** North America is the largest IoT platform market due to increased connected devices adoption there, and is followed by Europe. Asia-Pacific is expected to grow faster and account for a larger share of the global market.

- **IIoT platforms need to become more intelligent:** It will become more crucial to combine Industrial IoT (IIoT) platforms with artificial intelligence (AI) offerings within the next five years to enhance operational efficiency, reduce downtime and improve process stability. The IIoT platform segment is expected to grow 20 to 30 percent annually to 2022.

- **Digital twin capabilities becoming more important:** Digital twins are the key trend of Industry 4.0, and thus should be supported in IIoT platforms. Digital twins programs increasingly will move from the proof of concept (PoC) stage to more pilot deployments by next year.
Introduction

Definition

Internet of Things (IoT) refers to connectivity across devices, machines, data, systems, and objects. The entire physical world is being pulled in together in a connected ecosystem through sensors and responses. Capturing vital data and generating meaningful results and insights from it has been the core of the connected ecosystem. Trillions of devices are connected, and each day, new connectivity is adding to the pool of information being captured in real time.
Definition (cont.)

Scope of the Report

The IoT – Transformational Services and Solution Partners 2019 Global report is a comprehensive and objective analysis and evaluation of the service providers across several main aspects of the IoT ecosystem. The report also focuses on trends associated with IoT markets. As part of this global report, ISG classified 35 providers for IoT as either leaders, market challengers, product challengers and contenders across six different quadrants based on their competitive strength and portfolio assessment. The quadrants are identified and summarized below.

Transformational IoT – Managed Solutions and Services: An assessment of the companies that provide ongoing management and support services for the overall IoT ecosystem. Assesses the providers’ capability to offer scalable managed connectivity solutions, device and sensor management and security management for ongoing IoT-enabled business operations.

IoT Services – Manufacturing: An assessment of services providers that provide IoT solutions and managed services for the manufacturing industry. The providers’ capability to offer digital factory solutions, IIoT solutions, remote diagnosis and asset and facility management are evaluated.

IoT Services – Smart Building & Infrastructure: An assessment of services providers that provide smart building and smart infrastructure solutions and managed services to automate infrastructure maintenance. It assesses the providers’ capability to offer preconfigured fully integrated systems, blueprints and frameworks and hardware and software services for smart buildings and infrastructure.
Definition (cont.)

**IoT Services – Connected Cars:** An assessment of services providers that develop, manage and operate connected cars solutions. Offerings such as advanced infotainment, in-vehicle networking, telematics, built-in analytics, driver safety and roadside assistance are assessed.

**IoT Platforms:** An assessment of leading IoT platform providers based on their market traction and industry-wide applicability. Providers are further assessed based on their scalability, security, use cases, platform competencies and the multiple functionality and features of their platform.

ISG Provider Lens™ is a practitioner-led service provider comparison, empowered by ISG's well-known advisory expertise and their data-driven research team. It incorporates ISG's strengths in global sourcing advisory, contract knowledge and databases, regional research and proficiency in technology ecosystems and innovations. ISG Provider Lens™ can be used by buyers in identifying capable service providers. It helps them in understanding the service providers strength and caution.
The ISG Provider Lens™ quadrants were created using an evaluation matrix containing four segments, where 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 their 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 lag 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 have therefore still some potential to optimize their portfolio and increase their attractiveness.

**Contender**
“Contenders” are still lacking mature products and services or sufficient depth and breadth of their offering, while also showing some strengths and improvement potentials in their market cultivation efforts. These vendors are often generalists or niche players.
Rising Star

Rising stars are mostly product challengers with high future potential. When receiving the “rising stars” award, such companies have a promising portfolio, including the required roadmap and an adequate focus on key market trends and customer requirements. Also, the “rising stars” has an excellent management and understanding of the local market. This award is only given to vendors or service providers that have made extreme progress towards their goals within the last 12 months and are on a good way to reach the leader quadrant within the next 12-24 months, due to their above-average impact and innovative strength.

Not In

This service provider or vendor was not included in this quadrant as ISG could not obtain enough information to position them. This omission does not imply that the service provider or vendor does not provide this service.
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IoT - Transformational Services, Technology, Solutions, Platforms and Industries Quadrants
Definition

Transformational IoT – Consulting and Services: This market is a conglomeration of functions like consulting and implementation (including planning, cost analysis and business case development), technology integration and execution (covering devices, platforms, analytics, applications and security). Based on the client’s requirements for the connected framework or ecosystem, providers are enabling the right mix of technology and partners to achieve the business outcomes. Transformational IoT – Consulting and Services also includes edge computing consulting and implementation support for distributed end devices. Having intelligence and analysis close to the edge have become important as computing power shifts to outside the central data center. There is also increasing focus on IoT security to protect the connected devices and networks. System outages and loss of control caused by malware (such as ransomware) and DDoS attacks can result in significant data loss, and endpoint security and network security solutions can prevent such attacks.
Eligibility Criteria

- An offering in the advisory, consulting, integration, implementation, machine learning (ML), deep learning and edge computing deployment areas
- Product/technology and strategic consulting partnerships
- Edge computing services and deployments
- Big data capabilities and consulting projects
- Sufficient quantity and experience mix of consultants for strategy and implementation services, and dedicated IoT consulting teams

Observations

- Accenture leads the market with its IoT offerings as-a-service, software applications that are designed to provide end-to-end capabilities to clients, and its Digital Hubs that combine the digital transformation expertise, native digital talent, innovation and knowledge of its professionals with breakthrough enterprise-relevant digital technologies.
- IBM is another established leader in the Internet of Things. It has the expertise to help clients build IoT capabilities that can create new revenue streams, increase operational efficiency and drive cost reductions.
- With its depth and breadth of IoT services, focused investment in building intellectual property, accelerators for shortening time to market and ready-to-consume products across industries, HCL is in a leading position in the market.
CONSULTING AND SERVICES

Observations (cont.)

- Cognizant’s leadership comes from its strengths in consulting, end-to-end systems integration and work with partners on other solution components.
- Its mix of solutions, partners and technology, industry-focused solutions and targeted improvements have helped TCS to position well in the market.
- Capgemini’s dedicated industry practices and centers of excellence (CoEs), thought leadership, best practices and assets, end-to-end product design and engineering capabilities plus its delivery methodology for IoT roadmaps and deployments put it ahead of many companies.
- Wipro leverages its technology expertise, deep industry-specific knowledge, IP solutions, strong partner ecosystem and a robust delivery mechanism to keep ahead in the competitive environment.
- Infosys has strong engineering experience and IT skills to deliver end-to-end IoT solutions across verticals.
- Tech Mahindra’s mix of design, engineering expertise and vertical focus helps keep it in the leading pack.
- For connecting IoT and business, Atos focuses on services connecting platforms through its digital twin capabilities and marketplace frameworks, which differentiates the company and helps it in the market.
- Mindtree’s concentration on key verticals and consulting areas have made it a strong brand name in the IoT space. The company is rightly designated as one of our Rising Stars and looks to be a market leader soon.
- L&T Technology Services’ strong engineering heritage and key innovation focus have helped it to expand its digital portfolio and apply expertise to address client needs in the IoT ecosystem. LTTS is considered a worthy Rising Star in the market that could move into the leader zone in the coming months or years.
RISING STAR: MINDTREE

Overview
Mindtree rightly understands the need of the hour and the move towards technology. "Digital Next" is what Mindtree focuses on in building connected, cognitive and edge-enabled processes. Mindtree's consulting and advisory offering spans strategy, roadmap design, hardware and platform integration, applications and security. The company is centered around edge, intelligence, cloud and design thinking. From assessing the value of a project, to implementing at scale and providing post-implementation services, Mindtree serves clients from devices, to cloud to enterprise, which it calls it a "metal to cloud capability."

Strengths
- **Safety and security services** – Mindtree provides application security and has services for assessment and mapping, OS security, patching and patch levels, and management and monitoring to keep operating systems up to date in its implementations. It also offers IAM definition and implementation services plus ongoing management and support as part of the authorization and authentication process. Security testing, remote management and other security aspects are addressed at all levels of the implementation.
- **Industry focus and three-fold connected strategy** – Mindtree focuses on a few key verticals, notably retail, manufacturing, CPG, travel, transport and hospitality, high tech, financial services and insurance. Its consulting practice has strategic partnerships to help serve deployments better. Mindtree’s strategy for a connected ecosystem revolves around the three principles of key partnership, collaboration with certain providers in the areas of connectivity, automation and devices, and using its own solutions and offerings wherever they meet requirements.

Caution
Mindtree should consider expanding its consulting and advisory teams with experts in more industries and technologies. Expanding that way would strengthen its portfolio for supporting clients that are undertaking transformation.

2019 ISG Provider Lens™ Rising Star
By working across the lifecycle management, leading value-led experiments and implementations at scale and providing ongoing support and maintenance, Mindtree helps customers to build a connected ecosystem to achieve better efficiencies and business outcomes.
**Definition**

**Transformational IoT – Managed Solutions and Services:** This includes overall IoT ecosystem management by service providers. Providers should be able to offer scalable IoT solutions and managed connectivity solutions for ongoing IoT-enabled business operations. The solutions include security management, network management, device/equipment management, data management, platform and application management and IoT analytics. The IoT analytics offerings should include data management and intelligence to drive business value, predictive analytics, data visualization and IoT analytics platform maintenance. Enterprises that have already implemented IoT solutions need extensive support in managing and upgrading those systems.
Eligibility Criteria

- Ability to commercially offer IoT managed solutions and services that provide a scalable ecosystem for individual IoT implementations
- Capabilities in security management, network management, device/equipment management, data management, platform and application management and IoT analytics
- Capability to locally offer technical and management services to strategically plan, implement and run the environment
- Ability to integrate with third party systems and existing business applications
- Enhanced platform security with access management, data encryption, device provisioning and authorization capabilities
- Sufficient quantity and experience mix of consultants for strategy and implementation services, and the presence of dedicated IoT consulting teams

Observations

- Its IoT deployment framework for enhanced performance, IoT security and device management and Informix IoT enterprise database for the cloud have IBM positioned as a market leader in managed services.
- Atos is an established leader in the managed services market. Atos offers complete set of services for solution ideation, incubation, proof of value and to industrialize the solution. It provides managed enterprise IoT by integrating and interoperating with existing legacy systems and providing predictable service levels for the complete IoT landscape.
- With its mix of complex engineering heritage and rich domain experience, HCL places well in the market. HCL's IoT WoRKS RUN managed services offering is for effectively operating and managing solutions to realize ROI from IoT initiatives.
- Accenture's innovation architecture and client delivery, SaaS suite of IoT offerings, cloud-based platform for connected ecosystems and great focus towards IoT managed services help position the company well.
**Observations (cont.)**

- Capgemini's IoT managed services, including IoT security and device management, technical and engineering support plus analytics and insights, give it an advantage against many companies in the market.

- Infosys' managed service offering leverages ready-to-use frameworks, accelerators, its own IP and partners across sensors, devices, connectivity and IoT platforms. Infosys takes advantage of its engineering services skills in embedded systems, hardware, telecommunications, networking and industrial automation.

- Wipro's command center for remote monitoring, its asset information framework and Looking Glass architectural framework are assets in the market.

- Harman is leveraging its multi-shore service delivery capabilities and rich domain experience to combine expert consulting, integration, support and remote infrastructure management with excellent customer service.

- TCS provides a comprehensive portfolio of managed services for clients and is a Rising Star in this segment. Its services cover interoperability testing and managing the scale of deployment, security, complexity and device intelligence.

- Cognizant's service delivery capabilities for managed services through its IoT Nerve Center and applications operations center help clients after their initial deployment and have positioned the company as a Rising Star in this segment.
A connected car is defined by the car’s ability to connect with its own ecosystem and/or the outside world, like infrastructure, networks and other vehicles and devices. The best-known connected car features fall into categories like safety, navigation, fleet management, infotainment and payments, and include voice recognition and autonomous driving capabilities. Connected car services include solutions plus consulting and integration services with a clear focus on vehicle digitalization, automation and connectivity.

The following use cases are examined:

- Car-to-car communications systems, notably smart predictive safety systems based on sensor data
- Smart connected driver support systems that are based on sensor data to enhance driver’s safety and experience
- Connectivity solutions designed to enhance maintenance support, and services such as insurance based on driver behavior
Definition (cont.)

- Remote route tracking and vehicle monitoring to support fleet management and logistics
- Vehicle security services, tracking, remote control/lock/unlock for trucks and transportation systems
- Remote performance analytics for fleet optimization and cost management
- Integrated payment systems, including tolls, tickets, parking, gas, parts and maintenance services

Eligibility Criteria

- Strong focus and ability to offer vertical-specific solutions in the IoT domain
- Domain expertise to understand business processes and identify improvement areas in the connected car space
- Development of IoT use cases and proof of concepts (PoCs) for the vertical
- Strong focus on security, fraud management, cost management, performance monitoring, driver support, logistics support and other relevant issues
- Number of domain experts, customer support performance and innovation plan for the next two years
Observations

- Capgemini's partnerships with the foremost IoT platform providers, investments in process, technology assets and its engineering expertise come together to provide complete IoT solutions. The company leads the market with its vertical focus and approach to addressing key client needs.

- Harman's integrated infotainment technologies offer automakers complete solutions for advanced navigation, integrated audio, intuitive user interfaces, device connectivity, cybersecurity and connected safety, and keep Harman ahead in this market.

- HCL leads most of the pack by providing end-to-end connected car ecosystem solutions with synergy from its expertise in embedded systems, network communications, telematics, mobility solutions, cloud-based platform services, cross-domain expertise and industry-leading partnerships.

- IBM’s Watson IoT solutions for vehicles help address complex engineering and lifecycle requirements, analyze onboard vehicle data in real-time and integrate with other data sources, positioning it as a leader in this market.

- Wipro's engineering experience, deep domain knowledge around in-vehicle infotainment and vehicle diagnostics, cloud-based platforms and expertise in connected car services and security position it well in the market.

- Cognizant provides end-to-end connected car services. Its services help vehicles connect with their own systems and external things like infrastructure, networks and other devices, and keep Cognizant ahead.

- Tech Mahindra’s Automotive Aftermarket Suite, with offerings across technology, vendors, security, delivery platform and aftermarket services, clearly makes the company an important provider in this market and has positioned it as a Rising Star.
The manufacturing vertical has been one of the frontrunners in adopting IoT technology to improve operations and the supply chain. Shop floors increasingly use networked sensors and intelligent devices that collect data, share it wirelessly and use analytics and machine learning to reduce machine downtime. The services range from asset tracking, preventive maintenance, manufacturing process monitoring, diagnostics and real-time demand fulfilment to advanced analytics for predictive maintenance.

Source: ISG Research 2019
Eligibility Criteria

- Strong focus and ability to offer vertical-specific solutions in the IoT domain
- Domain expertise in manufacturing to understand the business processes and identify improvement areas
- Development of IoT use cases and proof of concepts (PoCs) for the vertical
- Strong focus on device management, advanced data analytics and real-time analytics to drive efficiency, optimize operations and enhance the connected shop floor experience

Observations

- With its depth and breadth of IoT services HCL provides a wide range of manufacturing offerings spanning from consulting to implementation to managed services. It has an ecosystem of partners and vendors to provide solutions.
- Wipro has a robust manufacturing client base and generates half of its IoT revenue from the manufacturing vertical. Wipro’s Manufacturing Intelligent Quotient performance dashboard helps to integrate input, visualize operations and achieve productivity by interfacing data in real-time.
- Cognizant’s strong customer relationships and core domain expertise enable it to provide end-to-end solutions across manufacturing operations management (MOM), Industry 4.0 and IoT systems. Cognizant’s Connected Factories offering helps organizations lead adoption of manufacturing IoT, including Industry 4.0 and digital technologies, and has helped make the company a leader in this space.
Atos leverages verticalized platforms and solution components to accelerate time to value. It partners with asset vendors and platform providers to deliver IoT manufacturing solutions.

Capgemini leverages strategic partnerships with technology majors into specific manufacturing industry solutions. It has a very good client base in the manufacturing and IIoT industries, representing approximately 30 percent of its total clients.

Tech Mahindra takes advantage already available sensors to provide IoT solutions. It has great focus on the manufacturing business segment and caters to the automotive, discrete, aerospace & defense and process manufacturing industries.

TCS’s manufacturing advisory services and domain expertise keep it ahead in the market and provide solutions and services in this space.

System integration services across the IoT value chain and its mix of price/performance business models help place Infosys as a Rising Star. With focus on unraveling business value by deriving and acting on insights from IoT endpoints and data from connected assets and connected processes, Infosys provides end-to-end IoT solutions.
SMART BUILDING AND INFRASTRUCTURE

Definition

Smart Building and Infrastructure refers to the interaction of sensors with physical assets to help plan, design, manage and maintain a facility and/or infrastructure. Analyzing the large amount of data coming in from a connected ecosystem and managing the assets and operations are the core of infrastructure management. Smart building is about retrofitting and automating buildings for a connected and digitized building management systems.
SMART BUILDING AND INFRASTRUCTURE

Eligibility Criteria

- Offerings in all advisory, consulting, integration, implementation areas
- Capability to provide solutions for a wide variety of smart building requirements, including climate control, electricity and energy management, people flow, specific facility requirements, etc.
- Product/technology and strategic consulting partnerships
- Big data and data analytics capabilities and consulting projects
- Use of machine learning (ML) and artificial intelligence (AI) to analyze large data streams and optimize operations
- Number of consultants and local nearshore and offshore presence of dedicated IoT consulting teams, and their experience mix for consulting and implementation

Observations

- Its innovation plans and ecosystem of partners and collaborations help position Cognizant position well in the market. Cognizant's 1Facility inhouse solution provides services to smart building and facilities clients.
- Capgemini's Cap'tain smart building solution, innovation roadmap for the smart building domain, and add-on functionalities help position it ahead of many companies in the market.
- Wipro leverages its Smart iConnect smart city platform to provides services. It offers smart utilities solutions and consulting with IoT implementation services.
- Infosys is a leader in smart building and infrastructure with its end-to-end building management solutions, sustainability resources, a targeted workforce, innovations and roadmap.
- TCS's connected home solution for insurers, plus its smart city solutions and engineering, innovation and partnerships, help position it well in the smart building and infrastructure market.
- Atos leads the market with its services across the domain, like facility management, ecommerce consulting, system design, integration and managed services, and operates across geographies.
- LTTS is the Rising Star in this market. It is strong in engineering R&D and focuses on automating mechanical systems to improve building management.
**Definition**

IoT platform is the software layer that connects all other layers in the IoT technology stack, such as hardware, network, data, software and additional platforms that may be used for cloud and application software. An IoT platform enables the deployment of applications that monitor, manage and control connected devices. Key capabilities include remote data collection from connected devices, secure connectivity among devices, sensor management and integration with third party systems. IoT platforms are the key interface for device communications (to measure, control and regulate) and handle data management tasks (such as saving, integrating, analyzing and visualizing device data), device management (including security and functional software updates on devices) and process management. Platforms are an integral part of the entire IoT deployment, and we consider those providers that are using their own platform technology.

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**IoT - Transformational Services, Technology, Solutions, Platforms and Industries 2019 Global**

**IoT Platforms**

<table>
<thead>
<tr>
<th>Product</th>
<th>Competitive Strength</th>
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<tbody>
<tr>
<td>Challenger</td>
<td>Low</td>
</tr>
<tr>
<td>Contender</td>
<td>Low</td>
</tr>
<tr>
<td>Rising Star</td>
<td>High</td>
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<tr>
<td>Leader</td>
<td>High</td>
</tr>
<tr>
<td>Market Challenger</td>
<td>High</td>
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</tbody>
</table>

**Source:** ISG Research 2019
The platform evaluation and inclusion criteria are:

- Platform must be a standalone or subscription-based offering
- Platform must have capabilities in security management, network management, device/equipment management, data management and IoT analytics
- Vendor must maintain strong technology and service partnerships
- Have the ability to integrate with third party systems and existing business applications

AWS IoT, with its in-depth functionality, security features, multiple language support and flexible pricing, remains significantly ahead of its competitors in market share.

Microsoft is an IoT platform leader with Azure IoT, which helps customers to develop connected products in less time with matured Azure SaaS offerings. Azure supports Advanced Messaging Queuing Protocol (AMQP), the most reliable messaging protocol.

Google, with its Cloud IoT Core services, offers a complete platform to build IoT solutions that improve efficiency and optimize business processes.

The IBM Watson IoT Platform along with IBM’s expertise in AI and blockchain allows enterprises to gain insights and make better business decisions.

GE Digital's Predix Platform is a popular choice among industrial companies and has recently been enhanced with new edge functionalities to connect shop floor operations to the cloud.

Siemens and GE Digital are the Rising Stars in the IoT Platforms quadrant. Siemens acquired Mendix and integrated its low-code application development platform with the Siemens MindSphere IoT platform to enable enterprises with no coding experience to develop IIoT applications. Siemens is also supporting MindSphere by building professional services. GE Digital offers an industrial-grade analytics PaaS platform. The GE Predix Platform supports scalable and extensible IIoT use cases.
METHODOLOGY

The ISG Provider Lens™ 2019 – "IoT - Transformational Services, Technology, Solutions, Platforms and Industries" research study analyses the relevant software vendors and 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 IoT - Transformational Services, Technology, Solutions, Platforms and Industries
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. Detailed analysis & evaluation of services & service documentation based on the facts & figures received from providers & other sources.
6. Use of the following key evaluation criteria:
   - Strategy & vision
   - Innovation
   - Brand awareness and presence in the market
   - Sales and partner landscape
   - Breadth and depth of portfolio of services offered
   - Technology advancements
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