

***ISG** Provider Lens™

Internet of Things

U.S. Market

Quadrant
Report



A research report
comparing provider
strengths, challenges
and competitive
differentiators

Customized report courtesy of:



March 2018

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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 November 30, 2017. ISG recognizes that mergers and acquisitions have taken place since that time; those changes are not reflected in this report.

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EXECUTIVE SUMMARY

Overall IoT Services

- **Internet of Things (IoT) is the core of connectivity across networks, systems, data and objects.** From industrial assets to everyday things to people, IoT can bring much of the physical world into a connected ecosystem. The key to a successful IoT implementation are setting the right objectives, managing the flow of large amounts of data and capturing the data points necessary for deriving benefits and insights.
- **The IoT market has been evolving fast while the adoption rate has been moving at a steady pace.** From standalone point solutions to overall end-to-end offerings both for technology providers and business buyers, the IoT market has grown substantially but not as fast as some expectations.
- **Businesses are understanding the potential that an IoT ecosystem can offer.** Companies are becoming more competitive by using different ways to drive business improvement. From improved client experience to better business outcomes, the benefits of IoT are obvious.
- **Businesses are expecting more synoptic potential from an IoT ecosystem but are not conceding security and functionality.** Specific industry-related IoT has been more favorable and profitable as compared to general business solutions that are targeting business transformation.

- **Cost efficiency is important for both the service provider and the buyer when starting an IoT implementation discussion.** The biggest challenge that slows down IoT adoption growth is that program outcomes often have not matched the investments for implementing and adopting an IoT ecosystem.
- **Strong value cases have emerged in some verticals.** The difficulty of generating positive return on investment (ROI) from IoT investments varies by industry. IoT has shown its value in the manufacturing, energy and utility industries. Some of the areas where manufacturers have benefited most include operational process optimization and improved predictive maintenance through planning and an understanding of work patterns. Other key focus areas include connected and smart factories, inventory management and supply chain optimization.
- **More industries and use cases continue to develop.** Other verticals and use cases where IoT has been progressing include healthcare, transportation, smart cities and smart offices. Consumer-connected areas including retail, hospitality, smart homes, and connected vehicles have also seen IoT progression. Some IoT applications fit both the industrial and consumer markets and are often referred to as cross-industry use cases.

- **An agile approach enables IoT progress.** Applying agile principles for product development at different levels of the IoT ecosystem gives developers more innovation time and helps improve project management; it also lowers cost. Product quality improves with agile product development, which helps to reduce overall costs by lowering service costs.
- **Experts around the world believe that there will be more than a trillion devices connected by 2020 which has made IoT a focus area for most organizations.** As growth occurs, it will be important for enterprises to determine the right proportion between the cost and outcome of adopting the IoT ecosystem and the ease of maintaining and securing any IoT infrastructure adoption.

Solution providers have been continuously trying to add value to their client organizations' IoT implementations. Starting with the early point solutions, big data analytics and predictive maintenance, solution providers helped enterprises to understand IoT and to determine how to use it to maximize their investment returns. The following are key perspectives for an end-to-end IoT implementation journey that solution providers should consider.

- **Clients need consulting help to plan and ideate the business problem and to address it to reach business benefits.** IoT implementations might create business benefits by reducing costs, increasing efficiency, creating a better customer experience or making other improvements. Thus, to make an IoT adoption successful, clients

should consult service providers to plan strategies, develop a business case and establish the processes for IoT use cases.

- **System integration and implementation is the next step in collecting the data.** Devices and sensors are available for monitoring different types of activities and conditions. The parameters to monitor are different in each business case. They vary considerably and can include tracking temperature, location, speed, pulse and other characteristics.
- **Big data and analytics are closely related to IoT.** The huge amount of data flowing from different sensors and other devices needs proper management. Collected data needs proper analysis to derive insights for business functions. Data also needs to be continuously available to generate regular benefits. Using dashboards can improve visualization and help top management to make decisions on mobile devices and in real-time.
- **Platform adoption is a key step in the IoT infrastructure journey.** ISG defines an IoT *platform* as: *an array of components that helps in providing the interface to initiate data and device management within a defined infrastructure in association with communication protocols and security management.* Platforms are the critical enablers that bridge gaps and bind the IoT ecosystem.

- **Network and communication can take many forms.** Creating the right communication structure depends on the needs for range, transmission capacity, usage, isochronous connectivity, compatibility and – most importantly – security.
- **Scalability and flexibility are needed in software and applications.** The number of connected devices increases every hour. This thereby increases the need for good software behind every IoT product and service. Organizations have problems integrating dynamic software capability. Developers now need to marry software components and Internet connectivity for a secure, efficient and reliable operation. Software developers are constantly updating software and applications based on the needs of IoT use cases.
- **Security starts with design.** Security is one of the biggest inhibitors of IoT expansion and acceptance. Therefore, service providers need to address security at every step in an IoT ecosystem – from the design phase to implementation – and must also cover the connected device and all network levels.
- **Managed services are available for different operational aspects.** Enterprises have different options to consider for IoT managed services. One option is for service providers to manage the IoT infrastructure after implementation. This approach can relieve the enterprise customer from involvement in the complexities of the implemented ecosystem.

Digital transformation and digital reinvention is the journey an organization takes to achieve optimization in all areas – process, systems, culture and transformation of the entire business model and ecosystem. Internet of Things is one of the core pillars of the digitization and transformation journey that organizations undertake. IoT can help organizations achieve operational efficiencies, create new business value and enhance customer experiences through the help of smart and connected products, solutions and ecosystems.



IoT in Healthcare

Internet of Things has the potential to transform healthcare. Several successful IoT applications already exist in the healthcare sector, covering patient monitoring and treatment and hospital management. Remote monitoring of patients is a key focus area for high investment because of the expected improved outcomes. IoT has the potential to help patients and their doctors be more effective at managing chronic diseases, which is a growing imperative across the healthcare system.

- Remote patient monitoring is expanding. It supports more passive, real-time and intuitive ways of managing chronic diseases. Biosensor use is high; the technology is helping in diagnosing and monitoring various health conditions
- The market is also expanding for connected machine-to-machine (M2M) systems that support bedside tracking for patients who are at home and who require long-term care.
- Hospital deployments of intelligent facility management systems have seen big growth. Systems for inventory management, real-time asset tracking, operating room optimization and emergency infrastructure are all part of the connected healthcare ecosystem.

- Telemedicine and telehealth sites where patients can remotely interact with care providers for consultations, diagnoses and treatments are also gaining momentum globally.
- The spectrum of healthcare-related IoT technologies includes wearables, mHealth (mobile) and other health tracking applications and smart pills for intestinal and digestive tract treatments. These technologies and techniques can aid patient care by expanding access, providing timely, accurate data and reducing costs.
- Medical records systems in hospitals are becoming better organized. Large proportions of paperwork are being removed due to the growing use of digital health records. Electronic health records can make patient information more easily accessible to care providers and can improve care coordination in a connected healthcare ecosystem.
- Data security and patient privacy are important issues that service providers must consider while conceptualizing solutions for connected healthcare. Solutions must satisfy privacy and security regulations that are specific to different countries and patient populations.

Healthcare is one of the largest market opportunities for IoT service providers. Healthcare IoT services have been on the rise in the U.S., Europe, the Asia-Pacific and in some areas of the developing world. The cost of healthcare has been continually increasing which has led providers to pursue connected healthcare approaches. Rising costs also have motivated software and hardware companies to create more solutions to try to reduce the cost of care. These companies also aim to improve remote monitoring to support the aging population and patients with chronic diseases that require constant monitoring and treatment.

Some North American, European and Asia-Pacific governments are supporting research into connected ecosystems and IoT for healthcare. Government support for service providers that bring beneficial changes to patients and providers could change the market equation for healthcare IoT services by incentivizing new services.

IoT in Connected Cars

IoT has been a game-changer in the connected cars market. It has taken the consumer experience to a new level by providing the ability to interact with a connected ecosystem. Remote operations, tracking and emergency and other safety features have improved with connectivity. Automated driving is another area where Original Equipment Manufacturers (OEMs) and service providers are developing capabilities and making great strides.

- The connected car has become a reality as OEMs and service providers have collaborated to create new experiences.
- Connected infotainment systems that work with smartphones can improve the human interface of automotive systems. Now consumers can take advantage of voice-activated features to get directions, send emails, play music and make phone calls. To enhance both the safety for the driver and the entertainment quotient, efforts are being made to make the vehicle-driver interface more consumer-focused and interactive. Efforts such as Apple CarPlay and Google Android Auto aim to make the driving experience more customer-focused and easy-to-communicate.

- Connected car features span across various services, including navigation, safety, entertainment and more. Road and traffic conditions, accident alerts and parking guidance are some of the key features that can be provided as part of a connected car package. Some of the safety features that have been integrated into offerings include speed limit advice and breakdown assistance. Some entertainment package features included within infotainment systems are auto-play of the driver's choice of music and social networking notifications.
- Remote maintenance alerts and the ability to lock and unlock vehicles remotely are already important components of connected car offerings.
- Insurance-related services are also emerging. These services use links to vehicles to track driver behavior and to adjust driver pricing based on recorded data.
- Technology providers are ready to develop new services and technology for OEMs to help connected cars interact with drivers and their physical surroundings. Partnerships among service providers and OEMs are helping to shape the connected cars market and facilitate new paid services and consumer offerings.

- The global market for connected cars has been developing well; both end customers and service providers are receptive of the new technology. Consumers and commercial fleet operators alike have been adopting connected car features.
- Electric cars could provide opportunities for future connected car services. For example, new offerings could guide drivers to the nearest charging station, book a charging slot and estimate the distance to be covered with the present charge.
- Many OEMs offer connected car packages that come with either a subscription model or with limited free, built-in features.
- The market's premium and luxury car OEMs include Audi, BMW, Mercedes-Benz and Tesla. These OEMs offer their connected car packages alongside their new cars. Now there is a focus on making connected car services more affordable and available to a broader consumer market.
- Third-party providers have made progress in making the connected car experience affordable. New players entering the connected car space are trying to change the dimensions of the auto industry. These include technology startups and companies with experience in other industries that are entering the automotive market.

- New partnerships are emerging in the automotive space to exchange ideas and technology and to accelerate innovation for a better-connected experience.

The connected cars market is expanding as consumers want to be able to use their smartphones to make more connections and access more services while on the go. Vehicle infotainment has gone beyond music; now, efforts are being made to enhance the full driving experience.

Apart from offering different connected car features, the automotive industry has a growing need for managed services for both application and infrastructure management. These services are offered with add-on fees by the automotive providers. Security is another growing opportunity. With the rise of the connected cars, there is a corresponding rise in cybersecurity threats. Service providers and OEMs must integrate a security framework into their systems.

IoT in Retail

With the growing dominance of online retailers, physical stores increasingly are threatened by squeezed margins, rising operational costs and a more challenging environment for attracting and engaging customers. Traditional brick-and-mortar retailers are heavily investing in technology to counter the threat posed by e-commerce. IoT use cases for the retail sector span supply chain improvements, operational efficiencies, customer service and omnichannel marketing.

- With real-time data and analytics, retailers can optimize their logistics and supply chains. Companies use radio frequency identification (RFID) technology to track inventory in both stores and warehouses. Retailers analyze data collected by RFID readers and other sensors to improve replenishment operations for fast-moving consumer goods and other products; this ensures that stores are never out of stock.
- Many retailers use short-range sensors such as beacons to track shopper behavior and to develop marketing and promotion plans based on past purchases. Many also use NFC and QR codes to engage with customers via mobile phones and to create a more personalized shopping experience.

- Retail companies are increasingly looking to reduce operating costs, of which employee expense is a huge component. Retailers use analytics to assess store traffic by hours, days and weeks; they then assign employees based on occupancy in various sections of the store. Companies are also tracking shopping carts as a proxy for customer location.
- Many retailers are installing help buttons in their mobile apps to allow customers to summon help instead of setting up information desks or requiring employees to track the customers in various sections. The buttons also help retailers in tracking the employee utilization on the retail floor in various sections of the store at any given time. Various in-store tracking technologies are also helping retailers understand customer shopping patterns.
- The entry of companies like Amazon, Apple and Google in the electronics and home improvement markets is creating new opportunities for retailers in areas like sales service support for smart home products. Some retailers are also becoming order-fulfillment vendors for automated grocery orders which are generated by smart home applications.

- Retailers are increasing their use of digital signage. IoT allows them to run personalized in-store campaigns. As soon as a customer picks up a product, an IoT-driven digital sign can display an advertisement or other content that is related to the product and personalized to the shopper.
- Retailers are using IoT in many innovative ways to optimize store space and provide more services in a smaller area. Solutions such as virtual closets, smart shelves and smart mirrors allow customers to browse merchandise virtually. Self-checkouts and contactless checkouts are helping to make the checkout process more efficient and reduce employee overhead.

IoT service adoption is increasing in the retail industry, especially as retailers are leveraging technology to overhaul their entire business operation. However, retailers are facing many internal IT challenges that are forcing them to adopt these new solutions slower than expected. As IoT service providers and other vendors enhance their offerings for the sector and take a more consultative approach, retailers are more willing to take the plunge.

IoT Platforms

- **An IoT platform connects** different devices to the cloud and the various devices relative to the IoT ecosystem.
- **There are different** kinds of IoT platforms that are used by providers for IoT ecosystem implementations. Platforms may be either specific to hardware, connectivity or IaaS related.
- **The IoT market has been growing** and therefore there is an important need for an appropriate platform that can connect the right things to the right network for an IoT implementation.
- **Platforms are differentiated by various parameters.** Usability, scalability, data security options, integration and interoperability are some of the main components of an IoT platform.
- **Building an IoT ecosystem from the start** helps you to choose the IoT platform for your requirements and makes integration easier, rather than fitting a platform into an existing system and then make enhancements.

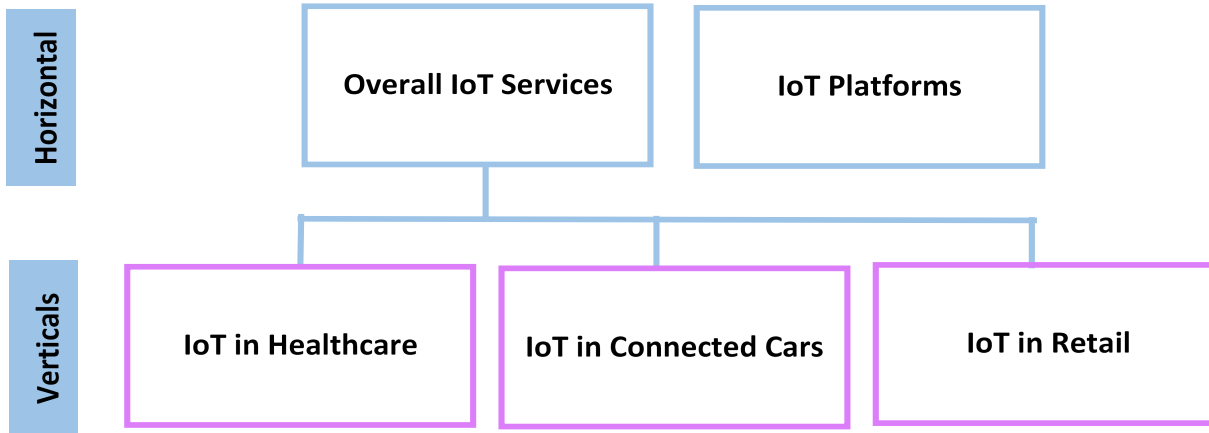
- **The market is flooded with platform options** and you should be able to choose an appropriate one based on your requirements and development options. Key requirements for selecting a platform should be its ability to adapt to the implementation use case and existing infrastructure.
- **Data and device management** are initial hurdles that the platform vendor must counter when managing the large amount of data in an IoT ecosystem. Understanding the data and driving meaningful insights for decision making are key for organizations.
- **Infrastructure and application management** are important because the platform needs to suit and adjust to the existing infrastructure or applications, including ERP systems. The platform's adaptability to new applications while implementing the IoT ecosystem is important.
- **The platform should be scalable** and have the adaptability to resize and scale as needed for different data sets in the IoT implementation scenario.
- **Security is an essential component** for the IoT platform because large amounts of and multiple data sets are handled. Enterprise security and privacy standards must be at the core of the IoT platforms.

- **Connectivity of the devices and data** is the point where data gets normalized under various protocols and standards.
- **Predictive and cognitive analytics** help decision making and provide an overview of the data that has been captured from various sensors and other sources.
- **The platform's flexibility to support** the existing infrastructure is important. The enterprise ERP, CRM, PLM and other systems need to be aligned with the connected ecosystem that is being implemented. Thus, it is important that the IoT platform are able to support the legacy systems to avoid changes, additional development and integration costs and other recurring issues that may crop up during deployment.
- **IoT platform and feature selection will depend on** the IoT implementation scale. The platform selected needs to provide the immediate desired support and be able to scale up in due course.
- **Features and cost both should be considered** while selecting an IoT platform. Some platforms may seem initially costly but have more features that will reduce the feature extensions that need to be added later and can reduce the timeframe to complete the implementation.

- **Platform costs must be considered closely** because there could be subscription models, licensing fees and other costs for the different platforms in the market.
- **Some service providers opt for their in-house platforms** when deploying IoT solutions for clients, because the application development would better support their implementation ecosystem.

IoT is the future for enterprises, and platform is the key for all connected systems going forward. A platform provides the integration for the IoT implementation and should cover data management, flexibility, scalability, analytics, connectivity and security options. There is a swarm of offerings in this market. Key considerations for platform choice are cost, features and scalability. The right choice will complement the enterprise IoT deployment.

Introduction



Definition

Internet of Things (IoT) services are defined as the conglomeration of functions such as consulting and implementation (planning, cost analysis and business case development), technology integration and execution (device, platform, analytics, application and security) and overall IoT ecosystem management (managed services).

Our research studies are intended to anticipate the investigation efforts and buying decisions of typical enterprise clients. When contemplating a significant strategy transformation, implementing agile practices or incorporating automation into their environment, an enterprise client will benefit from a study that examines an entire ecosystem for the service line it is examining. Whether that service line is application development and maintenance (ADM),

Definition (cont.)

workplace services, contact center services or data center or IoT services, each of these focus areas is typically made up of consulting and advisory services and system integration, development and support. Therefore, ISG studies will be comprised of multiple quadrants' analyses which cover the variety of services that an enterprise client requires. Vendors are classified into one of five quadrants, but there are other areas included in this report.

This study about IoT includes five quadrants that represent IoT platforms, overall IoT services and industry verticals. These verticals show the increasing adoption of IoT and use of IoT platforms and their implementations in areas like healthcare, connected cars and retail. The quadrants are defined below as:

- **Overall IoT Services:** Overall IoT services are defined as the conglomeration of functions like consulting and implementation (planning, cost analysis and development of business case), technology integration and execution (device, platform, analytics, application and security) and overall IoT ecosystem management

(managed services). It includes all the end-to-end services that a service provider may provide with respect to the overall IoT solutions offerings.

- **IoT in Healthcare:** Healthcare IoT provides technology that helps in patient care, remote monitoring and hospital infrastructure management, thereby improving the doctor efficiency and patient satisfaction. All healthcare IoT offerings, from wearables, sensors for remote tracking of patients, wireless medical devices in hospitals and RFID in inventory management to hospital management systems, add to workflow optimization and different aspects of patient care.
- **IoT in Connected Cars:** IoT services in connected cars are defined by the connectivity of the car with its own ecosystem and/or the outside world, including infrastructure, networks or other devices. The connected car best fits into categories such as safety, navigation, infotainment and payments. Voice recognition features and autonomous driving capabilities are highly important.

Definition (cont.)

- **IoT in Retail:** IoT services in the retail sector include end-to-end solutions – from design and build to ongoing management – which help retailers enhance customer experience, improve supply chains and develop new channels and revenue streams. These solutions help to integrate retail stores to a 24x7 anytime/anywhere selling environment. The solutions also help retailers to improve asset and inventory management and demand planning and to create personalized shopping experiences for customers.
- **IoT Platforms:** An IoT platform is an array of components that helps in providing the interface to initiate data and device management within a defined infrastructure in association with communication protocols and security management. Platforms are an integral part of the entire IoT deployment and we consider those players who are using their own platform technology.



Provider Classifications

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.

Provider Classifications (cont.)

Each ISG Provider Lens™ quadrant may include a service provider(s) who ISG believes has a strong potential to move into the leader's quadrant.

Rising Star

Rising Stars are mostly product challengers with high future potential. When receiving the "Rising Star" 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 Star" 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.

Internet of Things Cross-Quadrant Provider Listing 1 of 3

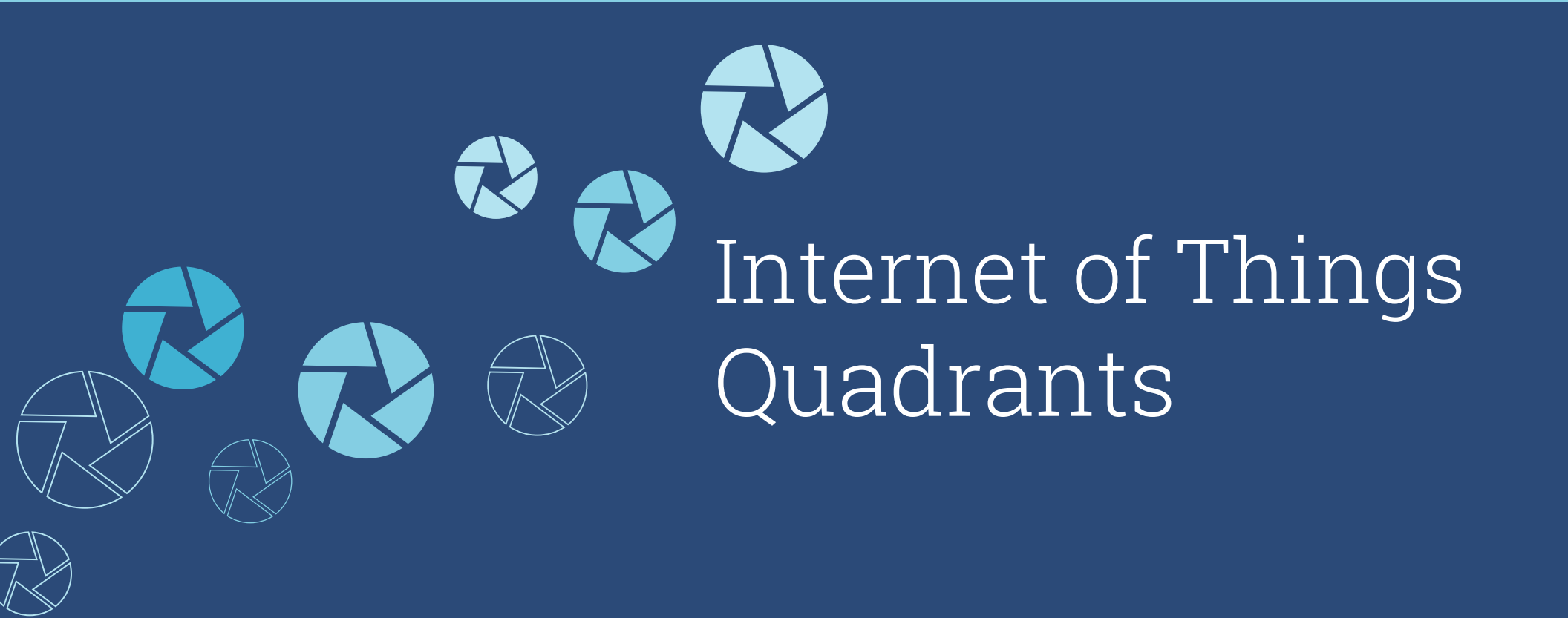
	IoT Services	Healthcare IoT	Connected Cars IoT	Retail IoT	IoT Platforms
Accenture	● Leader	Not In	Not In	Not In	Not In
Atos	● Product Challenger	● Product Challenger	Not In	● Product Challenger	Not In
AWS	Not In	Not In	Not In	Not In	● Leader
Ayla Networks	Not In	Not In	Not In	Not In	● Product Challenger
Bosch Software Innovations	Not In	Not In	Not In	Not In	● Rising Star
Capgemini	● Leader	● Leader	● Product Challenger	● Leader	Not In
Cognizant	● Leader	● Leader	● Leader	● Leader	Not In
DMI	● Product Challenger	● Rising Star	● Rising Star	● Rising Star	Not In
DXC Technology	● Market Challenger	● Rising Star	● Product Challenger	Not In	Not In
EPAM	● Product Challenger	● Contender	● Contender	● Product Challenger	Not In
Fujitsu	Not In	Not In	Not In	● Market Challenger	Not In
GE	Not In	Not In	Not In	Not In	● Rising Star
Happiest Minds	● Product Challenger	Not In	Not In	Not In	Not In

Internet of Things Cross-Quadrant Provider Listing 2 of 3

	IoT Services	Healthcare IoT	Connected Cars IoT	Retail IoT	IoT Platforms
Harman	● Leader	● Leader	● Leader	● Leader	Not In
HCL	● Leader	● Leader	● Leader	Not In	Not In
IBM	● Market Challenger	Not In	Not In	Not In	● Leader
Infosys	● Leader	● Product Challenger	● Leader	Not In	Not In
ITC Infotech	● Product Challenger	● Contender	● Contender	● Contender	Not In
Kaa Projects	Not In	Not In	Not In	Not In	● Product Challenger
KPIT	● Contender	● Contender	● Leader	Not In	Not In
LTI	● Product Challenger	● Contender	● Contender	● Contender	Not In
Microsoft	Not In	Not In	Not In	Not In	● Leader
Mindtree	● Rising Star	Not In	● Rising Star	● Product Challenger	Not In
NIIT Technologies	● Contender	Not In	Not In	Not In	Not In
Oracle	Not In	Not In	Not In	Not In	● Market Challenger
PTC	Not In	Not In	Not In	Not In	● Leader

Internet of Things Cross-Quadrant Provider Listing 3 of 3

	IoT Services	Healthcare IoT	Connected Cars IoT	Retail IoT	IoT Platforms
RapidValue	● Contender	Not InW	Not In	Not In	Not In
Salesforce	Not In	Not In	Not In	Not In	● Market Challenger
SAP	Not In	Not In	Not In	Not In	● Market Challenger
Softtek	● Contender	Not In	Not In	Not In	Not In
Syntel	● Contender	● Contender	● Contender	● Product Challenger	Not In
TCS	● Leader	● Leader	● Leader	● Leader	Not In
Tech Mahindra	● Leader	● Product Challenger	● Product Challenger	● Product Challenger	Not In
Virtusa	● Rising Star	● Product Challenger	Not In	Not In	Not In
Wipro	● Leader	● Leader	Not In	Not In	Not In
Xively	Not In	Not In	Not In	Not In	● Product Challenger
Xoriant	● Contender	Not In	Not In	Not In	Not In



Internet of Things Quadrants

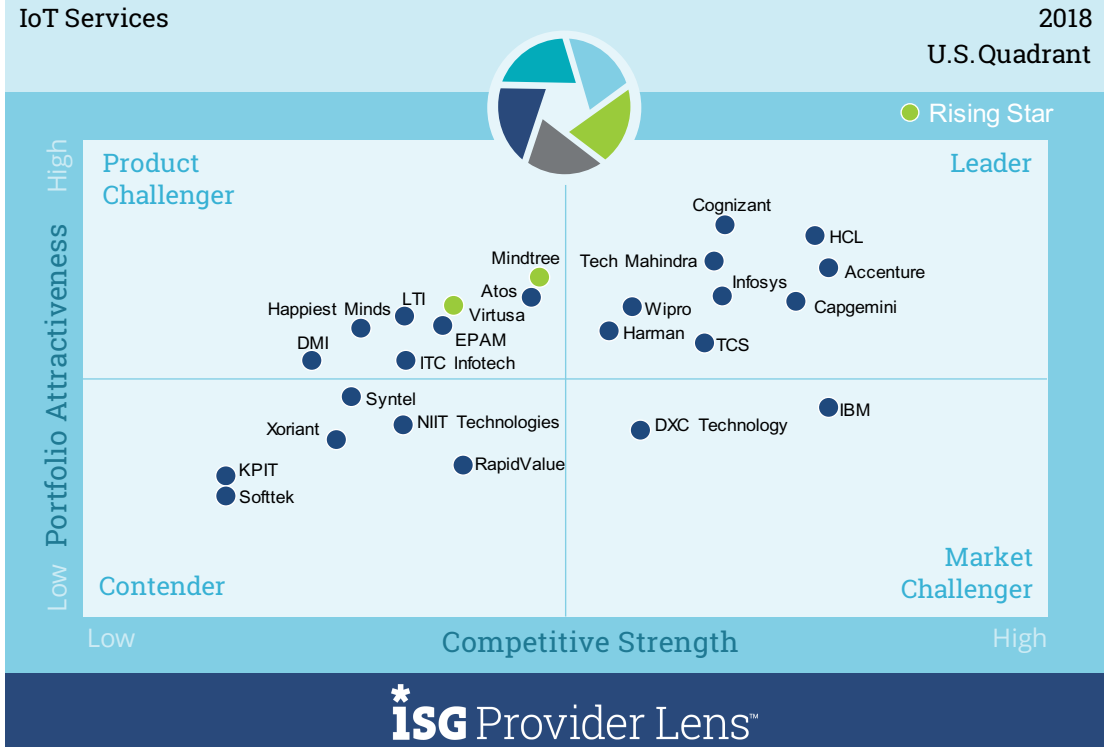
OVERALL IoT SERVICES

Definition

Overall, IoT services are defined as a conglomeration of functions, including consulting and implementation (planning, cost analysis and business case development), technology integration and execution (device, platform, analytics, application and security) and overall IoT ecosystem management (managed services).

Observations

- Accenture and HCL lead the market, leveraging their strong consulting and digital experience. HCL's strong engineering services background helps it apply expertise to grow in the IoT solution development and services market, while Accenture's core digital focus program and market presence help position the company well in the market.
- Cognizant's stable U.S. presence provides it with a strong lineup of clients while Tech Mahindra's (TechM's) blend of design, engineering and industrial IoT focus keep it ahead in the game.

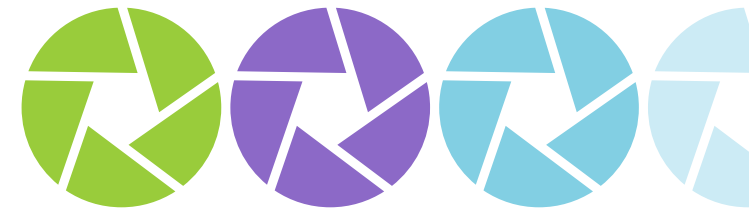


Source: ISG Research 2018

OVERALL IoT SERVICES

Observations (cont.)

- Capgemini's deep domain expertise and industry-leading frameworks put it ahead of many companies. Wipro has matured as an end-to-end solutions provider and has expertise in different industry verticals.
- With an expertise in core engineering services, Infosys has grown from providing M2M solutions to overall services. Harman's software services and IoT-led solutions have positioned the company to be one of the key players in the IoT market. TCS brings its expertise in business-transforming, end-to-end solution development to enterprises in various industry verticals.
- Keeping aligned to its core focus areas and vertical expertise, Mindtree emerges as a Rising Star in providing end-to-end IoT solutions to clients. Virtusa makes innovation the core of its solution offering, which has helped it also become a Rising Star in the IoT market. The company binds its connected experience (IoT) with innovative ideas to provide a new experience to clients.



RISING STAR: MINDTREE

Overview

From 2012, beginning with M2M, to now providing end-to-end IoT solutions, Mindtree has evolved its services. Mindtree is now focused on IoT in the global market with a concentration on the U.S., the Middle East, Europe and Asia-Pacific.

Strengths

Powerful in-house capabilities: Mindtree has in-house capabilities for device design, communication implementation including its own Bluetooth intellectual property, IoT application development, data analytics, and security. It also has the expertise to leverage on-premise infrastructure while deploying a solution at the client's data center.

Healthy mix of solutions: Mindtree can provide both point and end-to-end solutions to clients. Its capabilities across the technology ecosystem and its team of more than 50 IoT analysts and advisors help Mindtree to meet its clients' business requirements. These capabilities have contributed to Mindtree's success across industry verticals around the globe.

Caution

Mindtree's presence in consumer-focused areas like healthcare, retail and smart homes can help it gain stronger momentum for capturing share in additional and upcoming growth areas of the IoT market.



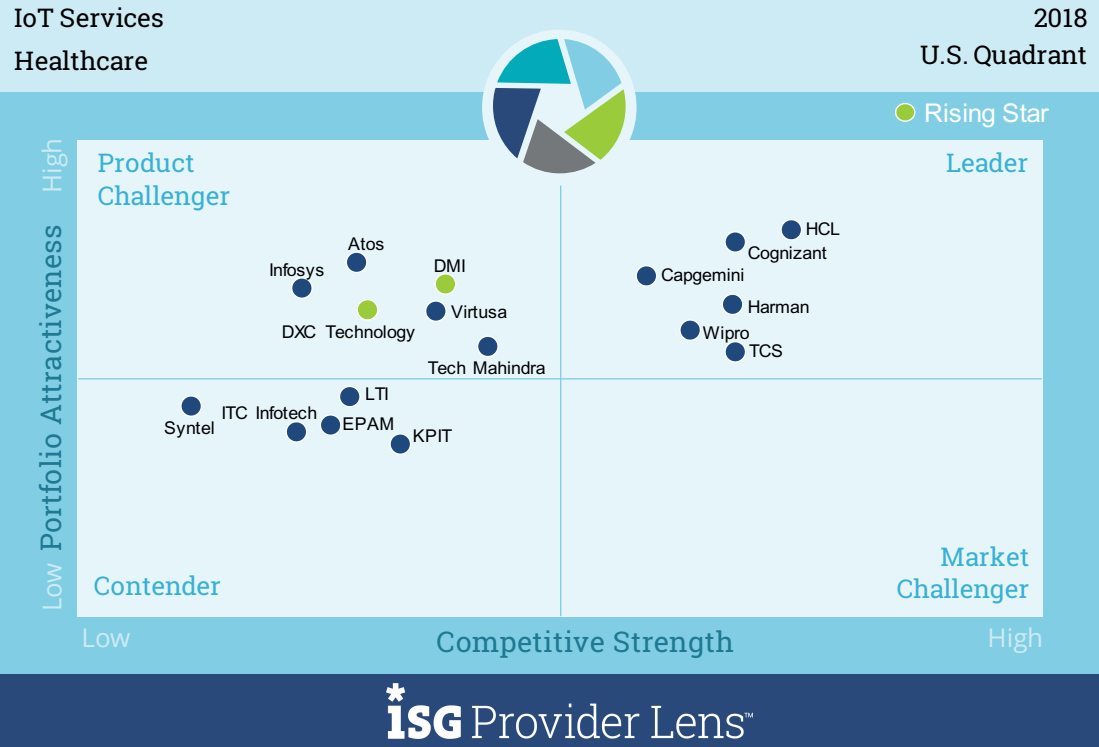
2018 ISG Provider Lens™ Rising Star

Mindtree strikes a balance of consulting and implementation services. The availability of its Digital Pumpkin innovation hubs for solution ideation has helped Mindtree establish better client relationships. The company has been able to translate customer demands into solutions. Mindtree's interesting new technology investments and solutions, such as Asset+, People+ and Gladius IoT, provide a foundation on which to build a better IoT market presence and better solution development capabilities.

IoT IN HEALTHCARE

Definition

IoT in Healthcare applies technology to improve patient care, remote monitoring and hospital infrastructure management, thereby increasing doctor efficiency and patient satisfaction. There are additional applications across the supply chain and throughout the drug development lifecycle. Healthcare IoT offerings include wearables for condition monitoring, sensors for remote patient tracking, wireless medical devices in hospitals, RFID inventory management systems and hospital management systems to improve workflow optimization and other aspects of healthcare.



Source: ISG Research 2018

IoT IN HEALTHCARE

Observations

- HCL's strong client base in the healthcare domain includes drug companies, medical device makers and care providers. Its reach has been pivotal in its positioning as a leader.
- Cognizant's healthcare analytics platforms, coupled with its cost-competitive approach, have been recognized by customers across domains and have helped the company rightly earn a leadership position.
- Capgemini's strong partnerships and focused consulting have helped it build an important client base in the healthcare domain.
- Harman's extensive healthcare offerings and technological frameworks have helped it build a strong hold in the healthcare market.
- Wipro offers clients in the healthcare and life sciences industries comprehensive services that include consulting, implementation, strategic outsourcing and demand planning from a single source.
- TCS has remote management offerings for patient care and clinical trial participants and offers asset and inventory optimization solutions.
- DXC's managed services offerings and DMI's success with various clients have helped the companies establish themselves as "Rising Stars" in the healthcare IoT domain. They are potential contenders that may evolve in to the leader quadrant in due time.

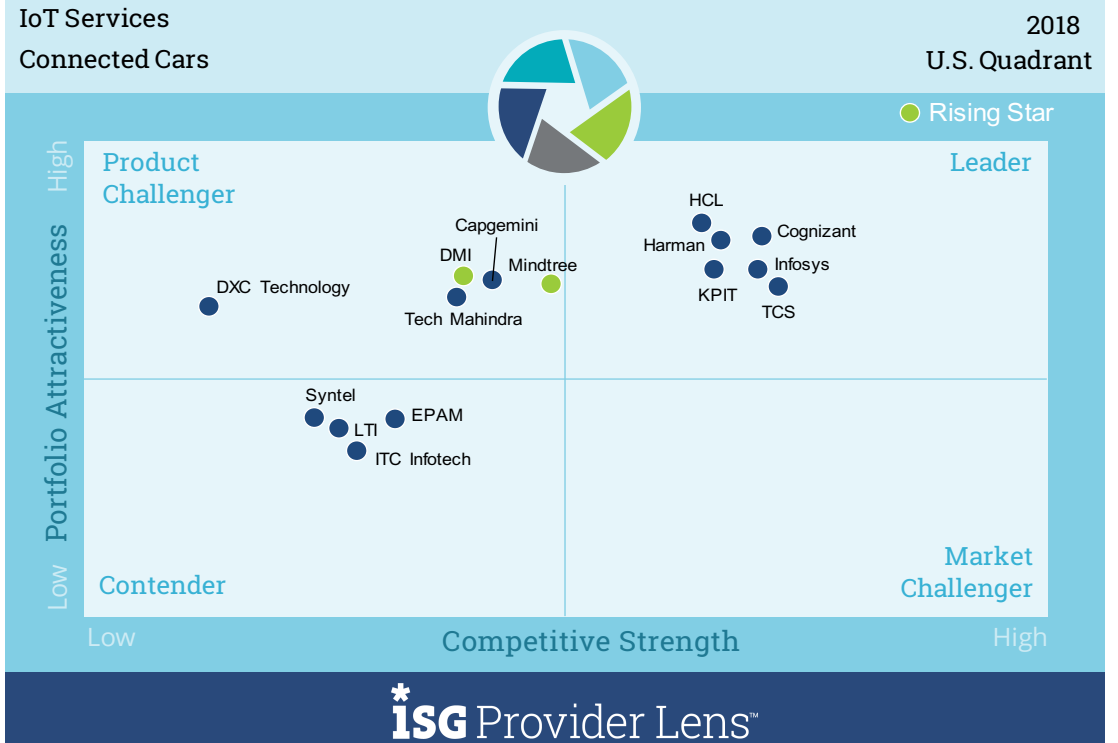
IoT IN CONNECTED CARS

Definition

The connected car market is defined as the connectivity between a car with its own in-vehicle ecosystem and/or with resources in the outside world such as infrastructure, networks and other devices. Principle connected car feature categories include safety, navigation, infotainment, diagnostics, payments, voice recognition and autonomous driving capabilities.

Observations

- Cognizant and Infosys have strong automotive client bases that include top OEMs. Both service providers are strong in the U.S. and have overall connected car solutions.
- HCL's capabilities cover infotainment, telematics, vehicle diagnostics and location-based services. The diversity has been pivotal in making HCL one of the leaders in the industry.



Source: ISG Research 2018

IoT IN CONNECTED CARS

Observations (cont.)

- Infosys has an engineering strength and has focused its connected car efforts on telematics platform development, vehicle electronics, human-machine interfaces and user experience.
- KPIT's connected car platform development and ability to provide services specific to client needs have made it one of the most sought-after providers in the market.
- Harman's competitive advantages include its cloud technology and Ignite platform, which provides flexibility and scalability for adding services to the connected car ecosystem.
- TCS takes clients through the connected car journey and provides post-implementation services.
- DMI and Mindtree are the designated Rising Stars in this segment. DMI addresses both consumer and business needs and has innovative implementations. Mindtree provides clients with development and testing services as part of its solutions to assist in the connected car journey.

RISING STAR: MINDTREE

Overview

With a substantial market presence in the U.S., Mindtree provides connected car solutions at every stage of the lifecycle, from development to maintenance.

Strengths

Connected car offerings and client base: Mindtree's connected car offerings range from infotainment, telematics and diagnostics to navigation and safety. It markets to OEMs, suppliers and aftermarket providers.

Application and infrastructure management services: Mindtree leverages its AMS and IMS services to help clients throughout their program life cycles, from development to implementation and support.

Caution

Mindtree could target other areas that are in play in the connected market where it doesn't currently offer services. Music streaming for in-car entertainment and voice activated controls are newer areas where Mindtree could look to add offerings. Another future area where Mindtree could venture is an automated car offering.



2018 ISG Provider Lens™ Rising Star

Mindtree leverages its infrastructure and application services to offer post-implementation management services to its clients. It can support customers across their entire connected cars journey, starting with development.

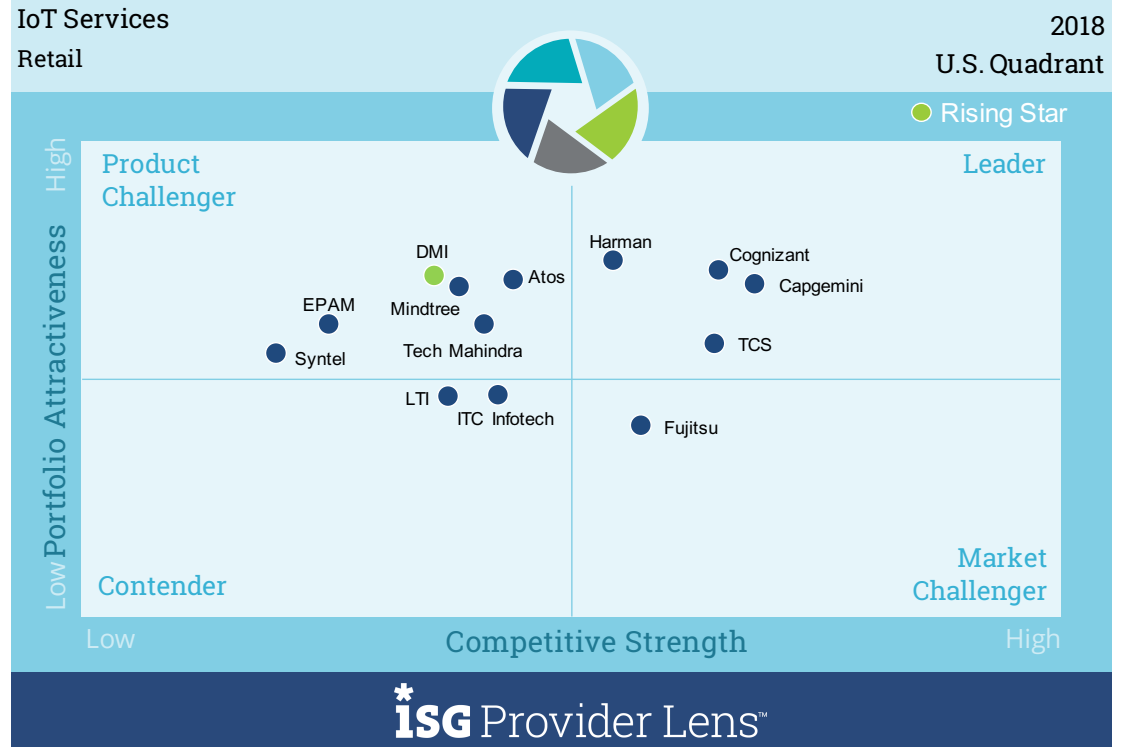
IoT IN RETAIL

Definition

IoT services for the retail sector include end-to-end solutions that range from design-and-build to ongoing management services. The IoT solutions themselves are oriented to helping retailers enhance customer experience, improve supply chain operations and develop new channels and revenue streams. Solutions can help align retail store operations with the 24x7 anytime/anywhere selling environment while improving asset and inventory management, managing demand planning and creating personalized shopping experiences for customers.

Observations

- Capgemini and Cognizant emerged as leaders in IoT services for the vertical due to their strong focus on retail-specific IoT capabilities. They take a holistic approach and provide end-to-end solutions rather than solving standalone problems.



Source: ISG Research 2018

IoT IN RETAIL

Observations (cont.)

- TCS and Harman also have strong IoT capabilities in the retail sector. Both companies are continuously developing their services portfolios to address additional requirements and client demand, such as real-time data analytics, retail-specific IoT platforms and improved customer experience and engagement both in-store and online.
- DMI has a strong lineup of clients in the retail sector, which highlights its appeal in a marketplace where large service providers are gaining strong footholds. DMI's end-to-end managed IoT services portfolio and its customer engagement and analytics platform establish its position as a "Rising Star" in this market.



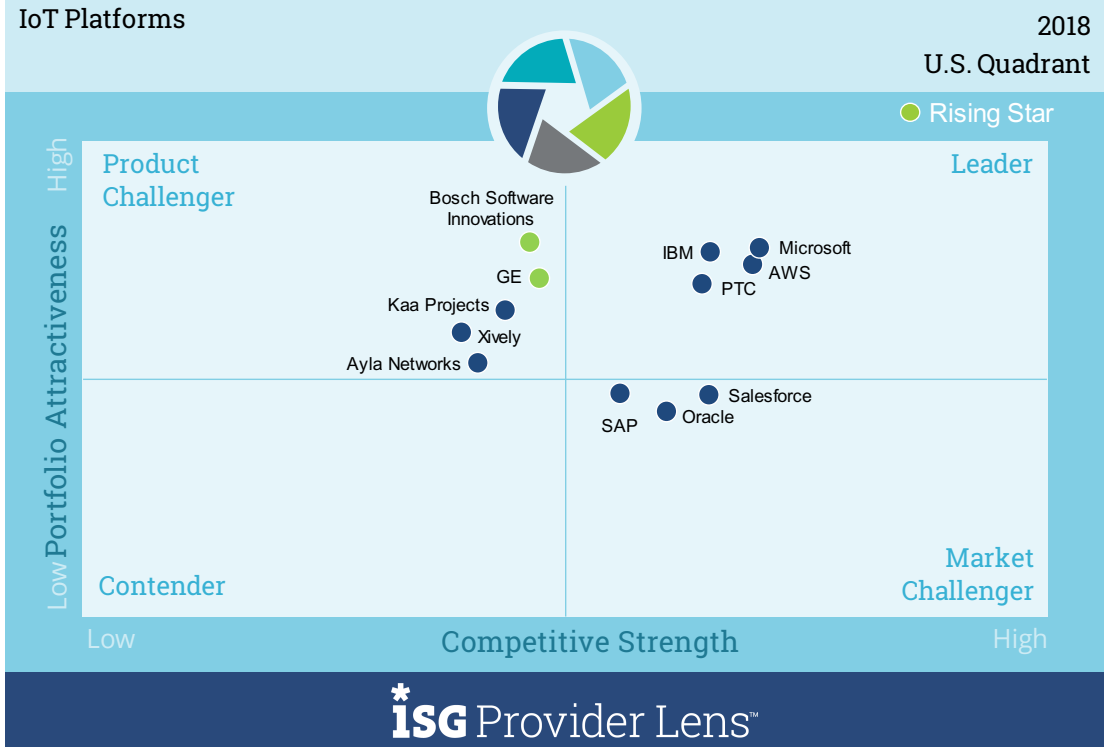
IoT PLATFORMS

Definition

An IoT platform is an array of components that helps in providing the interface to initiate data and device management within a defined infrastructure, in association with communication protocols and security management.

Observations

- Microsoft Azure’s device-to-cloud communication and ability to connect to any device and IoT system make it a good choice for many IoT implementations.
- AWS’s IoT managed cloud platform has been the integral point for cloud applications and other devices. It connects to devices and other AWS services and helps manage the connected ecosystem.



Source: ISG Research 2018

IoT PLATFORMS

Observations (cont.)

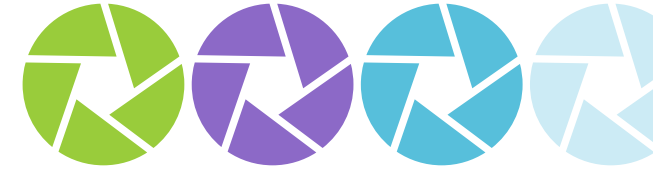
- IBM's Watson IoT platform helps in business transformation with its cognitive abilities, security and industry expertise. Storage and data management, along with cognitive analytics capabilities in a secure connectivity environment, make Watson a good choice in many IoT implementations.
- PTC's ThingWorx industrial IoT platform provides ease for creating and integrating with numerous solutions and applications in the IoT ecosystem. It has the ability to connect to other applications and constituents, which helps seamlessly align with the IoT infrastructure.
- Bosch and GE are the Rising Stars in the segment. The Bosch IoT Suite is cloud enabled and provides the ease of connecting securely with other IoT applications. An open platform that has the flexibility to integrate with other services make Bosch a choice to meet specific needs in IoT implementation environments.
- GE Predix's software IoT platform enables data collection and analytics for industrial data. It helps to drive key insights based on analytics on the large amount of data.



Methodology

METHODOLOGY

The research study “ISG Provider Lens™ 2018 - Internet of Things” analyzes the relevant software vendors/service providers in the U.S. market, based on a multi-phased research and analysis process, and positions these providers based on the ISG Research methodology. The study was divided into the following steps:



1. Definition of the Internet of Things target 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

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